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1887-8.

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NEW SOUTH WALES.

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VOTES

AND

PROCEEDINGS

OF THE

LEGISLATIVE ASSEMBLY

DURING THE SESSION

OF

1887-8,

WITH THE VARIOUS DOCUMENTS CONNECTED THEREWITH.

---

IN TEN VOLUMES.  
VOL. VIII.

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1888.

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LEGISLATIVE ASSEMBLY.  
NEW SOUTH WALES.

VOTES AND PROCEEDINGS.

SESSION 1887-8

IN TEN VOLUMES.

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1887-8.

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NEW SOUTH WALES.

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# ANNUAL REPORT

OF THE

## DEPARTMENT OF MINES,

NEW SOUTH WALES,

FOR THE YEAR

1887.

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Presented to Parliament by Command.

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## ANNUAL REPORT.

TO THE HONORABLE FRANCIS ARIGAIL, ESQ., M.P., MINISTER FOR MINES, &c., &c.

Sir,

I do myself the honor to submit to you the following Report upon the working of the Department under your charge, and also upon the progress and results of Mining in this Colony during the year 1887.

The following statement indicates to some extent the amount of work performed in this Department during the past year, and shows an increase upon the preceding year.

STATEMENT of the Number of Papers Registered and of Letters Despatched by the several Branches of the Department of Mines.

Branch.	Papers registered.	Letters written.
Mines proper .....	19,209	10,406
Forest .....	11,572	3,073
Rabbit .....	9,077	5,250
Stock .....	12,860	4,073
Drills ... ..	4,399	2,558
Public Watering-places .....	7,176	4,121
Parks .....	2,731	1,438
Commons .....	915	.....
	67,948	30,919*

\* Exclusive of printed forms and circulars.

The number of applications made to lease Crown lands for mining purposes during the year 1887, including applications for special gold leases, was 2,588, being an increase of 1,465 as compared with the number of such applications made in 1886—considerably more than double the number.

Of the 2,588 applications so made, 992 were for auriferous land, comprising an area of 7,344 acres 3 roods and 38 perches, and 1,596 were for mineral land, comprising an area of 76,590 acres 3 roods and 4 perches.

The number of applications dealt with in 1887 was 1,750, which, compared with the number dealt with in 1886, shows a decrease of 153. Of course the large influx of applications, upon each of which more or less work was done during the year, reduced number finally dealt with within the year, and this fully accounts for the apparent decrease in the amount of work performed. I have persevered in my efforts to reduce the time occupied in dealing with applications to lease, and, considering the very large increase of work, while there has been no corresponding increases in the staff, I venture to think the result, though not all I could desire, is not altogether unsatisfactory. There are however difficulties in the way of dealing with these applications as speedily as I desire, some of which cannot be overcome without considerable expense, while the removal of others may involve fundamental changes requiring serious consideration.

Of the 1,750 applications dealt with in 1887, 731 were for gold-mining leases, comprising an area of over 4,630 acres, and 1,019 were for mineral leases covering an area of over 45,013 acres.

The area of auriferous Crown land applied for in 1887 as compared with 1886 shows an increase of 4,390 acres. The area of mineral Crown land applied for in 1887 is greater than the area applied for in 1886 by 48,353 acres.

The

The following table shows the quantity of Crown land applied for to lease during the year 1887, and the minerals to be mined for therein:—

	a.	r.	p.		a.	r.	p.
Gold .....	7,344	3	38	Iron .....	80	0	0
Diamonds .....	430	0	0	Manganese .....	160	0	0
Tin and diamonds .....	120	0	0	Kerosene shale .....	40	0	0
Tin .....	10,290	1	31	Coal and shale .....	4,740	0	0
Tin and silver .....	8,201	0	0	Shale and copper .....	40	0	0
Silver .....	5,295	0	21	Coal .....	14,627	0	32
Silver and copper .....	945	0	0	Silver and spar .....	40	0	0
Silver and lead .....	19,880	0	0	Silver, copper, and spar .....	20	0	0
Silver, lead, and spar .....	220	0	0	Silver and iron .....	120	0	0
Silver, lead, and limestone .....	320	0	0	Silver and zinc .....	80	0	0
Tin and lead .....	80	0	0	Silver, lead, and calcite .....	20	0	0
Silver, lead, and copper .....	1,757	0	0	Chrome .....	80	0	0
Silver and antimony .....	20	0	0	Silver, tin, and copper .....	80	0	0
Tin, silver, and lead .....	7,795	0	0	Silver, lead, tin, and copper .....	280	0	0
Copper .....	290	0	0	Silver and limestone .....	40	0	0
Limestone .....	40	0	0	Silver, lead, limestone, and tin .....	20	0	0
Antimony .....	50	0	0	Tin and copper .....	60	0	0
Alum .....	290	0	0				
Manganese, cobalt, and copper .....	40	0	0	Total area .....	83,935	3	2

This shows a large aggregate increase upon the area applied for in 1886. The increase is chiefly in applications to mine for silver alone, or in connection with other minerals in applications to mine for coal, or coal and shale, and in applications to mine for gold.

The following table shows the area of Crown land held under application to lease, on the 31st December, 1887, and the minerals proposed to be mined:—

	a.	r.	p.		a.	r.	p.
Alum .....	290	0	0	Silver and spar .....	60	0	0
Bismuth .....	80	0	0	Silver, copper, and spar .....	20	0	0
Coal .....	7,142	0	0	Silver, lead, and spar .....	120	0	0
Copper .....	400	0	0	Silver, lead, tin, and copper .....	280	0	0
Copper and silver .....	559	0	0	Silver and iron .....	140	0	0
Coal and shale .....	4,500	0	0	Silver, lead, and calcite .....	20	0	0
Copper and tin .....	60	0	0	Silver and zinc .....	80	0	0
Cobalt and nickel .....	85	2	0	Silver and antimony .....	20	0	0
Coal, oil, and shale .....	640	0	0	Silver and tin .....	6,040	0	0
Diamonds .....	270	0	0	Shale .....	640	0	0
Graphite .....	20	0	0	Silver, lead, and copper .....	1,454	0	0
Iron .....	80	0	0	Silver, lead, and limestone .....	380	0	0
Ironstone and limestone .....	20	0	0	Tin .....	7,836	0	0
Limestone .....	100	0	0	Tin and diamonds .....	520	0	0
Manganese .....	160	0	0	Tin, silver, and lead .....	6,590	0	0
Manganese, cobalt, and copper .....	40	0	0	Gold .....	5,857	0	0
Silver and lead .....	17,816	0	0				
Silver .....	5,892	0	0				
					68,211	2	0

The aggregate area of Crown land held under application to lease, on the 31st December, 1887, is largely in excess of the area so held on the 31st December, 1886.

The following table shows the area of Crown land held under lease, and the minerals to be mined:—

Mineral.	Mining Act, 1874.		Mining Act Further Amendment Act, 1884.		Gold-fields Act, 1866.		Crown Lands Occupation Act, 1861.		Total.	
	a.	r. p.	a.	r. p.	a.	r. p.	a.	r. p.	a.	r. p.
Gold .....	3,383	2 23	308	1 27					3,692	0 10
Antimony .....	260	0 0	90	0 0					350	0 0
Bismuth .....	45	0 0							45	0 0
Coal .....	2,834	2 14	26,001	3 18			2,604	0 0	31,440	1 32
Cobalt .....	60	0 0							60	0 0
Copper .....	678	2 4	70	0 0					748	2 4
Diamonds .....	300	0 0	255	0 28					555	0 28
Diamonds and tin .....	169	2 31	884	1 5					1,053	3 36
Manganese .....	85	0 0	20	0 0					105	0 0
Slate .....	90	0 0							90	0 0
Shale, copper, &c. ....										
Silver .....	6,079	2 18	1,111	1 12					7,190	3 30
Silver and lead .....	28,374	0 12	923	3 31					29,298	0 3
Silver and copper .....	140	0 0							140	0 0
Silver, lead, and copper .....	1,776	3 6	40	0 0					1,816	3 6
Silver, lead, copper, and tin .....	80	0 0							80	0 0
Silver and tin .....	610	0 0	80	0 0					690	0 0
Silver, lead, and tin .....	1,080	2 29	80	0 0					1,160	2 29
Tin .....	7,349	2 5	3,661	3 30					11,011	1 35
Silver, manganese, cobalt, and copper .....	120	0 0							120	0 0
Limestone .....	20	0 0	270	0 0					290	0 0
Silver, lead, and limestone .....	60	0 0							60	0 0
Coal and shale .....	320	0 0							320	0 0
Silver, tin, and copper .....	80	0 0							80	0 0
Mineral salts .....	40	0 0							40	0 0
Marble .....	40	0 0							40	0 0
Manganese, cobalt, and copper .....	40	0 0							40	0 0
Alum .....	480	0 0							480	0 0
Silver, lead, and spar .....	40	0 0							40	0 0
Lead, silver, and asbestos .....	40	0 0							40	0 0
Not specified .....	20	0 0							57	1 33
	54,997	0 22	83,796	3 31			2,641	1 33	91,435	2 6

\* 2,300 yards river-bed.

The above table shows a large increase upon the area so held at the end of 1886. The increase is mainly in regard to lands occupied for the purpose of mining for coal, gold, silver, and tin, and is also to the fact that holdings under section 28 of the Mining Act have been converted into leases in terms of the Mining Act Further Amendment Act.

The number of applications for permits or authorities under section 27 or 28 of the Mining Act, to mine under reserves, received during 1887, was 172, being an increase of 28 upon the number received in 1886. The number dealt with in 1887 was 142, being less by 29 than the number dealt with in 1886.

The following table shows the area of reserved lands comprised in permits or authorities granted during 1887, and the minerals to be mined thereunder.—

	a.	r.	p.
Coal .....	15,860	0	21
Coal and shale .....	1,509	1	0
Tin .....	65	2	32
Silver and lead .....	4	2	0
Gold .....	248	0	0
	<u>17,687</u>	<u>2</u>	<u>13</u>

In the majority of cases the permits or authorities had not actually issued prior to the 31st December, 1887.

The aggregate area of reserved lands comprised in permits and authorities granted in 1887 is less by 3,445a. 2r. 39p. than the area so granted in 1886. This is no doubt due to the fact that reserved lands can now be leased.

The following table shows the areas of reserved lands comprised in authorities granted under sections 27 and 28, prior to 1887, still in force, and the minerals to be mined thereunder:—

	a.	r.	p.
Coal .....	75,225	1	5
Coal and shale .....	14,709	1	0
Tin .....	339	3	13
Shale .....	8	2	32
Limestone .....	10	0	0
Bluestone and gravel .....	12	0	0
Coal, iron, and shale .....	18	2	16
Copper and silver .....	2	2	16
Silver and lead .....	19	3	5
Copper .....	58	2	18
Ironstone .....	79	3	7
Marble .....	5	0	0
Gold .....	233	0	2
	<u>90,722</u>	<u>1</u>	<u>34</u>

Since the Mining Act Further Amendment Act became law, many holdings under permit or authority have been converted into leases.

The following table shows the areas comprised in permits or authorities (sections 27 and 28), which were in force on 31st December, 1887, and the minerals to be mined thereunder:—

	a.	r.	p.
Coal .....	74,163	0	10
Coal and shale .....	14,709	1	0
Tin .....	343	2	26
Shale .....	8	2	32
Limestone .....	10	0	0
Bluestone and gravel .....	12	0	0
Marble .....	5	0	0
Copper and silver .....	2	2	16
Silver and lead .....	15	3	5
Coal, iron, and shale .....	18	2	16
Ironstone .....	79	3	7
Gold .....	223	1	7
	<u>89,591</u>	<u>2</u>	<u>39</u>

The above table shows a decrease as compared with aggregate area so held at the end of 1886, equal to 10,274a. 1r. 5p.

A return of the holdings under section 28, in force at the end of June and December, 1887, was published on the 13th August, 1887, and the 7th March, 1888, respectively.

The business under section 45 of the Land Act, 1884, was transferred to this Department on the 1st April, 1887, since then 93 applications for permits to dig and search for gold have been received. Of these 79 have been finally dealt with. 66 permits have been granted, and 57 are now in force. 44 applications for permits in terms of section 7 of the Land Act 1884, to remove gold or reserved minerals from alienated land, were received; 23 have been finally dealt with; 11 permits have been issued.

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On the 13th August a return was published of holdings under section 28 up to the 30th June, 1887.

In the months of May and October, 1887, and in March, 1888, particulars of gold and mineral leases in force in the several Mining Districts for the quarters ending March, June, September, and December, 1887 respectively, were published in the *Government Gazette*, and copies thereof forwarded to the several Wardens' and Mining Registrars' Offices throughout the Colony, in order that the public may know what lands are held and what conditions attach to such holdings. The Wardens have been instructed to cause all cases of non-work to be reported, and it is hoped that under the arrangement recently made by which the Wardens on the principal mining fields are to be paid as Wardens instead of being paid as Police Magistrates; these instructions will be more actively enforced than hitherto. The Inspector of Mines has been so fully occupied with work connected with Prospecting Vote and Diamond Drills in addition to his special duties, that he has been able to devote but little time to reporting upon leaseholds that are not being worked. When his other duties permit he has rendered valuable assistance in this direction. It has frequently been stated that large numbers of leaseholds are held unworked, but in most cases upon investigation these statements have been found to have been made without sufficient foundation, at the same time it is recognised that without unnecessarily harassing lessees or creating a feeling of insecurity, every effort should be made to prevent mineral lands being locked up without work.

The foregoing tables do not represent all the land occupied for mining purposes as they do not include holdings under miners' rights, or mineral licenses on Crown lands, nor the lands which have been purchased and upon which mining operations are being carried on.

#### GEOLOGICAL SURVEY.

The record of work done during 1887 by the Geological Survey Staff reflects great credit upon the Geological Surveyor-in-charge, Mr. C. S. Wilkinson, F.G.S., F.L.S., who has been ably assisted by Mr. David and Mr. Anderson.

The Geological Staff have examined and reported upon various parts of the Colony.

The Geological Surveyor-in-charge, assisted by Mr. W. Anderson, made an examination of the diamond bearing deposits in the Iuverell or Cope's Creek District; he also reported upon the formations north of Sydney to the Hawkesbury; the antimony lodes, near Gulgong; silver lodes at Denisontown; tin lodes at Poolamacca; and as a member of the Prospecting Board visited the gold-fields in the Albert, Byrock, Molong, Parkes, Forbes, Grenfell, Hill End and Tambaroora, Hargreaves, Mudgee, and Gulgong Districts.

Mr. T. W. E. David, Geological Surveyor, inspected the supposed diamond deposits near Warren, and reported upon the discovery of coal in the deep diamond-drill boring at Holt-Sutherland; but he has chiefly been engaged, assisted by Mr. G. A. Stonier, Field Assistant, upon a detailed survey of the Maitland District, embracing an area of about 50 square miles. Besides his previous discovery of the valuable coal-seam at Deep Creek, Mr. David, in carrying out this survey, has determined the seam which was struck in the bore at East Maitland, to be one beneath those already worked at East Maitland; and this important identification of it has led to this seam now being opened out at Rathluba.

A geological map of the district, showing the position of the different coal-seams, is in course of preparation for publication. Mr. David's exhaustive and valuable report with map and sections, upon the Vegetable Creek Tin-field has lately been published.

Mr. W. Anderson, Geological Surveyor, has furnished a report descriptive of the diamondiferous country about Lower Cope's Creek and Bingera, together with a map showing the extent of the diamond-bearing deposits. He also inspected and reported upon the coal borings at Mittagong; the silver lodes at Captain's Flat; the marble limestones near Lewis Ponds; the caves at Wellington; and the auriferous country in the Byrock, Nymagee, and Cobar Districts.

The survey has been fortunate in obtaining the services of Mr. Robert Etheridge, jun., Palaeontologist. This gentleman arrived from England in April and at once commenced duty. He has made a preliminary classification of the principal fossil collections of the Department, and has furnished several interesting reports. He is engaged upon the examination of the carboniferous fauna from the coal measures, and the first part of his palaeontological investigations is now ready for the press, and will be published in the *Memoirs of the Geological Survey of New South Wales*.

Mr. J. E. Carne, Curator of the Mining and Geological Museum, has been unremitting in meeting the increasing work connected with the examination of the mineral samples sent for assay and analysis, which, during the year, amounted to £2,221. Particulars of these assays are given herewith under the heads of the several minerals.

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The Museum collections now include 20,770 registered specimens, of which typical suites have been classified and displayed as far as the limited space in the Museum will allow. On the 19th December, in accordance with your directions, the Museum was opened to the public, and it affords a valuable source of information, especially to persons interested in mining. It is to be hoped that ere long it may be possible to secure a building sufficiently large to enable the Department to display the vast and valuable collection of minerals and fossils, so as to illustrate the great mineral wealth of the Colony, and to afford greater facilities for persons interested in mining to acquire a complete knowledge of our resources. The Library of the Department is being systematically arranged; it contains many important works of reference upon mining, geology, and paleontology.

Mr. Carne proceeded to Adelaide, and in an efficient manner carried out, subject to the general designs of the Executive Commissioner, the arrangement of the mineral exhibits in the New South Wales Court in the Adelaide Jubilee Exhibition.

The Assayer, Mr. Mingaye, who was formerly assistant to Mr. C. Watt, late Government Analyst, was transferred to this Department on the 1st March. His report, herewith appended, shows the large amount of laboratory work that has been done, which, being chiefly the assay and analysis of mineral samples for prospecting parties, is of much value in aiding the development of mining enterprise—the importance of providing suitable works for making bulk assays of minerals, and determining the mode best adapted to the profitable treatment, including reduction and concentration of the various ores.

Additional improvements have been made in the Jenolan Caves, including the opening of a newly discovered cave. The electric-lighting of the Imperial Cave has been completed, under the direction of Mr. E. C. Cracknell, Superintendent of Telegraphs, who has always taken much interest in the matter. A small steam-engine is at present employed for driving the electric-dynamo machine; but, in view of extending this system of lighting to the other caverns, a turbine wheel has been provided capable of working to 15 horse-power, to be driven by one of the waterfalls on the creek immediately below the "Grand Arch." The keeper of the Jenolan Caves reports that the number of visitors during 1887 was 1,082. During the same period there were 152 visitors to the Wombeyan Caves and 876 to the Wellington Caves. A keeper has been appointed for the charge of the Yarrangobilly Caves, where an accommodation-house is being erected.

In September, Mr. Wilkinson and Mr. Slee accompanied me, as members of the Prospecting Board, to the Mount Browne and Tibbooburra Gold-field, the furthest point to the north-west in which gold has been found in New South Wales. Travelling by way of Adelaide by rail, as the present quickest route to Silverton, we took the coach thence for 250 miles almost due north to Tibbooburra. The track, for about 60 miles from Silverton to Corona Station, passes over the Barrier Ranges, which are composed of the silver and gold bearing slate and granite formations. From Corona the country becomes less hilly, though the same geological formations, with an inlet of the cretaceous, continue to within 7 miles north of Packsaddle Station, when further north to Mount Browne the country consists of the cretaceous formation. The altered slate rocks, traversed by quartz reefs, near Packsaddle Station, appear to be of a promising character for the occurrence of the precious metals. The Geological Surveyor is of opinion that throughout the vast cretaceous area artesian water may be obtained by sinking or boring. The Mount Browne Range, of slate formation, with quartz reefs, rises out of the cretaceous area like a long island, trending north-east. At the south-west end of this range are the Mount Browne gold diggings, where the gravels on the flanks of the range—the old marine gravels of the cretaceous period—are worked for gold, which has been followed down in payable quantity on the shelving slate bottom, to a depth of 220 feet, when the influx of water became too heavy for ordinary appliances. It is to prospect this deeper ground that the local miners sought aid from the Prospecting vote. These slate ranges continue with but one break at Mount Poole, north-easterly, through the Wittabreena ranges where some gold-bearing quartz reefs have been worked to Tibbooburra Diggings. At Tibbooburra, a small area of granite occurs, on which some rich "surfacing" has been obtained. This forms the northern limit of the auriferous country, which is about 130 square miles in extent. The great requirement for the development of this gold-field is permanent water, and to meet it, the Superintendent of Drills, has been instructed to put down some bores in the adjacent cretaceous formation, to ascertain how near to the diggings an artesian water supply may be obtained; for water conserved in tanks cannot be depended on. Returning to Silverton, Mr. Wilkinson inspected the tin lodes in the Barrier ranges. He states that they are numerous and that the tin ore occurs in them chiefly in patches, which will render the working of them, in many instances, difficult; but he is of opinion that their yield will largely increase our tin exports.

The Prospecting Board next proceeded to Byrock, Ironbarks, Orange, Molong, Sofala, Hill End, Tambaroora, Hargraves, Mudgee, Gulgong, Parkes, Forbes, and Grenfell, and dealt with the several applications for aid to prospect in those districts.

## MINING SURVEYS.

During the year 1887, eighteen surveyors have been engaged in making surveys under the supervision of the Chief Mining Surveyor (Mr. E. F. Pitman). Of these, eight were paid salaries during the entire year (in addition to fees), and one received salary for a portion of the year only. The others were in receipt of fees only.

The total number of surveys made during the twelve months was 1,418, consisting of 637 gold-mining leases, 574 mineral leases, 153 mining tenements, 31 mining permits, 16 surveys under the Public Watering-places Act, and two surveys under the Prickly Pear Act.

During the latter months of the year there was a sudden increase of applications for leases all over the Colony, which caused the work to get somewhat in arrear, so that on the 1st January, 1888, there were 578 applications awaiting survey. Efforts are being made, however, to reduce these arrears as speedily as possible.

In the Charting Branch 1,882 applications for gold-mining and mineral leases were received, and of these 1,602 were finally dealt with during the year; and of 146 applications under the 28th section 137 were finally dealt with during the same period. In addition to this eighteen parish and gold-field maps were compiled, and a large number of miscellaneous papers were dealt with. An alphabetical list of all the maps issued by the Department has been prepared, and is now being published in pamphlet form.

The number of surveys made during 1887 slightly exceeds the number made during 1886; nevertheless, in view of the rapid influx of applications it will be necessary to increase the number of surveyors.

The number of lease applications dealt with in the Charting Branch during last year was less by 215 than during the previous year. The applications under the 28th section were, however, kept well in hand. The offer recently made by the draftsmen to keep down arrears of work by working after office hours, will, I hope, enable me to report at the end of this year that all arrears have been cleared off, and that the average time occupied in dealing with applications has been considerably reduced. In any case the offer is a meritorious one, and if carried out in good faith must result beneficially to the Department.

## Mineral and Gold Applications received and dealt with in Charting Branch, 1887.

Month	Cases received	Cases dealt with.	Month.	Cases received.	Cases dealt with.
January .....	94	134	August .....	196	121
February .....	102	108	September .....	120	116
March .....	196	127	October .....	193	144
April .....	109	135	November .....	273	175
May .....	115	131	December .....	193	124
June .....	121	147	Total .....	1,882	1,602
July .....	161	137			

The following is a return of compiling work performed in the Charting Branch, Department of Mines, during the year 1887:—

## Mining Maps compiled and published.

Parish.	County.	Mining District.	Parish.	County.	Mining District.
Albert. 2nd edition.....	Yancowinna...	Albert.	Dungowan .....	Parry .....	Peel and Uralla.
Alberta .....	Farnell .....	"	Edgar. 2nd edition .....	Yancowinna...	Albert.
Byjerkerno .....	" .....	"	Giles .....	Farnell .....	"
Bundawarra .....	Bland .....	Lachlan.	Lennox .....	Bathurst .....	Bathurst.
Boonoo Boonoo .....	Buller .....	New England.	Nundle .....	Parry .....	Peel and Uralla.
Castleton .....	Roxburgh .....	Bathurst.	Tuena .....	Georgiana .....	Bathurst.
Callanyu .....	Buller .....	New England.	Tamboora. 2nd edition	Wellington .....	Tamboora and Turon.
Carroll. 2nd edition .....	Wellington .....	Tamboora and Turon.	Worcester .....	Bathurst .....	Bathurst.
Cummings .....	" .....	" .....	West Fairfield .....	Drake .....	New England.

In consequence of the pressure of other work during the year very little compiling work has been performed by the staff officers usually so employed, which, together with the stoppage of all overtime, accounts for the small number of new maps prepared as compared with former years.

During the year 468 copies of mining maps have been revised, charted to date, and forwarded to the Wardens, District Surveyors, &c., not including a number so prepared for the use of the Surveyor-General's Office.

The following is a complete catalogue of all Mining Maps, arranged in alphabetical order, in the various mining districts, and giving the parish, county, locality, and date of publication, has been compiled, and is now in the hands of the Government Printer for publication in pamphlet form:—

Mining District.	No.	Folio.	Parish, or part of.	Edition.	Locality.	County.	Published.
Albert .....	1	B	Albert .....	2*	Thackaringa .....	Yancowinna..	21 Nov., 1887
			Alma .....		"The Pinnacles" .....	do .....	10 Dec., 1885
	7	B	Alberta .....		Corona .....	Farnell .....	18 Jan., 1887
			Bomangaldy .....	2*	Silverton .....	Yancowinna..	30 Dec., 1885
	5	B	Bray .....	2*	do .....	do .....	19 ,, 1885
			Bolaira .....	2*	Silverton, Round Hill .....	do .....	11 Nov., 1885
			Bligh .....		Corona .....	Farnell .....	8 April, 1886
	13	B	Badjerrigarn .....		do .....	do .....	27 May, 1886
			Byjerkerno .....		Poolamacca .....	do .....	8 Jan., 1887
	4	B	Corona .....		Corona .....	do .....	30 Mar., 1886
	2	B	Edgar .....	2*	Silverton .....	Yancowinna..	21 Nov., 1887
	6	B	Fowler's Gap (see Giles) .....		do .....	Farnell .....	
	6	B	Giles .....		Fowler's Gap .....	do .....	25 Jan., 1887
	9	B	Lewis .....	2*	Silverton .....	Yancowinna..	11 Mar., 1885
	15	B	Mount Gipps .....	2*	do .....	do .....	28 ,, 1885
			Moorkaie .....		do Mount Gipps..	do .....	25 Aug., 1885
	12	B	Naradin .....	2*	do .....	do .....	10 Mar., 1886
	3	B	Purnamoota .....	2*	do .....	do .....	9 Feb., 1886
			Pieton .....	2*	do Broken Hill ..	do .....	28 Sept., 1885
	8	B	Robe .....		do Purnamoota ..	do .....	22 July, 1885
11	B	Stephen .....	3*	do .....	do .....	26 May, 1885	
14	B	Soudan .....		do .....	do .....	2 July, 1886	
		Sebastopol .....		do .....	do .....	17 May, 1886	
		Tara .....		do Piesse's Nob ..	do .....	6 Jan., 1886	
		Umberumberka .....		do .....	do .....	24 June, 1885	
10	B	Yancowinna .....		do .....	do .....	9 April, 1886	
Bathurst .....	3	C	Bolton (a) .....		Wiseman's Creek .....	Westmoreland	1 May, 1886
			Baring .....		do .....	do .....	10 July, 1886
	10	A	Castleton .....		Sunny Corner .....	Roxburgh.....	25 Aug., 1887
			Coolamigal (a) .....		do .....	do .....	13 Sept., 1885
			Cullen Bullen (a) .....		do .....	do .....	18 ,, 1885
			Falmash (a) .....		do .....	do .....	18 ,, 1885
	3	C	Jocelyn (a) .....		Wiseman's Creek .....	Westmoreland	1 May, 1886
	3	C	Langdale (a) .....		do .....	do .....	1 ,, 1886
	9	A	Lennox (a) .....		Ophir Gold-field .....	Bathurst .....	2 Dec., 1887
	9	A	Lewis (a) .....		do .....	do .....	2 ,, 1887
2	A	Tucna .....		Abercrombie Gold-field..	Georgiana.....	1 Nov., 1887	
9	A	Worcester (a) .....		Ophir Gold-field .....	Bathurst .....	2 Dec., 1887	
Clarence and Richmond	26	A	Nullama .....		Boyd or Little River Gold-field.	Gresham .....	Survey Office Litho. adopted.
Hunter and Macleay .....			Bindera (b) .....	3*	Barrington Gold-field.....	Gloucester ..	5 Dec., 1884
			Craven (b) .....	3*	do .....	do .....	5 ,, 1884
Lachlan .....	2	C	Bundawarrah .....		Temora Gold-field .....	Bland .....	13 July, 1887
	6	C	Currajong (c) .....	2*	Billabong Gold-field .....	Ashburnham ..	7 Feb., 1888
	6	C	Parkes (c) .....	2*	do .....	do .....	7 ,, 1888
Mudgee .....			Gulgong (b) .....		Gulgong Gold-field .....	Phillip .....	24 ,, 1886
			Guntawang (b) .....		do .....	do .....	21 July, 1886
	8	C	Hargraves .....		Wellington Gold-field .....	Wellington .....	25 Oct., 1887
	1	C	Wyaldra (b) .....		Gulgong Gold-field .....	Phillip .....	29 April, 1885
New England .....			Arvid .....	2*	Vegetable Creek .....	Gough .....	25 Aug., 1884
	30	A	Annandale .....	2*	do .....	Clive .....	11 Nov., 1884
			Bundar (a) .....		do .....	Gough .....	1 Oct., 1881
			Bookookoorara (d) .....	2*	Wilson's Downfall .....	Buller .....	31 ,, 1885
	13	A	Bates (a) .....		do .....	Clive .....	23 April, 1885
	21	A	Blain (a) .....		do .....	do .....	20 Oct., 1885
	21	A	Bowman (a) .....		do .....	do .....	20 ,, 1885
	14	A	Binghi (a) .....		do .....	do .....	10 Aug., 1885
	23	A	Boorook .....		Boorook & Lunatic Gold-field.	Buller .....	8 Oct., 1880
			Boonoo Boonoo (b) .....		do .....	do .....	24 Nov., 1887
			Corry (d) .....	2*	Wilson's Downfall .....	do .....	31 Oct., 1885
			Cullendore (d) .....	2*	do .....	do .....	31 ,, 1885
	21	A	Cranbrook (a) .....	2*	Emmaville Gold-field .....	Clive .....	20 ,, 1885

a) Published in one Map. (b) Two sheets published in one Map. (c) Three sheets published in one Map.  
 (d) Four sheets published in one Map. \* Previous edition cancelled.

Mining District.	No.	Folio.	Parish or part of.	Edition.	Locality.	County.	Published.	
New England	7	C	Callanyn Sketch	Map	Red Rock	Buller	25 Aug., 1887	
			Dumaresq (a)		Vegetable Creek	Gough	4 Feb., 1881	
			Frazer (a)		Emmaville Gold-field	do	4 " 1881	
			Flagstone		do	do	9 June, 1881	
	29	A	Highland Home	2*	do	do	21 Mar., 1884	
			Hamilton (a)	2*	do	do	16 Feb., 1884	
			Haystack (a)		Vegetable Creek	do	4 " 1881	
			Land's End (a)		Emmaville Gold-field	do	6 April, 1881	
			Muir (a)		do	do	6 " 1881	
			Maryland (c)	2*	Wilson's Downfall	Buller	31 Oct., 1885	
			Marsh (c)	2*	do	do	31 " 1885	
			Paradise North (a)		Emmaville Gold-field	Gough	1 " 1881	
	21	A	Purvis (a)		do	Clive	20 " 1885	
			Ruby (c)	2*	Wilson's Downfall	Buller	31 " 1885	
	13	A	Rockvale (a)		Emmaville Gold-field	Clive	23 April, 1885	
	13	A	Rockglen (a)		do	do	23 " 1885	
	19	B	Strathbogie	2*	do	Gough	30 Sept., 1884	
			Strathbogie North (a)	2*	do	do	16 Feb., 1884	
			Scone	2*	do	do	7 " 1884	
	20	B	Strachan		do	do	6 April, 1880	
	14	A	Silent Grove (a)		do	Clive	10 Aug., 1885	
	22	B	Tent Hill	2*	do	Gough	15 Sept., 1884	
			Undercliff (c)	2*	Wilson's Downfall	Buller	31 Oct., 1885	
			Wellington Vale	2*	Emmaville Gold-field	Gough	3 Nov., 1883	
			Wellington North (a)		do	do	1 Oct., 1881	
			Wylie (c)	2*	Wilson's Downfall	Buller	31 " 1885	
	1	D	West Fairfield	2*	do	Drake	6 Sept., 1887	
	Peel and Uralla	16	B	Aston		Cope's Creek	Hardinge	18 Aug., 1884
				Banghaet (a)		Bingera Diamond-field	Murchison	13 June, 1885
				Bingara (a)		do	do	13 " 1885
				Boyd (b)		do	Gough	30 Jan., 1885
			Bloxsome (b)		do	do	30 " 1885	
			Bald Nob (b)		do	do	30 " 1885	
			Clive	2*	Cope's Creek	do	8 Dec., 1883	
9		B	Clare	2*	do	Hardinge	4 Mar., 1884	
18		B	Cope's Creek	2*	do	do	9 April, 1884	
			Coventry		do	Clarke	16 Sept., 1886	
25		B	Darby	2*	Cope's Creek	Hardinge	31 July, 1884	
			Dungowan (b)		Peel River Gold-field	Parry	26 May, 1887	
3		D	Dinoga (a)		Bingera Gold-field	Murchison	25 Feb., 1885	
			Derra Derra (a)		Bingera Diamond-field	do	13 June, 1885	
3		D	Gouron (a)		Bingera Gold-field	do	25 Feb., 1885	
23		B	Herbert	2*	Cope's Creek	Gough	7 Jan., 1884	
6		B	Hanning		do	Inglis	21 Dec., 1886	
			Hall (a)		Mitchell River	Clarke	25 Nov., 1886	
8		B	Hall		Giant's Den	Darling	21 Dec., 1886	
3		D	Hall (a)		Bingera Gold-field	Murchison	25 Feb., 1885	
			Mayo	2*	Cope's Creek	Hardinge	30 July, 1884	
			Mitchell (b)		do	Gough	30 Jan., 1885	
3		D	Macintyre (a)		Bingera Gold-field	Murchison	25 Feb., 1885	
			Nundle		Peel River Gold-field, Hanging Rock.	Parry	26 April, 1887	
			Swinton	2*	Cope's Creek	Hardinge	15 May, 1884	
			Severn (b)		do	Gough	30 Jan., 1885	
			Scott (b)		do	do	30 " 1885	
			Sara (a)		Mitchell River	Gresham	25 Nov., 1886	
			Scone and Strathbogie		(See New England Mining District.)			
21		B	Tienga		Cope's Creek	Hardinge	6 Oct., 1884	
			Worra (a)		Mitchell River	Gresham	25 Nov., 1886	
17	B	Wood's Reef		Ironbark and Ti-Tree Gold-field.	Darling	10 July, 1886		
		Wellington Vale		(See New England Mining District.)				
Tamboroora and Turon	1	A	Carroll (c)	2*	Hill End and Tamboroora	Wellington	18 Oct., 1887	
	1	A	Cummings (c)	2*	do	do	18 " 1887	
	1	A	Tamboroora (c)	2*	do	do	18 " 1887	
Tumut and Adelong			Adelong (c)		Adelong Gold-field	Wynyard	— Jan., 1880	
	26	B	Bullongong (a)		Captain's Flat	Murray	8 Oct., 1886	
	26	B	Ballallaba (a)		do	do	8 " 1886	
			Calafat (c)		Adelong Gold-field	Wynyard	— Jan., 1880	
			Ellerstie (c)		do	do	" 1880	
			Euadera (c)		do	do	" 1880	
			Gadara (c)		do	do	" 1880	
			Wondalga (c)		do	do	" 1880	

(a) Published in one Map.

(b) Two sheets published in one Map.

(c) Four sheets published in one Map.

\* Previous edition cancelled.

## MISCELLANEOUS Maps and Compilations not yet published.

No.	Press.	Parish or part of, &c.	Locality.	County.	Mining District.
...	...	Anderson (in folio) .....	.....	Gough .....	Peel and Uralla.
30	4	Astley .....	Emmaville Gold-field .....	Arrawatta .....	New England.
30	4	Athol .....	do .....	do .....	do .....
33	2	Bootawaa .....	.....	Gloucester .....	Hunter and Macleay.
42	1	Barnedman .....	Barnedman Gold-field .....	Bland .....	Lachlan.
79	4	Bruinbun .....	Turon River Gold-field .....	Roxburgh .....	Tambaroora and Turon.
53	3	Budawang .....	.....	St. Vincent..	Southern.
68	3	Bagawa .....	Nana Creek Gold-field .....	Fitzroy .....	Clarence and Richmond
82	4	Beargamil .....	Billabong Gold-field .....	Ashburnham .....	Lachlan.
82	4	Bindogandri .....	do .....	do .....	do .....
34	3	Cooloongolok .....	.....	Gloucester .....	Hunter and Macleay.
47	3	Coba .....	Emu Creek Gold-field .....	Monteagle .....	Lachlan.
79	4	Coleridge .....	Chamber's Creek Gold-field .....	Bathurst .....	Tambaroora and Turon.
49	2	Cunglebung Gold-field .....	.....	Gresham .....	Clarence and Richmond
52a	2	Cavert .....	.....	Bathurst .....	Bathurst.
56	1	Churchill .....	Solferino Gold-field .....	Drake .....	New England.
65	2	Cargo Gold-field .....	.....	Ashburnham .....	Lachlan.
71	2	Cooyal (Village of) .....	.....	Phillip .....	Mudgee.
72	3	Cobar .....	.....	Robinson .....	Cobar.
81	2	Cowan .....	.....	Gresham .....	Clarence and Richmond
52	3	Dunleary .....	Milburn Creek Gold-field .....	Bathurst .....	Bathurst.
40	1	Eskdale .....	Green Swamp .....	Roxburgh .....	do .....
50	2	Ermington .....	Cambigne Gold-field .....	Gresham .....	Clarence and Richmond
81	4	Forbes .....	Lachlan Gold-field .....	Ashburnham .....	Lachlan.
30	4	Gordon .....	Vegetable Creek .....	Gough .....	Peel and Uralla.
30	4	Hawthorn .....	Emmaville Gold-field .....	Arrawatta .....	New England.
35	3	Irraloug .....	.....	Gloucester .....	Hunter and Macleay.
78	4	Inverell .....	.....	Gough .....	Peel and Uralla.
73	1	Jingellic .....	.....	Goulburn .....	Tumut and Adelong.
39	3	Krawaree .....	.....	Murray .....	Southern.
82	4	Kamandra .....	Billabong Gold-field .....	Ashburnham .....	Lachlan.
40	1	Melrose .....	Green Swamp .....	Roxburgh .....	Bathurst.
58	3	Macquarie River Gold-field .....	.....	Wellington .....	Tambaroora and Turon.
42	1	Mandamah .....	Barnedman Gold-field .....	Bland .....	Lachlan.
44	2	Mooney Mooney .....	Muttama Gold-field .....	Harden .....	Tumut and Adelong.
45	2	Meglo .....	Junction Point Gold-field .....	Georgiana .....	Bathurst.
53	3	Mongarlowe .....	.....	St. Vincent..	Southern.
57	1	Mulgumia .....	Mulgumia Gold-field .....	Georgiana .....	Bathurst.
66	2	May Day Reef .....	Black Range Gold-field .....	Goulburn .....	Tumut and Adelong.
69	3	Metz .....	Gara Falls .....	Sandon .....	Peel and Uralla.
70	2	Mitchell's River .....	.....	Gough .....	do .....
72	3	Mopone .....	.....	Robinson .....	Cobar.
76	3	Moogem .....	Pheasant Creek .....	Clive .....	New England.
43	2	Nuggetty Gully .....	Nowendock Gold-field .....	Hawes .....	Peel and Uralla.
48	2	Nullama .....	Union and Lone Star Reefs, Quart Pot Creek .....	Gresham .....	Clarence and Richmond
66	2	Nail Can Reef .....	Black Range Gold-field .....	Goulburn .....	Tumut and Adelong.
74	1	Oban .....	.....	Clarke .....	Peel and Uralla.
51	1	Perseverance Reefs, &c. .....	Boyd or Little River Gold-field .....	Gresham .....	Clarence and Richmond
86	4	Quidong, &c. .....	.....	Wellesley .....	Southern.
41	2	Solitary Creek .....	Wattle Flat Gold-field .....	Roxburgh .....	Bathurst.
32	3	Telerarec .....	Gloucester Gold-field .....	Gloucester .....	Hunter and Macleay.
36	3	Topt .....	.....	do .....	do .....
55	4	Tomingley Gold-field .....	.....	Naromine .....	Mudgee.
80	1	Tunnabidgee .....	.....	Wellington .....	Tambaroora and Turon.
35	3	Wangat .....	.....	Gloucester .....	Hunter and Macleay.
39	3	Wyanbene .....	.....	Dampier .....	Southern.
87	1	Warratta .....	Albert Gold-field .....	Evelyn .....	Alburt.
40	1	Yetholme .....	Green Swamp .....	Roxburgh .....	Bathurst.
46	2	Young .....	Burrangong Gold-field .....	Monteagle .....	Lachlan.
54	3	Yalwal Creek Diggings .....	.....	St. Vincent..	Southern.

## INSPECTION OF MINES.

The Inspector of Mines reports that during the year there were eleven fatal and three non-fatal accidents. Of the fatal accidents six were caused by falls of earth. The Inspector states that a few other minor accidents occurred the particulars of which have not been reported to him. During the year the Inspector has been very fully occupied, as in addition to inspecting mines he has had to superintend the working of the diamond drills and water augers, and to serve upon the Prospecting Board. He visited Young, Temora, Barnedman, Adelong, Grenfell, Forbes, Parkes, Orange, Brown's Creek, Hill End, Tambaroora, Mudgee, Gulgong, Mount Browne, Tibooburra, Poolamacca, Silverton, Broken Hill Pinnacle, Back Creek, near Rockley, Lewis Ponds, Sunny Corner, and Vegetable Creek. The Inspector's report is attached hereto, and will no doubt be read with considerable interest.

## DIAMOND DRILLS AND WATER AUGERS.

During the year the Diamond Drills have been engaged in more difficult country than usual, consequently the number of feet bored is less, and the rate per foot is higher than during the preceding year. The details are given fully in the Superintendent's Report herewith. The aggregate depth bored was 3,097 ft. 5 in., at a total cost for field-work (exclusive of office and store expenses, rent, and superintendent's travelling

travelling expenses), £2,800 16s. 2d., equal to an average of 18s. 1d. per foot. The total cost (including salaries, office, store, and all other expenses) was £3,460 17s. 7d., equal to £1 2s. 4½d. per foot. The earning of the drills for last year was £2,574 19s. 7d., but concessions were made amounting in the aggregate to £63 16s. 5d., which reduced the total earnings to £2,511 3s. 2d., equal to 16s. 2½d. per foot. The cost per foot to the Department (including all expenses) in 1887 exceeded the cost in 1886 by 4s. 7½d., while the cost per foot to the persons employing the drills was less in 1887 than in 1886 by 2s. 11½d. This result is due to the fact that the country bored in 1887 was more difficult than in preceding years, and that the superintendent may have under estimated the cost of boring in such country. I am fully convinced that the most rigid economy and strict supervision have been exercised by the superintendent, who has striven to increase the public utility of the drills at the risk of sacrificing the profits made upon the working of the drills in former years. In 1883 the destruction of diamonds per foot bored equalled 3s. 8d., in 1884 it was reduced to 2s. 0½d., in 1885 it was further reduced to 1s. 5½d., in 1886 it amounted to only 8½d., while in 1887 the cost was 1s. 6½d. This, however, includes the diamonds lost in the bore at Clarence Siding, and they may yet be recovered.

As regards augurs, seven were in the field during the year; six were boring for water, namely, three on the road from Bourke to Wanaaring, two at Moongulla, and one near Hay. At 75 miles from Bourke artesian water was struck at a depth of 960 feet, from which 33,000 gallons per diem, flows through a pipe raised to a height of 8 feet above the surface, and at 101½ miles from Bourke, on the same line of road, artesian water was again struck at a depth of 950 feet. From this bore the water flows at the rate of 21,600 gallons per diem. One drill was engaged in prospecting for gold at Forbes. The total depth bored during the year was 2,566 feet 10 inches, or 381 feet 7 inches. The total cost of boring inclusive of carriage but exclusive of office salaries was 16s. 2½d. per foot, the cost inclusive of all expenses was £1 2s. 3½d. On the road near Hay two wells were sunk to a depth of 70 feet each, and on the Bourke Road a well was sunk and timbered to a depth of 20 bores, fenced in, and embankment constructed to conserve water, the cost of these works is included in the cost of boring. Artesian water was not found on the road near Hay, but the wells contain a good supply of water. Colours of gold were obtained by the drill employed at Forbes, but no payable lead was discovered. The most successful boring operations have been on the Bourke Wanaaring Road, where a water supply was most needed, and the value of the discovery of artesian water on that road cannot be over estimated.

#### MINERAL PRODUCTS.

The aggregate value of the mineral products of this Colony to the end of 1887 is £72,938,125, the value of such products for the year 1887 being £3,165,938, showing an increase as compared with 1886 of £237,511. The increase is mainly due to the increased output of gold, silver-lead ore, coal, bismuth, cobalt, &c., and to the increase in the price of tin and copper. Shale, iron, and antimony show a decrease. The largest increase is upon the products of our silver mines; but it is noticeable that the quantity of fine silver produced last year is very much less than the preceding year, while the quantity of ore exported in 1887 largely exceeds the quantity exported in 1886.

The following table shows the aggregate value of minerals the produce of New South Wales for the years 1886 and 1887 respectively compared:—

Minerals.	Quantity.		Value.		Quantity.		Value.		Increase in value.		Decrease in value.	
	1886.		£ s. d.		1887.		£ s. d.		£ s. d.		£ s. d.	
Gold .....	101,416·82	oz.	866,294	7 7	110,286·06	oz.	394,578	16 3	28,284	8 8	.....	.....
Silver .....	1,015,493·50	„	197,544	0 0	177,307·75	„	32,458	0 0	.....	.....	165,086	0 0
Coal .....	2,830,175·00	tons.	1,303,164	4 1	2,922,497·00	tons.	1,346,162	18 7	42,998	14 6	.....	.....
Shale .....	43,563·00	„	99,976	0 0	40,010·00	„	87,761	0 0	.....	.....	12,215	0 0
Tin .....	4,967·80	„	467,653	0 0	4,961·05	„	525,420	0 0	57,767	0 0	.....	.....
Copper .....	4,026·80	„	167,665	0 0	4,763·35	„	199,102	0 0	31,437	0 0	.....	.....
Iron .....	3,685·87	„	19,068	8 2	2,797·43	„	14,542	15 1	.....	.....	4,525	13 1
Antimony .....	273·15	„	3,381	0 0	168·35	„	1,641	0 0	.....	.....	1,740	0 0
Bismuth .....	20·92	„	3,870	0 0	86·55	„	6,695	0 0	2,825	0 0	.....	.....
Sundry Minerals...	69·22	„	5,327	0 0	1,431·00	„	15,624	0 0	10,297	0 0	.....	.....
Silver-lead Ore ...	4,802·10	„	294,485	0 0	12,530·17	„	541,952	0 0	247,467	0 0	.....	.....
Manganese .....	.....	.....	.....	.....	460·65	„	1,702	0 0	1,702	0 0	.....	.....
Cobalt .....	.....	.....	.....	.....	6·40	„	1,330	0 0	1,330	0 0	.....	.....

The value of the output of minerals in 1887 exceeds the value of the average annual output by £518,983.

The following Return shows the quantity and value of Gold, Coal, Shale, Copper, Tin, Silver, Silver-lead Ore, Iron, Antimony, Asbestos, and Bismuth produced in the Colony of New South Wales during the last ten years:—

Year.	Gold.		Coal.		Shale.		Copper and Regulus.		Tin and Tin Ore.		Silver.	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
	Oz.	£	Tons.	£	Tons.	£	Tons.	£	Tons.	£	oz. dwt.	£
1878	119,665	430,033	1,575,479	920,936	24,371	57,211	5,219	345,158	7,210	395,822	60,563 0	13,291
1879	109,650	407,219	1,583,381	950,879	32,519	66,930	4,142	257,352	5,921	372,349	83,164 0	18,071
1880	118,600	441,543	1,466,180	615,337	19,201	44,725	5,394	364,059	6,159	471,337	91,419 0	21,878
1881	149,627	566,513	1,769,597	693,248	27,894	40,748	5,494	355,062	8,200	724,003	57,254 0	13,026
1882	140,469	526,521	2,109,282	948,965	48,065	84,114	4,958	324,727	8,670	833,461	38,618 0	9,024
1883	123,806	458,509	2,521,467	1,201,942	49,250	90,861	8,957	577,201	9,125	824,552	77,065 18	16,488
1884	107,199	395,292	2,749,109	1,303,077	31,618	72,176	7,305	416,179	6,665	521,587	93,660 5	19,780
1885	103,736	378,665	2,878,863	1,340,213	27,462	67,239	5,746	264,920	5,193	415,626	794,174 0	159,187
1886	101,417	366,294	2,830,175	1,303,164	43,563	99,976	4,027	167,665	4,968	467,653	1,015,433 10	197,544
1887	110,288	394,579	2,922,497	1,346,163	40,010	87,761	4,763	199,102	4,961	525,420	177,307 15	32,453
	1,184,457	4,365,168	22,406,020	10,533,924	353,953	711,741	56,006	3,271,425	67,073	3,551,810	2,488,659 8	500,747

Year.	Silver-lead Ore.		Iron.		Antimony and Ore.		Asbestos.		Bismuth.		Sundry Minerals.		Total.
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	
	t. c.	£	t. c.	£	t. c.	£	t. c.	£	t. c.	£	t.	£	£
1878	5 0	258	900 0	6,666	64 0	1,964	...	...	...	...	77	1,082	2,172,421
1879	18 13	535	1,118 0	10,550	76 16	1,046	...	...	...	...	25	525	2,085,456
1880	27 14	890	2,322 0	15,335	99 19	1,652	12 8	323	...	...	21	795	1,977,874
1881	52 14	1,625	6,560 0	47,871	539 4	17,346	...	...	12 10	2,728	154	1,020	2,373,190
1882	11 19	360	7,476 0	37,224	1,068 18	16,762	7 10	75	2 14	162	7	979	2,782,344
1883	136 4	2,075	3,434 3	26,908	375 11	6,555	...	...	3 14	650	31	160	3,204,901
1884	9,167 11	241,940	3,759 2	21,572	433 12	6,458	...	...	14 7½	2,770	...	...	3,003,831
1885	2,286 0	107,626	4,176 0	25,793	293 0	4,296	6 0	90	14 0	3,700	457	7,820	2,775,175
1886	4,802 2	294,485	3,685 17	19,068	273 3	3,381	...	...	20 18	3,870	69	6,327	2,928,427
1887	12,530 3	541,952	2,797 8	14,543	168 7	1,641	...	...	36 11	6,695	1,431	15,624	3,165,938
	29,038 0	1,191,746	36,223 10	228,530	3,392 10	60,071	23 18	488	104 14½	20,575	1,9024	33,332	26,469,557

#### GOLD.

I have the pleasure, for the first time for some years, of inviting attention to the fact that our output of gold shows an increase. Indeed the output for 1887 not only exceeds that of 1886, but is the largest since 1883. Notwithstanding that the search for silver lodes has engrossed so much attention lately, there have been some not unimportant discoveries of gold deposits during the past year; and if the requisite capital for their proper development be forthcoming, there appears to be reasonable grounds for anticipating a still larger increase in the gold yield during the current year. It is a very long time since so much enterprise has been developed in the search for gold and other minerals as during 1887; and the results obtained indicate not only the value of such enterprise, but the extent and richness of our resources. Unfortunately our appliances are not in all cases equal to the profitable treatment of our auriferous deposits, and, as a consequence, some very promising ventures are in a languishing condition. The following extracts from reports furnished by officers of this Department indicate the condition of gold-mining in several of the districts during the past year:—

In the Bathurst District the Wardens and Mining Registrars report:—At Clear Creek, Turner and party have just completed the erection of their battery, and had a trial crushing of 17 tons, yielding  $\frac{3}{4}$  oz. per ton. Thompson and party are down a good depth at Cheshire's Creek, and the stone looks well. Gold purchased at Bathurst—463 oz. from alluvium, 926 oz. from quartz. At Mitchell, 1,127 oz. of gold was won from alluvium and 417 oz. from quartz, together valued at £5,597, was won during the year. The Junction Point Mine, near Peelwood, has been put into a Company, and is being again worked for gold. Maiden's Flat is being worked for alluvial, but is very wet. About Scrubby Rush prospecting has been going on all the year, and since the holidays the battery has been going night and day. Gold to the value of £3,750 has been got by fossickers, and sold locally. About 450 men are now working in this locality, but the number is expected to increase largely. The heavy rains gave the sluicers at Trunkey a chance during the winter. Alluvial gold to the value of £7,600. Parties have been searching for opal on the Abercrombie River. At Oberon, thirty-three men are working on or in connection with these mines, and during the year have won gold to the value of £2,400. It is thought miners will shortly regard

regard this locality with more favour. At Mount M'Donald, gold to the value of £11,000 has been obtained from quartz, but scarcely any from alluvial. 1,702 tons of quartz was crushed for a yield of 2,619 oz., or about 1 oz. 11 dwt. of gold per ton; 137 oz. was obtained from recrushing tailings. What promise to be rich reefs were found, in August last, about 6 miles from Mount M'Donald. About £767 worth of alluvial gold was sold locally at Rockley. The stoppage of the silver-mines at Mitchell led to some of the miners finding very nice gold in the Lagoon Gully. The total value of gold won was £4,830. In the Orange division, the gold won at the principal mines is valued at £21,446. At Ophir, since the Bluff Amalgamated Co. was reformed, some encouraging results have been obtained. The veins average from 15 to 18 inches wide, and the stone raised has yielded at the rate of 2 oz. 17 dwt. per ton. Other claims are being worked. At Forest Reefs, indications continue promising, and two deep shafts are being sunk in search of the lead. At Lucknow a quantity of ore has been brought to grass during the year, some of which was very rich. The value of gold won was £16,400. The yield of gold in the Carcoar division for the year, was 8,238 oz., a decrease upon the returns of the previous year, caused by the temporary suspension of work at the Brown's Creek Mine, the ground having been worked to the water level. It has now been decided to sink 50 feet deeper. During the year the Company won 3,792 oz. of gold. The deposit appears to be richer as the depth increases. At the Junction Mine, where superior gold saving machinery is being erected, and at Gully Swamp, where the mines having been worked down to the water level, it is necessary to procure pumping appliances, which is being done with all speed. Some very good results have been obtained, 107 tons of stone yielded 193 oz. of gold. The Gold Hill Mine Burnt Yards is crushing, and will shortly finish; the yield is expected to be good. The quantity of gold sent down by escort from Carcoar during the year was 8,240 oz. Trial crushings from several of the mines at Milburn Creek and Scrubby Rush have yielded remarkably well, but the stone has to be carted to Mount M'Donald 7 miles distant. At Flanagan's Gully, King's Plains Gold-field, sluicing is being carried on with success, rich patches of nuggetty gold being occasionally found. Watson and party now down 70 feet have cut several gold-bearing leaders. The main shaft of the Confidence Co. is now down 247 feet, but the deposit is very poor, averaging only 2 dwt. per ton. During the year the quantity of gold won was 5,274 oz. The quantity of gold purchased at Blayney is 330 oz. from alluvium, and 9,066 from quartz, value £33,019.

In the Mudgee District the Wardens and Mining Registrars' report:—The discovery at Maitland Bar of a nugget weighing over 300 oz.; other nuggets of smaller size were found in the division. The quantity of gold locally won purchased by the Banks at Mudgee was 3,898 oz., in addition to which a large quantity is said to have been forwarded to Sydney. A lump of ironstone containing 22 oz. of gold was found in the "Lucky Find" Company, near Appletree Flat, which has led to active prospecting in ironstone country. The Company has sent some 6 tons of the stone to Sydney for treatment. In the alluvial flats adjoining some ground has been stripped to a depth of 6 feet below which the deposit has yielded 3 to 4 dwt. per ton for the last six months. The quantity of gold won at Gulgong during the year was 1,602 oz. 16 dwt. 14 gr. The tributers at the Rhobasdah Mine are obtaining 1½ oz. to the ton without the pyrites which are said to be valuable. At Limestone Creek the results have been variable principally owing to the excess of water. Several nuggets have been found there, one weighing 30 oz. A crushing at the Mint from a reef on an adjoining hill gave 7 oz. to the ton without treating the pyrites. The quantity of gold won in the Wellington division was 556 oz. from alluvial and 96 oz. from quartz. At Ironbarks there is a great improvement in mining and the reefs appear to improve with depth. The trial crushings show such encouraging results that arrangements are being made to erect batteries.

The reefs at Ironbarks have long been abandoned, an idea having prevailed that they were valuable only on the surface. In no instance were they tested below 200 feet, and few were tested to a depth of 150 feet. The Specimen Hill claim was taken up a few months ago, one of the shafts was sunk deeper, and 10 tons of stone taken from a vein 18 inches wide at a depth of 200 feet yielded 34½ oz.; this is the greatest depth reached in the whole field. A further test of 2½ tons from the same level gave 30 oz. of gold. This has had the effect of causing work to be commenced on reefs with a view to test them at lower levels. For miles around the country is a network of reefs, all of which are known to be auriferous. On the Prince William Reef, after cleaning out an old shaft and sinking deeper very rich stone was discovered. The Princess Alexandra has been opened out, so that 150,000 tons of gold-bearing stone is now in sight. At Yeoval the Gordon Mine crushed 1,860 tons of stone for 452 oz. gold. The quantity of gold won in the Ironbarks division during the year was 1,482 oz. from alluvium and 644 oz. from quartz.

In the Tomingly division the reefs vary from 18 inches to 8 feet wide; 2,656 tons crushed yielded 2,851 oz. gold. A trial crushing of 18 tons from the Ten-mile yielded over 1 oz. of gold per ton. At Hargraves four nuggets were found by fossickers, weighing respectively 357 oz., 200 oz., 47 oz., and 32 oz. Machinery is being erected to work some of the quartz reefs. In

In the Tambaroora and Turon District the Wardens and Mining Registrars report:—At the Red Hill mine, Hill End, a main shaft has been sunk 322 feet, seven veins have been cut, four showing gold. 576 tons of quartz have been crushed for 188½ oz. gold. The Cornelian Company has been chiefly engaged in prospecting a large mass of quartz and slate, a sort of lode varying from 30 to 65 feet wide; the yield obtained from it varied from 3 to 10 dwt. per ton. They crushed about 297 tons of quartz from 241 oz. of gold. No correct estimate can be formed of the quantity of gold won at Hill End, as there is no bank and no escort. At Hargraves preparations are being made to work some of the reefs systematically, for which purpose machinery is being brought on to the ground. At Sofala prospects appear to be somewhat improving; the quantity of gold sent away by escort for the year was 4,877 oz., some of which may have come from Hill End. At the Turon River and Crudine Creek Dawson and mate obtained 9 oz. in two days, and Hyland & Co. obtained 60 oz. in four weeks. O. Johnson obtained 19 oz. of gold from one dish of wash-dirt. 31 tons of quartz raised from the Sir Garnet Wolseley Reef at a depth of 40 feet gave 63½ oz. of gold. 200 tons of quartz showing gold freely has been raised from the Turon Company, Razorback, ready for crushing. Machinery ready for erection. The Solitary Creek Company have raised 925 tons of quartz, which yielded 518 oz. 14 dwt. of gold. 74 tons of quartz from the Magenta Reef yielded 75 oz. of gold. 49 tons from Big Oakey gave 48½ oz. gold. 54 tons from New Chum gave 46 oz. 17 dwt. 28 tons from Bullock Flat gave 26 oz. 6 dwt. 15 tons from Whelan's Hill gave 21½ oz.

In the Lachlan Mining District, the Wardens and Mining Registrars report:—On the south lead at Forbes several mines are now at work with fair prospects of success. The Crinoline Co. has won over 400 oz. since May last. At Bald Hills a party is on payable wash at 170 feet; this deposit is said to be outside of the old lead. There is a number of prospecting parties at work in various parts of the division. Nicolas and party have sunk on the Pinnacle Reef, which is from 3 to 5 feet wide. The first crushing of 600 tons was not payable, but 120 tons taken from a greater depth yielded ½ oz. per ton; during the short time they have worked they have won 315 oz. At Parkes new finds are often made, some of the reefs are more than payable. There is an auriferous belt extending north of Parkes, 50 miles to Tomingley and south of Parkes, 12 miles to Strickland's Reef, and none of the reefs in this area have been tested below 260 feet, and very few to that depth. On the Buchanan Reef there are several claims being worked, some of these are yielding handsome returns. The claim which is, at present, the principal claim in Parkes, had been worked and abandoned several times before the present owner took it up, and it was not till he had persevered for a long time, in face of adverse prospects, that he found the shoot of gold which he has now been working since the end of 1883; during that time he has raised 1,363 tons of quartz, which has yielded 6,537 oz. 12 dwt. of gold, equal to 4 oz. 14 dwt. 13 gr. per ton. As the Warden justly remarks, this should be a warning to miners not to abandon a claim before giving it a thorough trial. A new reef has been discovered, from which 30 or 40 tons of stone have been taken showing coarse gold freely. Some very good quartz has been obtained by different parties from the Caledonian Hill, yielding as high as 2 oz. per ton. In the Koh-i-noor claim, near Caledonian Hill, a large body of payable stone is in sight, it averages over 1 oz. per ton. Tolhurst & Co., on Coobang Run, are obtaining stone which yields between 2 and 3 oz. per ton. The quantity of gold won in the Parkes division for the year was 5,634 oz.; of this £14½ oz. was from alluvium, equal to 4 dwt. 14·88 gr. per ton, and 4,737½ oz. from quartz, equal to 1 oz. 6 dwt. 5·46 gr. per ton. A good deal of prospecting is being done at Bachelor's Lead, 15 miles north of Parkes. At Woollogolong, about 15 miles west of Molong, a lode deposit about 13 feet wide at the surface, has been found, which has been tested to a depth of 55 feet, several samples of ore have been tested in Sydney, that from the lowest level assaying 13 oz. gold and 12 oz. silver per ton. There are about 200 tons of ore at grass, and a crushing plant is being erected. The lode can be traced on the surface a considerable distance. On the Bell River, at Sammy's Mount, 12 miles north-east of Molong, a good deal of prospecting has been done on a selection in search of a deep lead. The deepest shaft bottomed is 220 feet; 4 feet of wash-dirt was found, but not payable. Another shaft could not be bottomed on account of the quantity of water; if this can be overcome it is thought a payable lead may be found. Several parties are prospecting around Grenfell, but no finds of importance have yet been made. The Inspector of Mines points out that the quartz veins at Grenfell which proved so rich when worked some years ago have, in very few instances, been tested below 200 or 300 feet, and present a very promising field for the investment of capital. A gold-bearing quartz reef has been found at a point about 46 miles from Young, and 22 miles from Marsden; the reef is 2 feet wide, and well defined, but the stone has not yet been tested owing to the distance from the nearest battery. At Canowindra a good deal of prospecting is going on, and the known reefs appear to be improving in depth—798 tons of quartz yielded 972½ oz., equal to 1 oz. 4 dwt. 9·11 gr. per ton. There appears to be a prospect of the reefs at Cargo now getting a thorough test. At Paling Yards Creek, about 8 miles from Cudal, a shaft has been sunk 70 feet on a lode 6 to 10 feet wide, and 250 tons have been raised ready for crushing, and a small battery has been erected; 63 tons crushed at Cargo gave 13 dwt. per ton. At Boney's Rocks, near Toogong, several parties are at work, but only two or three claims are on gold, yet one

crushing of 25 tons gave 1 oz. 11 dwt. per ton. Great difficulty has been experienced in working the Burrangong Lead at Young on account of the quantity of water in the underground work. In the principal mine 400 or 500-feet of driving has been done for the purpose of cutting off the water from the main lead. The prospects obtained from the portions of the lead driven equal 5 oz. to the square fathom, and similar prospects have been obtained from other parts by boring. The quantity of gold won from the mine during the year was 247 oz. 3 dwt. 14 gr. Similar prospects have been obtained from the adjoining mine, and also from a mine on Victoria Hill—the gold won with one pick in five weeks was 45 oz. The Cunningar mine, about 15 miles south-east of Murrumburrah, is the most important mine in the district—500 tons of stone recently treated yielded 600 oz. of gold. The quantity of gold won in the Young division was 761 oz. 4 dwt. 12 gr., and the quantity in the Murrumburrah division was 843 oz. 15 dwt. 15 gr. In the Temora division there has been a considerable decrease in the output of gold. The quantity sent to the Gold Receiver in 1887 was 3,406 oz. 14 dwt. 3 gr., while in 1886 he received 7,161 oz. 10 dwt. 5 gr., of this 1,400 oz. is estimated to have been won from alluvial deposits, and 2,000 oz. from quartz. During the year very little new ground has been tested at Temora, though there is likely looking country around, and the old ground gets more and more exhausted each year; about 8,000 loads of alluvium washed gave an average of 2 dwt. per load. In quartz mining a like progress is being made. During the year the South Australian Company crushed 1,718 tons, which yielded 603 oz. 8 dwt. 6 gr. of gold. For the public the Company crushed 309 tons for a yield of 140 oz. of gold, and for tributors 195 tons for 56 oz. 5 dwt. 18 gr. The stoppage through litigation of the works at the La Mascotte mine, Sebastopol, has had the effect of all but stopping work at the adjoining mines, as there is no other crushing plant within a reasonable distance. At Barmedman the progress during the year was fairly satisfactory, 1,370 tons of quartz crushed yielded 1,454 oz. 9 dwt. 14 gr. of gold, to which must be added 87 oz. obtained from mullock. At the Hand-to-find Reef 315 tons of quartz yielded 496 oz. of gold. At Cowabee some discoveries have been made which promise to give reasonably fair yields of gold. The Inspector of Mines is of opinion that alluvial leads may be discovered in this locality.

In the Cobar Mining District the Wardens and Mining Registrars report:—After languishing for two or three years gold-mining shows signs of reviving in consequence of the discovery of gold within 3 miles of the town of Cobar. The line of reef runs a distance of 3 miles through the United and Fort Bourke Hills. Some of the shafts are sunk from 20 to 50 feet deep, the reef showing fine gold in most of them. 2 tons of stone from a 3-foot reef, at a depth of about 3 feet, in the Chesney claim, was treated at the Mint and yielded  $4\frac{1}{2}$  oz. per ton of gold worth £4 2s. 2d. per oz. A reef containing gold has been discovered on private property by prospectors at the Peak, about 2 miles further south. At Mount Billago, 30 miles north-west of Cobar, a shaft has been sunk 100 feet and a drive put in 40 feet. A reef has been cut, from which some samples of gold-bearing quartz have lately been taken. Some of the stone tested, it is said, gave over 5 oz. of gold and 90 oz. of silver per ton.

In the Albert Mining District the Wardens and Mining Registrars report:—It is rumoured that gold has been discovered at Gnalta, near Wilcannia. At Tibooburra, including the Granite, Two-Mile, Easter Monday, Nuggety, Six-mile, over 10 miles long by varying widths, the work is exclusively surfacing, which is chiefly worked by means of puddling machines. A machine is supposed to contain 20 loads, and 3 dwt. per load is found to pay well and to yield to the owner about £30 per week clear profit. One machine owner has been known to send away £50 worth of gold per week for several weeks running. The great difficulty is a constant supply of water within a reasonable distance of the claims, and at present, owing to the intermittent supply, mines are frequently idle, and remain so sometimes for long periods. The quantity of gold won at Tibooburra during year is estimated at 2,890 oz. At Mount Browne little surfacing has been done, but there is now a tendency to construct dams and erect puddling machines, and a much larger production of gold may be expected. At present the bulk of the gold comes from the deep ground at the One-Mile, where four or five shafts have been bottomed at depths varying from 120 feet to nearly 200 feet. The lead is about 40 feet wide and the wash 12 to 30 inches deep; the average yield is given at about 16 dwt. per load. On the flat near Billygoat Hill is a deep lead, from which yields varying from 10 to 16 dwt. per load have been obtained in the All Nations claim; but as the lead was traced down to the water level they were unable to contend with the water without the aid of a whim, which is now being erected. It is on this lead that the Company, subsidised out of the Prospecting Vote, intend sinking a shaft to reach the deep ground below water level. If they succeed and are able to drain the water, the upper portion of the lead may be profitably worked. The Whittabreeua mine is about to be worked again, and about 2 miles from it a shoot of gold has been met with in a vein, which has led to several claims being taken up. It is thought the quartz reefs in this, if properly treated, would give fair returns. The quantity of gold won in the Milparinka sub-division during the year is estimated at 1,819 oz., making for the whole division—Tibooburra and Milparinka—4,709 oz. as the year's output.

In the Tumut and Adelong Mining District the Wardens and Mining Registrars report:—At the Koh-i-noor mine, Captain's Flat, near Queanbeyan, a shaft has been sunk 100 feet, and a drive 122 feet south along the lode, which contains silver, gold, copper, and lead; and all the ore to a height of about 35 feet has been taken out, leaving a gold-bearing lode adjoining on the west unworked. Three other shafts have been sunk, and drives put in along the lode from each. In this mine are two lodes, one 20 feet wide, the other 3 feet. The quantity of ore raised during the year was 2,346 tons, which have been smelted on the mine, yielding nearly 122 tons of bullion, containing by assay 40,877 oz. of silver, 364 oz. of gold,  $4\frac{1}{2}$  tons of copper, and 116 tons of lead, also 54 tons of copper matte, containing by assay estimates 4,828 oz. of silver, 13 oz. of gold,  $15\frac{1}{2}$  tons of copper, and  $8\frac{1}{2}$  tons of lead, and there are from 60 to 100 tons of copper matte, the actual weight and value of which have not yet been ascertained. The smelting-works were in active operation about fourteen weeks during the year. At Reid's ground sluicing claim at Brinabella about 600 cubic yards of stuff have been washed, yielding about  $\frac{1}{2}$  dwt. of gold to the yard. About  $2\frac{1}{2}$  tons of stone has been raised from Mac's Reef, which yielded 9 dwt. of gold to the ton. The reef is about 4 feet wide. At M'Leod's selection in the Gundagai division two trial crushings of 20 tons each have been taken from the reef, which have yielded about  $\frac{1}{2}$  an oz. to the ton. The shaft has been sunk to a depth of 100 feet; the reef carries gold all the way down. A shaft is being sunk 200 feet deep to test the reef at the Victoria mine, South Gundagai. At Johnstone's Hill and Bongongolong respectively, a lode of rich pyrites is said to have been found. A few of the claims on the Gap Reef at Adelong promise to prove remunerative if capital be brought to bear upon them. The quantity of stone crushed at Adelong was 1,628 tons, yielding  $1,708\frac{1}{2}$  oz. of gold, and the quantity of alluvial gold won was 833 oz. 9 dwt. 15 gr. From the Amalgamated Companies mines 410 tons quartz yielded 494 oz. 18 dwt., and from 260 tons of picked tips yielded 140 oz. 16 dwt. of gold. 90 tons of stone from Mr. Williams' mine gave 362 oz. of gold.  $91\frac{1}{2}$  tons from the Lady Mary mine yielded 131 oz. 18 dwt. of gold. The repeated floods have interfered with the working of Mr. Shepard's mine; preparations are being made to work the mine on a new system, from which great results are expected. At Tarcutta only three claims are at work; 139 tons of quartz raised yielded 66 oz. 16 dwt. of gold. There are several prospecting parties out in the Tumut division. Ryan and party have taken up 50 acres of land on the Shaking Bog Creek for sluicing, and are confident of success. At Reedy Flat 530 oz. of gold was won from alluvium. The quartz reefs would pay if there were a battery on the spot, but the stone will not pay to cart 20 miles. Work has been suspended at the Bungowannah mine in the Albury division, as the ore is so refractory that the gold cannot be extracted, only 119 oz. being saved from 1,190 tons of ore; the lode or dyke is 24 feet wide. Pye & Co., Black Range, have crushed 36 tons for 108 oz. of gold, and they are about crushing again, and expect 4 oz. to the ton. The quantity of stone crushed in the Albury division was 1,381 tons for 450 oz. 6 dwt. 8 gr. In the Tumbarumba division the Buna Co. obtained 344 oz. for five months' sluicing. A nugget weighing 16 oz. and several smaller pieces were found at Upper Tumbarumba during the year. Several sluicing claims have been worked during the year with moderate success. A new reef of large size has been found in slate country at Jingellic. The reef is 6 feet wide, and carries fine gold; a trial crushing of 2 tons yielded 8 dwt. per ton. The quantity of gold raised in the division during the year was 1,690 oz. At Kiandra 2,454 oz. of gold, won chiefly by hydraulic sluicing. At the Kydra Reefs, Nimitybelle division, some parties are at work on leaders, no main reef having yet been found; one trial crushing of 25 tons yielded 25 oz. of gold. A good deal of prospecting is being done in the division. A large quartz reef is said to have been discovered at Michelago; samples of the stone have been assayed, and the results are very satisfactory.

In the Southern Mining District the Wardens and Mining Registrars report:—The Carrington Co. has been formed to test a load of iron ore in the Goulburn division. Numerous similar extensive lodes are known to exist at Jerara Creek and the Look-down. Traces of gold and silver are said to exist in the surface cappings. At Windalama, some 24 miles from Goulburn, towards Braidwood, thirteen or fourteen quartz reefs have been opened within an area of 50 acres, all carrying payable gold; one of them is said to show rich surface indications. In the same neighbourhood it is reported that a gold-bearing drift covers an area of 40 miles in length by 12 miles in width. The drift is some 1,200 feet above the present bed of the Shoalhaven River, and is said to contain several dwt. of gold per ton, but has not yet been worked, owing to the length of carriage. On the Wollondilly River, near Towrang, a lode has been discovered said to contain 10 dwt. of gold and 14 oz. of silver. A shaft is being sunk to prove its extent and value. Gold is said to have been obtained from an iron ore deposit on private land near the village of Robertson. In the Nowra division four quartz-mines are in active operation; the quantity of quartz crushed was 5,824 tons for  $2,761\frac{1}{2}$  oz. of gold. Open quarrying, and passing all the stone through the battery, is regarded as the most profitable mode of working the quartz deposits on this field. The gold, as it comes from the retort, contains almost uniformly 20 per cent. of silver. In the Braidwood division the rainfall has

has assisted mining operations (except at Araluen, where the deposits can be best worked in dry seasons), though not sufficient for continuous sluicing. At Braidwood 500 oz. of gold was won from alluvium. At Major's Creek 512½ oz. of gold was won from alluvium, and 337 oz. from quartz. At Little River 155 tons of quartz crushed yielded 209 oz. of gold. There was not sufficient water for sluicing till November, consequently the results were not known by the end of the year. At the Corong Sluicing Co.'s mine, at Sailor's Gully, the water-race has been completed and the tail-race is being constructed, and has been opened out on a bed of rich auriferous wash. Other sluicing companies are engaged in preliminary works. The quantity of gold won in the division was 320 oz. At Araluen, owing to the heavy rains, some of the stripping claims were flooded and filled in, and dams and tail-races were destroyed, causing loss of time and heavy expense in reopening; consequently the yield of gold from alluvial claims—4,200 oz.—may be considered satisfactory. 103 tons of quartz from Bell's Creek yielded 44 oz. of gold. In the Moruya division several apparently promising quartz reefs have been discovered, especially about Nerrigundah and the Tuross River, and some old reefs have been reopened. A battery has been erected which it is thought will tend to the development of some of the numerous quartz reefs in the locality. A plant has also been erected to work a large true fissure quartz reef from 4 to 12 feet wide, the stone showing gold freely, at Mt. Coman. The quantity of gold won at Moruya was 273 oz. from alluvium and 108 oz. from quartz. At Nerrigundah 200 oz. of gold was won from alluvium and 20 oz. from quartz, but there are about 200 tons at grass waiting treatment as soon as the battery, which is being erected, is completed. At Quart Pot Creek a quartz reef has been discovered which from assays made appears to be rich. At Wagonga a battery of twenty heads is about to be erected to crush the stone from the Bodalla mine. At Mt. Carrington a shaft has been sunk 100 feet on a reef nearly 9 feet wide, and the stone is very rich and shows gold freely. A steam pump has been erected to drain the claims at Mogo, but it is not sufficiently powerful; but what little ground was drained gave a return of 5 oz. to the load. The quantity of gold won in the Bombala division was 745 oz. 12 dwt.

In the Hunter and Macleay Mining District the Wardens and Mining Registrars report:—Mining operations at Copeland were retarded by the heavy rains flooding shafts, &c. The Centennial Co. having constructed a large tunnel 800 feet in length with a view to cut the reef at a great depth, are about to extend their works in the hope of striking the reef; if they succeed it is thought an impetus will be given to mining in this locality. A battery has been erected at Boranel and one at the Boman River; 238 tons of quartz crushed gave 263 oz. of gold. At Dungog 153½ oz. of gold was won during the year. At Coolongolook a large quantity of stone is at grass waiting for the erection of machinery, some of which is on the ground. The Mountain Widow mine has a well-defined reef 1 foot wide, and the Suttie mine a reef 3 feet wide showing gold. At Mt. Springfield a crushing plant has been erected, and will be ready for crushing in a few days; the prospects are very good, and the reef is 18 inches wide. A trial crushing of stone from 125 feet level of the Curroeki yielded 4½ oz. to the ton, and 4 tons from the 80 feet level gave 3½ oz. per ton; the reef is 10 in. wide and well-defined. In the Kempsey division a reef has been discovered at Mt. Pigott, near Deep Creek, 16 or 18 miles from Nambuccera River, 52 miles from Kempsey, and 5 miles from Boat Harbour, some stone from which tested in Sydney returned gold at the rate of 2½ to 3 oz. per ton; this caused considerable prospecting in the locality, resulting so far in the discovery of two other well-defined reefs, extending over a large extent of country.

In the Peel and Uralla Mining District the Wardens and Mining Registrars report:—At Stewart's Brook, about 40 miles north-east of Scone, a large quantity of stone is at grass waiting to be crushed; at present it costs about 30s. per ton to cart the stone to the battery from some of the claims. The reefs vary in width from 9 inches to 3 feet wide. There is a prospect of a second battery being erected, which will reduce the cost of cartage. The quantity of stone crushed during the year was 584½ tons for 668½ oz. of gold. Reports have been published locally of the richness of certain ironstone and quartz reefs at Swamp Oak Creek, and its tributary, but no data furnished of the extent of the reefs or the results of any tests made. Some prospecting has been carried on in the ranges, near Tamworth, and some quartz specimens obtained. In the Nundle division several companies have been or are being formed to work the cement deposits at Mt. Ephraim on a large scale. The principal mine is owned by the Mt. Ephraim Co., who are actively engaged in opening up the mine, completing the erection of their plant, and will shortly commence treating the cement. The reefs at Bowling Alley Point are being vigorously worked. Foley's Reef, 3 ft. 6 in. wide in many places, has been struck again, showing gold, and sufficient stone for a crushing will soon be raised. Other companies supposed to be on the same line of reef have struck gold; one of them had a crushing which yielded 1 oz. to the ton. About Hanging Rock, a large number of rich veins have been found. At Bingera a shaft has been sunk 120 feet, on the All Nations Reef, which is about 8 feet wide; several tons of stone has been tested, yielding from 16 to 13 dwt. of free gold per ton—the pyrites containing about 5 oz. per ton. A rush to Gympie Flat, near the Diamond Mines, has afforded something more than wages to a number of men for some months past.

At

At Spring Creek a copper lode has been opened which promises good returns of gold. 1,050 oz. of gold won at Bingera during the year. At Tea-tree (Barraba) a patch of 58 oz. of gold was obtained from 1 cwt. of stone, and some rich finds have occurred at Ironbarks. In the Armidale division prospecting has been carried on with varied success in different localities. New discoveries of gold have been reported from time to time, and quartz reefs have been discovered which are said to be highly auriferous. Companies have been or are being formed to work rich quartz veins found at Baker's Creek, Hillgrove. From one of the mines 177 tons of stone, 1,360 oz. of gold was obtained. Some of trial crushings have given exceedingly rich returns, and there is reason to believe that a large yield of gold will be obtained from this locality this year if the mines be properly worked. The Eleanora Co., Hillgrove, whose main reef is 12 feet wide, obtained 2,183 oz. 18 dwt. 5 gr. of gold from 6,343 tons of stone. The yield of gold in the division is estimated at 5,000 oz. At Glen Morrison, near Walcha, the discovery of a gold-bearing leader on private land was reported. In the Tia mine, at Tia River, the reef is from 4 to 5 feet wide, and yields 13 dwt. per ton; the country is soft. At Doherty's Hill (Uralla) a shaft has been bottomed with great difficulty owing to the quantity of water, and prospects obtained of about 3 oz. per load. Machinery has now been erected for draining the mine. Other companies have sunk shafts and erected machinery, but have not yet overcome the water. A rush to Wallaby Rocks occurred. The ground is now sinking about 20 feet. One party realized at first from 1 to 2 oz. of gold per load. The present average is 11 to 13 dwt. Sluicing operations are steadily continued in several localities, results not reported, but apparently satisfactory. Work has been continued steadily at the Long Tunnel mine with, it is thought, satisfactory results. The quantity of gold won in the Uralla division during the year was 1,000 oz. approximately. The discovery of a reef containing gold and bismuth in the northern part of the Inverell division has been reported. The prospectors are said to be confident, and intend sinking in the reef to a depth of 100 feet.

In the New England Mining District the Wardens and Mining Registrars report:—Some disappointment has been felt at the results of some of the mines at Fairfield, this is supposed to be due to the fact that some of the earliest trials having shown exceptionally rich results, the first 10 tons of stone obtained having yielded 128½ oz. of gold, but it is thought the Fairfield mines will soon rank amongst the richest gold-mines in the Colony. Up to the present great difficulty has been experienced in saving the gold which is very fine, and is associated with iron and copper pyrites, and zinc blend. At Boonoo Boonoo the reefs are likely to be successfully worked. The country is granite and the reefs are large and well-defined, but the water is troublesome, the locality being wet and swampy, rendering pumping machinery necessary. About 3½ miles from the McIntyre a reef has been sunk upon to a depth of 74 feet, at which depth the reef is 6 feet wide, estimated to yield ¼ oz. per ton. A trial crushing of 24 cwt. gave a yield of 1 oz. per ton. The reefs in this district are all well-defined with soft granite walls. At Fairfield, the Strauss Co.'s battery has been at work only a few weeks on their mine, at the back of Mount Carrington, 750 tons of stone crushed yielded 476¼ oz. of gold. There are several reefs through the land, the principal one is 10 feet wide. The plant of the Mount Carrington Co., which is very complete, is nearly ready for work. The stone is obtained from large reefs. At Red Rock, about 8 miles N.W. from Fairfield, the gold is found in a gossan stone with quartz; it occurs not in veins or reefs but in great masses. The average yield is estimated at 5 to 15 dwt. per ton. The Red Rock Co. obtain their stone from an open cut or quarry in the mountain, the face is 25 to 30 feet wide, and the depths of the cutting is 20 feet. There is no appearance of reef or wall, the mountain appears to be a mass of auriferous rock. The last crushing yielded 8 to 10 dwt. per ton. About half the gold is supposed to be lost by the present system of work. 386 oz. of gold was obtained from 1,211 tons of ore crushed. The rock is said to be practically inexhaustible, and it is estimated that 3 dwt. per ton will pay for working. The quantity of gold won at Fairfield, during the year, was 302 oz. from alluvial, and 1,107 oz. from quartz. There are several other companies working similar deposits. 25 tons of stone from the Victoria Reef, Lunatic, yielded 31 oz. of gold. The Lunatic and Perseverance Reefs are all small, but true fissure lodes. Some prospecting is being done at Pretty Gully, and also at Tooloom, where there are indications of extensive alluvial deposits under basalt. The Surface Hill Co. are still working at Poverty Point, but their appliances are quite insufficient for the treatment of the vast mass of auriferous granite. Payable gold has also been found in a sort of sandstone formation, and crushings from a lode 8 feet wide, and apparently widening, have yielded 5 to 8 dwt. per ton. At Solferino the quantity of gold won during the year was 209 oz. from alluvial, and 120 oz. from quartz. In the Glen Innes division, the Glen Elgin Sluicing Co. has constructed an artificial channel 1,939 feet long, 100 feet wide, and 40 feet deep in the centre, and they have now to cut through 30 feet of hard granite to reach the depth of 70 feet which is necessary before the water of the river can be drained away. Before incurring this heavy expense the company intend to thoroughly test the deposits of gold and tin proposed to be worked. About 450 oz. of gold has been obtained by scattered parties of miners.

In

In the Clarence and Richmond Mining District the Wardens and Mining Registrars report:— Machinery is about to be erected for working the Dora line of reef, on the Mann River, which is expected to prove highly remunerative. At Nana Creek the Jubilee Co. is sinking on a reef 18 inches wide; yield, 15 dwt. per ton. Another reef 1 foot wide runs parallel to it about 30 feet from it. There are numerous reefs in the locality varying in width from 9 to 18 inches, containing gold in payable quantities; 159 tons of stone crushed gave 149 oz. 19 dwt. 8 gr. of gold. At Dalmorton a new reef has been discovered which it is said will yield 2 oz. per ton; the quantity of gold won is 100 oz. from alluvial and 120 oz. from quartz. A reef has been discovered at Smith's Creek, a tributary of the South Arm Tweed River, stone taken from the surface yielded 4 oz. 18 dwt. of gold and 10 dwt. 21 gr. of silver.

The following information has been kindly furnished by R. Hunt, Esq., F.G.S., the Deputy-Master of the Royal Mint.

QUANTITIES of Gold, the produce of New South Wales, received into the Royal Mint, Sydney, during 1886 and 1887 compared.

District.	Division.	1887.	1886.	Increase.	Decrease.
		oz.	oz.	oz.	oz.
Bathurst.....	Bathurst.....	1,259-00	788-29	470-71	.....
	Carcoar.....	9,992-92	9,358-84	634-08	.....
	Orange.....	5,817-20	5,939-45	.....	122-25
	Trunkey Creek.....	200-78	79-28	121-50	.....
	Tuena.....	142-32	190-60	.....	48-28
Tambaroora and Turon.....	Mount M Donald.....	263-31	.....	263-31	.....
	Hill End.....	1,061-35	3,530-69	.....	2,519-34
	Tambaroora.....	486-75	246-06	240-69	.....
	Sofala.....	195-97	432-09	.....	236-12
Mudgee.....	Stony Creek.....	262-59	161-24	101-35	.....
	Mudgee.....	3,233-54	2,240-51	993-03	.....
	Gulgong.....	526-77	1,597-00	.....	1,070-23
Lachlan.....	Hargraves.....	1,005-84	99-97	905-87	.....
	Wellington.....	.....	97-48	.....	.....
	Parke.....	.....	.....	.....	.....
Albert.....	Forbes.....	6,355-58	5,471-89	883-69	.....
	Grenfell.....	339-14	259-75	79-39	.....
	Young.....	565-59	366-45	199-14	.....
	Temora.....	3,571-82	4,816-87	.....	1,245-05
Southern.....	Wilcannia.....	4,199-29	3,390-02	809-27	.....
	Goulburn.....	138-57	119-57	19-00	.....
Tumut and Adelong.....	Braidwood.....	1,536-24	1,445-95	90-29	.....
	Araluen.....	127-88	141-51	.....	13-63
	Shoalhaven.....	2,989-86	1,911-08	1,078-78	.....
	Nerrigundah.....	388-17	372-13	16-04	.....
	Bermagui.....	1-14	3-85	.....	2-71
	Adelong.....	2,210-79	4,689-74	.....	2,478-95
	Tumut.....	14-42	.....	14-22	.....
Peel and Uralla.....	Cootamundra.....	55-97	.....	55-97	.....
	Tumbarumba.....	1,401-71	1,287-62	114-09	.....
	Wagga Wagga.....	118-37	356-29	.....	737-92
	Gundagai.....	40-60	72-17	.....	31-57
	Cooma.....	77-49	132-11	.....	54-62
	Kiandra.....	465-95	377-87	88-08	.....
	Armidale.....	1,329-17	96-33	1,232-84	.....
Hunter and Macleay.....	Rocky River.....	363-94	363-08	0-86	.....
	Nundle.....	156-52	181-27	.....	24-75
	Tamworth.....	466-11	314-33	151-78	.....
	Bingera.....	871-67	657-83	213-84	.....
Clarence and Richmond.....	Copeland.....	882-22	1,555-81	.....	673-59
New England.....	Grafton.....	626-71	769-34	.....	142-63
Localities unknown.....	Tenterfield.....	974-23	1,270-10	.....	295-87
Total.....	.....	50,551-22	36,120-26	14,430-96	.....
Total.....	.....	105,268-71	91,854-72	23,208-98	9,794-99

## SUMMARY.

District.	1886.	1887.
	oz.	oz.
Bathurst.....	16,356-46	17,675-53
Tambaroora and Turon.....	4,420-08	2,006-66
Mudgee.....	4,034-96	4,766-15
Lachlan.....	10,914-96	10,832-13
Albert.....	3,390-02	4,199-29
Southern.....	3,994-09	5,181-86
Tumut and Adelong.....	7,415-80	4,385-30
Peel and Uralla.....	1,612-84	3,187-41
Hunter and Macleay.....	1,555-81	882-22
Clarence and Richmond.....	769-34	626-71
New England.....	1,270-10	974-23
Localities unknown.....	36,120-26	50,551-22
	91,854-72	105,268-71

From the above statements it appears that the quantity of New South Wales gold sent to the Mint in 1887 exceeds the quantity sent in 1886 by 13,413-99 oz.

TABLE

TABLE showing approximately the number of Miners employed in Gold-mining, the quantity of Gold won, the area of ground worked, and the value of Machinery in the Colony of New South Wales.

District and Division.	Alluvial Miners.		Quartz Miners.		Total Miners.	Quantity of Gold.			Price of Gold per oz.		Value of Gold won.	Auriferous ground worked.	Quartz reefs proved to be auriferous.	Value of Machinery.
	Europeans.	Chinese.	Europeans.	Chinese.		Alluvial.	Quartz.	Total.	From	To				
	No.	No.	No.	No.	No.	oz. dwt. gr.	oz. dwt. gr.	oz. dwt. gr.	s.	s.	£ s. d.	sq. miles	No.	£
<b>PEEL AND URALLA DISTRICT—</b>														
Armidale Division .....	20	..	50	..	70	..	..	5,000 0 0	75/	75/	18,750 0 0	..	..	..
Walcha ..	..	..	..	..	..	1,050 0 0	59 16 0	1,050 0 0	..	72/	215 5 7	..	3	3,000
Bingera ..	..	..	..	..	..	..	..	..	..	..	..	..	..	1,800
Barraba ..	..	..	..	..	40	..	..	..	..	..	..	..	..	..
Uralla ..	150	50	..	..	200	1,000 0 0	..	1,000 0 0	..	75/	3,750 0 0	10	..	4,470
Soone ..	..	..	157	..	157	..	680 0 0	600 0 0	66/10/4	75/	2,585 7 6	..	..	1,100
Glen Innes ..	25	..	..	..	25	450 0 0	..	460 0 0	74/	70/	1,087 10 0	..	..	1,000
	195	50	207	..	512	2,500 0 0	719 16 0	8,210 16 0	60/10/4	76/	26,988 3 1	10	3	11,370
<b>MIDGEE DISTRICT—</b>														
Gulgong Division .....	206	12	..	..	218	1,002 10 14	..	1,002 10 14	75/	78/	15,104 15 0	..	..	..
Mudgee ..	..	..	52	..	52	..	2,879 10 0	2,879 10 0	..	77/10/4	11,212 2 6	..	..	..
Tomingley ..	..	..	9	..	250	..	..	..	..	..	..	..	..	1,000
Hargraves* ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	376	83	41	..	870	1,002 10 14	2,879 10 0	8,380 0 23	75/	78/	20,310 17 0	..	..	1,000
<b>BATHURST DISTRICT—</b>														
Blayney Division .....	40	..	80	..	120	330 10 0	9,006 2 0	9,300 12 0	70/	78/	33,010 10 0	5	2	20,000
Carcoar ..	..	..	260	..	260	..	8,240 0 0	8,240 0 0	65/	80/	23,840 0 0	..	..	30,000
Mount McDonald Division ..	4	..	72	..	78	55 0 0	2,756 10 10	2,811 10 10	65/	77/	9,830 0 0	..	10	3,250
Trunkey Division ..	109	16	55	..	171	1,690 18 13	295 0 0	1,985 18 13	75/6	78/6	7,096 0 0	20	27	9,850
Mitchell ..	75	15	22	..	112	1,127 0 0	417 0 0	1,544 0 0	75/	..	5,097 0 0	4	4	1,530
Tuenoa ..	50	25	25	..	100	730 12 16	..	730 12 16	80/	..	2,920 0 0	..	..	2,000
Oberon ..	..	..	40	..	40	..	662 0 0	552 0 0	75/	77/6	2,130 0 0	..	4	1,500
Rockley ..	13	6	..	..	24	205 0 0	..	205 0 0	72-6	75/	707 10 0	..	20	250
Burrage ..	17	4	..	..	21	127 17 0	..	127 17 0	72-6	78-6	476 5 0	..	..	..
Cowra North Division ..	10	..	40	..	50	100 0 0	..	100 0 0	75/	80/	370 0 0	..	..	..
	316	66	593	..	975	4,366 18 10	21,326 12 10	25,093 10 20	65/	80/	91,046 14 0	49	47	68,830
<b>LACHLAN DISTRICT—</b>														
Cudal Division ..	..	..	72	..	84	143 15 15	624 2 0	767 17 15	77/	..	2,933 8 6	..	2	20,000
Murrumburrah Division ..	20	..	80	..	100	225 10 0	76 0 0	300 10 0	77/	..	1,156 18 0	20	21	1,000
Grenfell Division ..	..	..	100	..	100	..	1,541 19 7	1,541 19 7	70/6	81/	5,075 2 3	3	13	9,000
Barnedman Division ..	..	..	..	..	..	1,800 0 0	801 0 0	2,191 0 0	77/6	..	8,400 2 0	..	..	..
Temora ..	..	..	..	..	..	844 11 22	4,739 11 7	5,634 3 5	75/	..	21,123 2 0	25	20	5,450
Parkes ..	90	..	104	..	194	..	..	761 4 12	77/6	..	2,961 14 11	..	..	..
Young ..	..	..	..	..	..	..	..	976 17 13	75/	77/	3,712 3 5	..	..	6,000
Forbes ..	45	..	10	..	55	..	..	80 0 0	77/6	..	354 17 6	..	..	300
Juncie ..	6	..	..	..	6	99 0 0	..	100 0 0	77/	80/	4,200 0 0	..	7	4,000
Canowindra ..	0	..	100	..	106	50 0 0	1,050 0 0	1,100 0 0	77/	80/	4,200 0 0	..	..	..
	179	..	466	..	645	2,742 17 13	8,881 12 14	13,210 12 9	59/0	81/	50,560 10 11	48	63	45,810
<b>TUMUT AND ADELONG DISTRICT—</b>														
Tumut Division ..	69	1	14	..	84	1,852 18 2	..	1,852 18 2	75/	..	6,948 7 0	..	..	..
Gundagai Division ..	..	..	..	..	100	..	..	60 12 0	80/	..	266 8 0	12	43	400
Tarcutta ..	..	..	18	..	13	..	..	..	..	..	..	..	..	60,000
Adelong ..	93	7	70	..	170	833 0 15	1,708 16 0	2,542 4 15	75/	80/	9,850 13 5	..	6	2,000
Albury ..	2	..	23	..	25	10 0 0	460 0 0	460 0 0	70/	79/	1,748 0 0	..	7	..
Reedy Flat ..	62	3	..	..	65	530 0 0	..	330 0 0	77/6	..	2,053 15 0	..	..	..
Kiandra ..	69	16	..	..	115	2,464 0 0	..	2,464 0 0	70/	77/6	9,204 3 9	..	..	..
Nimity Belle ..	..	..	10	3	19	..	25 0 0	25 0 0	80/	..	100 0 0	..	3	1,500
Queanbeyan ..	3	..	2	..	10	15 0 0	1 1 0	18 1 0	70/	77/6	56 2 14	1	1	150
Captain's Flat Division ..	..	..	..	..	..	..	..	400 0 0	75/	..	1,500 0 0	..	..	10,000
Cootamundra ..	..	..	18	..	13	..	..	..	..	..	..	..	..	..
	338	27	151	3	614	5,095 10 17	2,251 8 0	7,947 4 17	70/	80/	31,727 9 94	19	54	64,050
<b>SOUTHERN DISTRICT—</b>														
Bombala Division ..	38	11	..	..	49	745 12 0	..	745 12 0	77/6	..	2,378 2 6	..	..	..
Braidwood ..	63	6	..	..	73	500 0 0	..	500 0 0	73/6	78/6	1,875 0 0	..	..	..
Major's Creek Division ..	61	6	12	..	79	512 12 0	337 0 0	849 12 0	70/	75/6	3,167 7 6	..	15	1,275
Little River ..	72	45	10	..	127	740 0 0	269 0 0	949 0 0	77/6	78/	3,677 7 6	32	46	900
Eurobodulla ..	10	20	70	..	110	200 0 0	20 0 0	220 0 0	80/	..	880 0 0	..	..	2,500
Araluen ..	233	44	8	..	285	4,200 0 0	44 0 0	4,244 0 0	70/	76/6	10,333 8 0	12	..	21,030
Nerriga ..	60	..	..	..	60	320 0 0	..	320 0 0	77/6	..	1,240 0 0	..	..	10,000
Nowra ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Wagonga ..	10	12	95	..	117	..	..	..	..	..	..	..	..	7,500
Berrima ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Moruya ..	20	..	30	..	50	273 2 11	107 17 18	381 0 5	70/	80/	1,307 0 0	..	..	500
	572	153	225	..	950	7,401 6 11	717 17 18	8,209 4 5	70/	80/	31,354 5 6	44	61	48,765
<b>CLARENCE AND RICHMOND DISTRICT—</b>														
Grafton Division ..	12	..	8	..	20	201 13 8	385 10 3	587 12 11	70/	77/10/4	2,073 3 33	..	..	..
Nana Creek Division ..	3	..	11	..	14	16 0 0	149 19 8	165 19 8	70/	72/6	601 12 7	255	62	950
Dalmorton ..	10	1	50	..	61	100 0 0	120 0 0	220 0 0	70/	..	770 0 0	308	07	1,200
	25	1	69	..	95	317 13 8	665 13 11	973 11 19	70/	77/10/4	3,444 15 103	563	119	2,150
<b>NEW ENGLAND DISTRICT—</b>														
Solferino Division ..	12	..	18	..	30	200 0 0	120 0 0	320 0 0	60/	73/	1,100 0 0	..	..	40
Tenterfield ..	26	..	80	1	107	302 17 0	1,107 16 0	1,410 13 0	66/	74/	4,789 3 0	12	..	22,800
Fairfield ..	50	2	250	..	302	..	..	..	..	..	..	..	..	..
	88	2	348	1	439	511 17 0	1,227 16 0	1,739 13 0	60/	74/	5,889 3 0	12	..	22,840
<b>TAMBAROORA AND TIRON DISTRICT—</b>														
Sofala Division ..	160	150	40	..	350	3,377 7 5	1,500 0 0	4,877 7 5	70/	78/6	13,412 0 8	30	40	2,260
Ironbarks Division ..	60	25	20	..	95	1,482 1 15	644 2 0	2,126 3 15	60/	76/9	7,901 8 0	10	19	6,043
Hill End ..	50	79	180	..	309	..	..	..	..	..	..	10	6	13,100
Wellington ..	43	..	3	..	46	556 11 7	96 4 6	652 15 13	72/	77/	2,446 14 9	..	..	13,000
	308	254	243	..	800	5,416 0 8	2,240 6 0	7,656 6 0	60/	78/6	28,758 18 5	60	65	85,303
<b>ALBERT DISTRICT—</b>														
Mount Brown Division ..	..	..	..	..	..	..	1,819 0 0	1,819 0 0	73/	79/	7,139 11 6	..	..	..
Tibooburra ..	..	..	..	..	..	..	2,890 0 0	2,890 0 0	78/	79/	11,343 5 0	..	..	..
	..	..	..	..	..	..	4,709 0 0	4,709 0 0	78/	79/	18,482 16 6	..	..	..
<b>HUNTER AND MACLEAY DISTRICT—</b>														
Copeland Division ..	..	..	130	..	130	..	267 19 0	267 19 0	70/	72/6	927 0 0	..	..	6,000
Dungog ..	..	..	10	..	10	..	153 6 0	153 6 0	64/6	63/6	512 0 0	..	..	1,600
Bulladellah ..	..	..	20	..	20	..	32 0 0	32 0 0	75/	..	120 0 0	..	7	400
	..	..	160	..	160	..	453 5 0	453 5 0	64/6	72/6	1,650 0 0	5	7	8,000

## Summary.

(Compiled from Mining Registrars' Reports.)

TABLE showing approximately the number of Miners employed in Gold-mining, the quantity of Gold won, the area of ground worked, and the value of Machinery, in the Colony of New South Wales, during 1887.

District.	Alluvial Miners.		Quartz-miners.		Total Miners.	Quantity of Gold.			Price of Gold per oz.		Value of Gold won.	Auriferous ground worked.	Quartz-reefs proved to be auriferous.	Value of Machinery.
	Europeans.	Chinese.	Europeans.	Chinese.		Alluvial.	Quartz.	Total.	From	To				
	No.	No.	No.	No.	No.	oz dwt. gr.	oz dwt. gr.	oz dwt. gr.	s.	s.	£ s. d.	sq. miles.	No.	£
Peel and Uralla .....	196	50	207	..	512*	2,500 0 0	719 16 0	3,219 16 0	66/10½	70/	27,039 3 1	10	3	11,370
Mudgee .....	378	83	61	..	570†	1,002 16 14	2,879 10 9	3,880 6 23‡	75/	78/	26,316 17 6	....	....	1,000
Bathurst .....	316	66	593	..	975	4,366 18 10	21,326 12 10	25,693 10 20	65/	80/	91,646 4 6	69	47	68,380
Lachlan .....	179	..	466	..	645	2,742 17 18	8,881 12 14	13,219 12 9¶	59/6	81/	50,509 10 11	48	63	45,810
Tumut and Adelong .....	333	27	151	3	614‡	5,625 16 17	2,251 8 0	7,947 4 17	70/	80/	31,727 9 9§	10	54	94,050
Southern .....	372	153	225	..	750	7,491 6 11	717 17 18	8,209 4 5	73/0	80/	31,354 6 6	44	61	43,763
Clarence and Richmond .....	25	1	69	..	95	317 13 8	655 18 11	973 11 19	70/	77/10‡	3,444 15 10‡	563	119	2,150
New England .....	88	2	348	1	439	511 17 0	1,327 16 0	1,789 13 0	60/	74/	5,839 3 0	12	....	22,840
Tambaroora and Turon .....	303	254	243	..	800	5,416 0 3	2,240 6 6	7,656 6 9	60/	78/6	23,753 18 5	50	65	35,303
Albert .....	..	..	..	..	..	..	4,709 0 0	4,709 0 0	73/	79/	18,482 16 0	....	....	..
Hunter and Macleay .....	..	..	160	..	160	..	453 5 0	453 5 0	64/0	72/6	1,569 0 0	5	7	8,000
	2,337	636	2,523	4	6,060	30,645 6 4	46,063 2 20	87,201 11 6	60/	81/	317,733 5 1‡	820	419	331,168

\* Including 60 miners at Barraba; not stated whether alluvial or quartz.  
† Including 100 men at Gundagai; not stated whether alluvial or quartz.  
‡ Including 3,893 oz. from Mudgee; not stated whether alluvial or quartz.  
§ 18 gr. from Forbes; not stated whether alluvial or quartz.

¶ Including 350 miners at Mudgee; not stated whether alluvial or quartz.  
‡ Including 5,000 oz. from Armidale; not stated whether alluvial or quartz.  
§ Including 157 oz. from Cudal; 761 oz. 4 dwt. 12 gr. from Young; 076 oz. 17 dwt.

TABLE showing approximately the number of Miners employed in mining for minerals other than Gold, Coal, or Shale, at some of the principal mines, the quantity of minerals won during the year 1887, and the value of same, and the value of Plant.

Locality.	Miners employed.	Quantities.						Value.	Value of Machinery.
		Copper.	Tin.	Bismuth.	Iron.	Silver.	Silver lead.		
		Tons.	Tons. cwt.	Tons. cwt. qr. lb.	Tons. cwt.	Oz.	Tons.	£ s. d.	£ s. d.
Cobar .....	450	1,521	.....	.....	.....	.....	.....	68,445 0 0	85,000 0 0
Burrage .....	53	120	.....	.....	.....	.....	.....	7,200 0 0	5,000 0 0
	503	1,641	.....	.....	.....	.....	.....	75,645 0 0	90,000 0 0
Glen Innes .....	80	.....	206 10	35 9 1 25	.....	.....	.....	13,422 10 0*	.....
Emmaville .....	.....	.....	2,630 14	.....	.....	.....	.....	171,580 10 0	.....
Wilson's Downfall..	300	.....	270 0	.....	.....	.....	.....	6,200 0 0	.....
Bendemeer .....	8	.....	7 10	.....	.....	.....	.....	465 0 0	.....
Tingha .....	1,500	.....	1,260 0	.....	.....	.....	.....	99,141 0 0	3,500 0 0
	1,888	.....	4,383 14	.....	.....	.....	.....	300,809 0 0	3,500 0 0
Lithgow .....	160	.....	.....	.....	2,797 8	.....	.....	14,542 15 1	.....
Mitchell .....	220	.....	.....	.....	.....	318,016	.....	55,652 16 0	57,000 0 0
Silverton .....	1,444	.....	.....	.....	.....	2,370,904	13,458	519,574 10 0	65,858 7 10
Rockley .....	6	.....	.....	.....	.....	.....	10	187 10 0	.....
	1,670	.....	.....	.....	.....	2,688,920	13,468	575,414 16 0	122,858 7 10

\* Value of Bismuth could not be ascertained.]

TABLE showing approximately the Machinery employed in Gold and Tin Mining during 1887.

District and Division.	Quartz.						Alluvial.																	
	Steam-engines employed in winding, crushing, &c.		Crushing machines.	Stamp-heads.	Whims and pulleys.	Water-wheels.	Pumps.	Whips.	Steam-engines employed in winding, pumping, &c.		Puddling-machines.	Whims and pulleys.	Whips.	Percussion tables.	Oscillating tables.	Water-wheels.	Hydraulic-hoses.	Pumps.	Shice-boxes.	Derricks.	Stamp-heads.	Boring-machines.	Chilian mills.	Turbines.
	No.	Aggregate horse-power.							No.	Aggregate horse-power.														
<b>BATHURST DISTRICT—</b>																								
Bathurst Division	3	28	3																					
Rockley "	1	10	1																					
Carcoar "	5		5	30																				
Mount M'Donald Division	2	45	2	30																				
Tuena Division	2		2	10																				
Trunkey "	3	28	3	31																				
Mitchell "	2	15	2	10																				
Oberon "	2		2	10																				
Blayney "	11	273	11	49		1																		
<b>TAMBAROORA AND TURON DISTRICT—</b>																								
Ironbarks Division								2	35															
Sofala "								1	69															
Hill End "	7	181	7																					
Wellington "	2	60	2	35																				
<b>LACHLAN DISTRICT—</b>																								
Parkes Division	1	25	1																					
Canowindra Division								2	35															
Grenfell "	1	16	1	15						1														
Temora "	3		3																					
Murrumburrah "	7	112	7	15		2																		
<b>SOUTHERN DISTRICT—</b>																								
Major's Creek Division	3	25	3																					
Aratuen "	1	12	1	10				9	39						9	4	7	20						1
Little River "	1	10	1																					
Wagonga "	4	49	4	36																				
<b>TEMUT AND ADELONG DISTRICT—</b>																								
Adelong Division						1		1	2															
Albury "	4	31	4																					
Tarcutta "	1	12	1	8																				
Nimitybelle "	1	8	1	5																				
<b>PEEL AND URALLA DISTRICT—</b>																								
Bingera Division	1	10	1	5				1	14															
Scone "	2		2	15																				
Uralla "								4	60															
Walcha "	2		2	20																				
<b>NEW ENGLAND DISTRICT—</b>																								
Solferino Division	1		1	5																				
Fairfield "	7	53	7	81											3	6	1							3
<b>HUNTER AND MACLEAY DISTRICT—</b>																								
Copeland Division	5	64	5	30																				
Bulladellah "	1	6	1																					
<b>CLARENCE AND RICHMOND DISTRICT—</b>																								
Nana Creek Division	2	16	2	14																				
<b>MUDGEJ DISTRICT—</b>																								
Mudgee Division	1	20	1	10																				
Hargraves "	3	24	3							6														

Department of Mines,  
Sydney, 10th April, 1888.

HARRIE WOOD,  
Under Secretary for Mines.

The following table is compiled from information kindly furnished by the Collector of Customs:—

EXPORT of Gold, 1887.

Gold.			Quartz Tailings and Pyrites.				Total.			
Quantity.		Value.	Quantity.		Value.	Quantity.		Value.		
oz.	dwt.	gr.	£	oz.	dwt.	gr.	£			
8,791	7	10	34,184	Tailings, 3,473 packages Pyrites, 15 tons 15 cwt.		7,808	10,977	19	10	41,992

The quantity of gold sent to the Mint, plus the quantity of gold exported in 1887, was 116,246 oz., but the Deputy Master of the Mint states that of the quantity of gold exported 5,958 oz. 12 dwt. 10 gr. had passed through the Mint and was included in his return; consequently the gold yield for 1887 may be set down at 110,288·06 oz., valued at £304,578 16s. 3d., which, as compared with the output of 1886, shows an increase of 8,871 oz.

According to the returns furnished by the Mining Registrars the output of gold for the year was less by 18,066 oz. than the quantity sent to the Mint; consequently the actual output of gold exceeds by 23,085 oz. the quantity returned by the Mining Registrars. This is doubtless due to the difficulty experienced in reaching all the gold-mines, spread as they are over such a wide territory, added to which is the strong prejudice felt by a large number of our miners against furnishing information respecting the quantity of gold won.

RETURN of Gold for 1887 from Mint and Mining Registrars compared.

District.	Mint.	Mining Registrars.	Excess.	Deficiency.
	oz.	oz.	oz.	oz.
Bathurst .....	17,676	25,694	.....	8,018
Tambaroora and Turon .....	2,007	7,656	.....	5,649
Mudgee .....	4,766	8,380	.....	3,614
Lachlan .....	10,832	13,220	.....	2,388
Albert .....	4,199	4,709	.....	510
Southern .....	5,182	8,209	.....	3,027
Tumut and Adelong .....	4,385	7,947	.....	3,562
Peel and Uralla .....	3,187	8,220	.....	5,033
Hunter and Macleay .....	882	453	429	.....
Clarence and Richmond.....	627	974	.....	347
New England .....	974	1,740	.....	766
Localities unknown.....	50,551	.....	50,551	.....
			50,980	32,914
			32,914	
			18,066	

The quantity sent to the Mint exceeds the returns by the Mining Registrars by ..

A comparison of the returns furnished by the Mining Registrars of the gold won in 1886 and 1887 respectively shows an increase of 5,421, but it is apparent that these returns are incomplete and the comparison is made chiefly with a view to indicate the importance of making these returns more complete in future.

Mining Registrars' Returns of Gold for 1886 and 1887 compared.

District.	1886.	1887.	Increase	Decrease.
	oz.	oz.	oz.	oz.
Bathurst .....	12,942	25,694	12,752	.....
Tambaroora and Turon .....	8,712	7,656	.....	1,056
Mudgee .....	7,712	8,380	668	.....
Lachlan .....	15,855	13,220	.....	2,635
Albert .....	3,839	4,709	870	.....
Southern .....	10,971	8,209	.....	2,762
Tumut and Adelong .....	8,238	7,947	.....	291
Peel and Uralla .....	8,046	8,220	.....	426
Hunter and Macleay .....	1,600	453	.....	1,147
Clarence and Richmond.....	1,126	974	.....	152
New England .....	2,140	1,740	.....	400
			14,290	8,869
Less decrease .....			8,869	
Increase in yield for 1887 .....			5,421	

The following table shows the results obtained from the treatment of certain parcels of alluvium in 1887, as compared with the results obtained in 1886. According to this statement the average yield in 1887 is very small compared with the average of the preceding year, but the statement embraces such a very small proportion of the total quantity treated as to be of comparatively little value for statistical purposes.

COMPARATIVE Statement of Average Yields from Alluvial Mines for 1886-7.

1886.				1887.								
District.	Quantity.	Average per ton.		Yield of Gold.	District.	Quantity.	Average per ton.		Yield of Gold.			
	Tons.	oz.	dwt.	gr.	oz.	dwt.	gr.	oz.	dwt.	gr.		
Tumut and Adelong ..	6,353	0	5	6·23	1,672	0	0	1,722	0	0		
Lachlan .....	3,838	0	16	0·40	3,073	2	0	1,344	15	0		
Albert .....	2,506	0	4	16·63	633	0	0	31	15	0		
					Peel and Uralla .....	5,000	0	0	2 40	25	0	0
	12,702	0	8	7·64	5,283	2	0	3,123	19	0		
						22,574	0	2	18·42	3,123	19	0

The following table shows the yields obtained from certain parcels of quartz crushed in several of the mining districts. I am happy to note that the return for 1887 is more complete than that for 1886, and I trust, if this improvement continues, that our returns under this head will soon be as valuable, for statistical purposes, as those published in Victoria and elsewhere. The average yield for 1887 is lower than that of the preceding year; still 9 dwt. 4.93 gr. is not altogether an unsatisfactory yield.

COMPARATIVE Statement of Average Yields from Quartz-mines for 1886-7.

1886.				1887.			
District.	Quantity	Average per ton.	Yield of Gold.	District.	Quantity.	Average per ton.	Yield of Gold.
	Tons. cwt. qr.	oz. dwt. gr.	oz. dwt. gr.		Tons. cwt. qr.	oz. dwt. gr.	oz. dwt. gr.
Bathurst	24,242 0 0	0 6 14.52	3,005 18 22	Bathurst	44,291 0 0	0 6 13.51	14,533 17 7
Pambatoora and Turon	3,111 0 0	0 8 1.62	1,254 18 7	Pambatoora and Turon	3,134 0 0	0 8 21.19	1,391 18 29
Lachlan	6,609 0 0	1 10 11.88	10,076 7 1	Lachlan	8,539 0 0	0 19 4.97	8,200 8 8
Southern	2,816 0 0	0 15 21.58	2,238 13 0	Southern	4,273 0 0	0 2 23.66	629 0 0
Tumut and Adelong	2,933 0 0	0 15 3.95	2,246 13 9	Tumut and Adelong	3,175 0 0	0 14 7.43	2,271 13 0
Peel and Uralla	1,152 0 0	1 2 20.39	1,316 3 0	Peel and Uralla	585 0 0	1 2 21.00	669 2 0
Hunter and Macleay	210 0 0	1 5 6.94	265 10 13	Hunter and Macleay	258 0 0	1 3 6.14	390 0 0
Clarence and Richmond	1,670 0 0	0 4 5.44	352 13 15	Clarence and Richmond	208 0 0	0 16 8.31	170 0 0
New England	264 3 0	1 5 15.64	338 18 0	New England	1,286 0 0	0 7 7.17	462 0 0
Albert	40 0 0	0 11 12.00	23 0 0	Mudgee	2,729 0 0	1 1 3.03	2,879 10 9
Mudgee	2,590 0 0	0 17 0.00	2,201 10 0				
	45,067 3 0	0 12 9.67	28,320 11 0		68,453 0 0	0 9 4.93	31,307 9 11

The number of miners engaged in gold-mining in 1887, according to the returns furnished by the Mining Registrars, was 6,060 (being 707 less than in 1886); of these 5,420 were Europeans and 640 were Chinese; 2,527 were engaged in quartz-mining and 3,023 in alluvial mining; and as to 510 it is not specified whether alluvial or quartz.

Dividing the quantity of gold won by the number of miners employed, the result obtained is that each miner appears to have won during the year 18.19 oz. of gold, valued at £65 2s. 2.88d. It must, however, be borne in mind that a large number of our miners are not constantly engaged in mining during the whole of the year, but devote a large proportion of their time to other pursuits.

During the year the following assays have been made in this Department:—

GOLD.

Locality.	Description of Mineral.	Per ton.		Per cent.	
		Gold	Silver.	Lead.	Copper.
		oz. dwt. gr.	oz. dwt. gr.		
Albury	Crushed sample	4 12 12	0 16 6		
Abercrombie	Ferruginous porous quartz and little pyrites	0 6 8	0 4 12		
Ashford Reef	Quartz	0 10 21			
Back Creek	Porous quartz, with a little micaceous schist	1 7 4	186 9 10		
"	Quartz with talcose schist casing	2 19 21	530 10 12		
"	Ferruginous quartz and talcose schist	0 10 21	2 3 13		
"		1 4 11	285 6 18		
"		0 5 0	134 6 19		
"	Porous siliceous gossan and quartz	3 5 8	223 16 8		
"	"	2 9 0	211 18 11		
Back Yamma Run	Ferruginous quartz	2 3 13			
Badger River	" and pyrites	1 12 16	0 10 21		
Bathurst District	Crushed ferruginous quartz and claystone	1 1 10	6 7 22		
Bell River	Clayey shale containing green carbonate of copper	1 12 16	4 1 16		
"	Pyritous quartz	0 10 13	0 5 2		
"	Copper gossan	0 5 10	8 14 5		
"	Claystone, with green carbonate of copper	1 1 16	15 16 2		
Big Hill	Porous ferruginous quartz	1 7 5	0 2 17		
Binda	Quartz and galena	1 12 16	256 8 14		
Blayney District	" and pyrites	0 5 0	98 0 8		
Braidwood	Ferruginous quartz	52 5 8	1 1 16		
"	Blanketing	2 13 3	0 5 10		
"	Tailings	0 17 10	0 4 8		
"	Quartz and copper pyrites	3 16 5	8 19 4		
"	Ferruginous quartz	0 10 21			
"	Quartz and claystone with iron pyrites	0 6 0			
Bredbo	Calamine	0 19 12	0 12 0		
"	Ferruginous carbonate of lead	0 16 8	8 3 8		
"	" quartz	0 19 12			
Buckley's Crossing	Porous brown iron ore	0 4 0			
Bulga Mount	" ferruginous quartz	0 10 20	6 10 16		
"	"	2 16 14	0 10 21		
"	"	0 16 6	5 14 7		
"	"	0 10 21	2 14 10		
Bathurst	Ferruginous quartz and felspathic loDESTUFF	0 9 18			

Locality.	Description of Mineral.	Per ton.		Per cent.	
		Gold.	Silver.	Lead.	Copper.
Barnedman	Porous brown iron ore	oz. dwt. gr.	oz. dwt. gr.		
Back Creek	Quartz leaders	2 3 13	8 14 5		
Bulga	Porous ferruginous quartz	1 7 4	87 18 12		
"	"	0 13 0	43 8 21		
"	"	0 10 21	19 1 2		
"	"	0 5 10	27 4 10		
"	"	0 6 12	39 8 8		
"	"	0 5 10	13 7 20		
Burruga	Ferruginous gossan, with crystals of carbonate of lead	0 8 16	43 13 7		
"	"	0 5 10	5 3 10		
Boonoo Boonoo	porous quartz	0 4 0	34 16 21		
Braidwood	quartz	0 5 23	0 4 21		
"	gossan	1 14 12	0 19 12		
"	quartz	1 1 16	0 13 1		
Boney's Rocks	Tailings	0 16 6	0 5 10		
Braidwood	Granite, with iron pyrites	0 8 4			
Brewangle	Ferruginous gossan	0 3 6	7 12 10		
"	"	0 13 0	0 19 12		
"	Yellow ferruginous clay	0 8 3	8 19 4		
Bermagui	Ferruginous quartz and pyrites, country rock	7 1 14	1 18 2		
"	"	9 16 0	3 5 8		
Boonoo Boonoo	" with iron pyrites	0 5 0	11 3 5		
"	"	0 10 21	18 10 5		
"	" with iron pyrites, partly chalcedonic	0 4 5	40 5 19		
Bulga Mt.	Porous iron ore	0 6 12	32 5 16		
"	ferruginous quartz	0 4 0	2 3 13		
"	"	0 10 21	13 0 2		
"	"	0 4 0	2 17 3		
"	" and brown iron ore	0 5 21	16 17 13		
Bulga	Porous ferruginous gossan	0 8 16	9 1 16		
Bungonia	Quartz	6 10 16	0 13 2		
"	Brown iron ore and claystone	0 10 21	2 3 13		
"	Arsenical pyrites and altered rock	0 10 21	14 14 0		
Buruga	Ferruginous porous gossan and carbonate of lead	0 5 10	16 17 13		
"	Massive pyrites	1 3 22	0 18 12		
"	Metallic copper	0 5 10	16 9 17		
Cobar	Ferruginous quartzite, containing free gold from Chesney's lease, near Cobar.	137 14 21	13 12 20		
Cooma	Ferruginous quartz and felspathic rock and pyrites	0 6 12	0 18 13		
Cadia	Stibnite in quartzite	0 7 12	0 4 0		
Captain's Flat	Porous ferruginous gossan	0 4 0	11 19 13		
"	Soft yellow earthy	2 14 10	1 1 16		
"	red	0 3 0	100 14 10		
"	Gossan	0 3 0	88 4 0		
"	Brown iron ore	0 3 0	26 2 16		
"	" and chloride of silver	0 4 0	269 10 0		
"	Siliceous iron gossan	0 10 21	2 3 13		
"	Gossan and quartz	0 3 0	15 4 21		
"	Porous ferruginous gossan	0 4 8	14 14 0		
"	"	4 1 0	16 18 21		
Capertee	Ferruginous quartz	0 10 21			
Carcoar	" and felspathic rock	0 5 10			
Carrington Mine	Pyrites lodestuff	0 10 21			
Canoblas	Ferruginous felspathic lodestuff	0 8 16	0 10 21		
"	" with a little pyrites	0 16 6	1 7 4		
Cataract River	" quartz, containing sulphide and carbonate of copper	0 5 10	1 1 18		
Clear Creek	"	0 6 12			
Cobar	Brown iron ore, containing free gold	3 5 8	1 12 16		
"	Metallic copper borings	2 12 14	1 5 0		99-65
Colongolook	Ferruginous quartz	2 8 23	0 3 2		
"	Pyritous quartz	1 10 10	0 2 4		
"	Ferruginous quartz	0 6 12			
Cookbundoon	" yellow claystuff and quartz	0 4 0	18 4 18		30-2
Cooma	porous gossan and little galena	0 5 0	1 1 12		
Copper Hill	quartz and copper pyrites	0 16 12			
"	" and green carbonate of copper	0 6 12	0 9 10		
"	Felspathic rock with thin ferruginous quartz-vein	0 4 0			
Crookwell	Yellowish red gossan and carbonate of lead	0 4 0	30 12 11		32-88
Crookwell River	Siliceous brown iron ore	42 11 12	15 13 12		
Cudgong	Ferruginous quartz with a little galena	2 14 10	0 13 0		
Dark Corner	" pyrites	0 16 7			
"	" and zinc blende	5 3 10	0 16 6		
Delaney's Dyke	free gold	12 10 10	10 17 18		
"	lodestuff with little free gold	0 10 21	0 5 10		
"	Crushed sample	1 2 18	2 10 16		
"	Country rock	0 4 0	1 12 16		
"	Broken dyke material	1 3 22	1 12 16		
Dog Trap	Ferruginous gossan	1 1 16	0 10 21		
Dungog	Quartz and pyrites	0 7 14			
Dalby	Ferruginous quartzite and pyrites	0 4 0			
"	quartz and felspathic lodestuff	0 7 10			
Diggers' Creek	lodestuff	5 19 18	11 8 16		
"	Casing from centre of workings	0 10 21	1 12 16		
Currundere	Pyritous quartz	0 4 0	5 19 18		
Fairfield	Crushed ferruginous quartz and carbonate of copper	17 19 8	5 6 3		
"	Ferruginous porous quartz	0 13 0	0 9 0		
"	Crushed ferruginous quartz and carbonate of copper	4 12 16	1 7 4		
"	Ferruginous quartz	1 7 5	0 10 21		
"	Concentrated pyrites	0 16 6	0 5 2		

Locality.	Description of Mineral.	Per ton.		Per cent.	
		Gold.	Silver.	Lead.	Copper.
		oz. dwt. gr.	oz. dwt. gr.		
Forbes.....	Copper gossan .....	0 4 0	1 12 16		
" .....	Brown iron ore .....	0 4 0	2 3 13		
" .....	Quartz and slate .....	0 19 12	0 7 14		
" .....	" .....	0 10 21	.....		
" .....	Auriferous quartz.....	27 6 20	7 10 4		
" .....	Ferruginous quartz and slate .....	0 16 6	0 5 2		
Galley Swamp ..	Quartz and mispickel .....	5 19 18	0 10 21		
" .....	Mispickel .....	1 1 16	0 16 6		
" .....	" .....	0 10 21	1 12 16		
" .....	Crushed mispickel .....	1 12 16	0 16 6		
Goodrich .....	" sample of quartz and copper pyrites.....	0 13 0	.....		
Gospel Oak .....	" ferruginous lodestuff .....	7 1 13	0 5 10		
" .....	" .....	5 19 18	0 10 21		
Goron Lake .....	Galena and iron oxide .....	0 4 0	80 16 22		
Gordon .....	Quartz, with grey and black sulphide of copper .....	0 8 3	.....		3.82
Goulburn .....	Ferruginous gossan and yellow ochre .....	0 6 0	.....		
Green Swamp ..	Siliceous gossan, containing carbonate of lead .....	0 8 16	3 7 12		
" .....	" .....	0 8 16	7 3 16		
" .....	" .....	0 5 10	2 19 21		
" .....	" .....	0 10 21	1 18 2		
" .....	Spongy porous gossan .....	4 1 14	3 10 18		
Gulph Gold-field	Pyritous quartz .....	0 3 0	.....		
Gumble .....	Earthy malachite .....	0 4 0	.....		
" .....	Ironstone, with red oxides and green carbonate of copper .....	0 16 6	2 14 10		
" .....	Crushed sample of earthy .....	0 4 0	11 8 16		
Gordon .....	" (tailings) copper pyrites .....	0 19 12	0 16 8		
Gundagai .....	Ferruginous quartz and mispickel .....	3 16 5	1 7 4		
" .....	" little mispickel .....	1 1 16	.....		
Gordon .....	Metallic copper .....	4 3 11	7 5 4		
Homeward Bound Reef.	Ferruginous quartz, showing a speck of free gold from Homeward Bound Reef mine, Galley Swamp.	18 19 2	2 2 10		
Hillgrove .....	Porous quartz from Hillgrove, 3 miles from Armidale.....	7 7 0	1 1 16		
Hanging Rock ..	Slightly ferruginous quartz.....	1 12 16	0 16 0		
Holt-Sutherland Estate.	Purple and grey shale, containing metallic copper .....	0 9 19	0 11 2		21
Ironbarks .....	Crushed ferruginous gossan .....	3 10 21	1 7 4		
" .....	" sample of quartz .....	0 4 0	.....		
Jackass Flat .....	Porous ferruginous quartz and a little pyrites .....	0 5 21	.....		
Jenolan Caves ..	Galena .....	0 3 0	63 14 0	60.2	
Jugiong .....	Quartz containing galena and blende .....	0 5 10	2 9 0		
Junce .....	Ferruginous quartz and brown iron ore .....	0 5 0	.....		
" .....	Quartz, with galena .....	0 16 8	113 1 21		
Junction Reef ..	Crushed ferruginous sample .....	1 1 18	.....		
" .....	Ferruginous quartz .....	0 10 21	.....		
" .....	Crushed quartz sample .....	2 14 10	.....		
" .....	" .....	0 10 21	.....		
" .....	Ferruginous quartz and a little pyrites .....	0 5 10	.....		
" .....	" porous quartz .....	0 10 21	.....		
" .....	Tailings .....	1 7 5	.....		
" .....	" .....	0 5 10	.....		
Jacqua Creek.....	Ferruginous quartz .....	3 5 8	1 1 16		
Kimo .....	Porous quartz .....	4 3 1	0 15 5		
" .....	Quartz, with zinc blende .....	8 7 4	0 19 2		
" .....	Concentrated pyritous tailings .....	2 19 21	0 5 10		
Lacmalac .....	" .....	30 10 18	0 12 1		
Lagoon Creek.....	Ferruginous quartz from Lagoon Creek, Mitchell District .....	0 16 6	1 7 14		
Lady Carrington Mine.	" porous quartz from Lady Carrington Mine, Wagonga Heads.	0 16 6	0 5 10		
" .....	Ferruginous quartz .....	5 14 8	1 2 18		
Lewis Ponds .....	" porous quartz .....	0 16 6	1 18 2		
Lady Mary Reef..	Burnt pyritous quartz.....	1 1 16	0 5 0		
Lewis Ponds Creek	Ferruginous quartz .....	0 3 0	40 12 6		
" .....	Quartz, with copper pyrites, galena, and stains of green carbonate of copper.	0 5 10	3 10 21		
" .....	Porous ferruginous gossan, with carbonate of lead .....	0 5 10	11 3 4		
" .....	Quartz, with copper pyrites .....	0 5 10	.....		
" .....	Arsenical pyrites .....	1 1 16	0 10 21		
Major's Creek ..	Brown iron ore, with iridescent tints of oxide of iron.....	0 16 6	.....		
Marulan .....	Mispickel and galena .....	0 10 21	33 19 2		
Manning River ..	Ferruginous quartz .....	0 8 16	.....		
Michelago .....	" and little galena and free gold .....	24 10 0	4 18 0		
" .....	Quartz, with galena.....	1 1 8	25 0 12		
" .....	Ferruginous quartz .....	2 3 13	1 6 0		
" .....	Quartz.....	0 19 2	0 13 0		
" .....	Ferruginous quartz, with copper pyrites and galena.....	1 4 12	3 13 11		
" .....	" .....	0 8 3	0 5 10		
" .....	" .....	0 7 13	.....		
" .....	Quartz, copper pyrites, galena, and carbonate of copper.....	5 19 18	6 10 6		
" .....	Ferruginous porous quartz .....	10 4 4	1 4 12		
" .....	" quartz and galena .....	0 16 6	4 12 12		
" .....	" .....	1 12 16	.....		
Milburn Creek ..	" and brown iron ore .....	1 18 2	0 10 13		
Mitta Mitta Creek	" .....	0 3 0	8 3 8		
Molong .....	Porous quartz and pyrites .....	5 14 6	11 5 6		
" .....	Metallic copper .....	3 18 8	2 12 4		
" .....	Crushed " pyrites .....	0 9 12	0 6 10		
" .....	" magnetic iron.....	0 4 0	.....		
" .....	Ferruginous quartzite and little specular iron .....	0 4 0	.....		
" .....	Crushed " pyrites, and stains of green carbonate of copper .....	0 10 21	0 8 12		

Locality.	Description of Mineral.	Per ton.		Per cent.	
		Gold.	Silver.	Lead.	Copper.
		oz. dwt. gr.	oz. dwt. gr.		
Monaro .....	Porous ferruginous siliceous gossan .....	0 4 0			
Mount Macdonald .....	Glassy quartz, showing free gold .....	10 12 7	0 5 10		
Mount Costigan .....	Porous ferruginous gossan .....	0 4 8	17 8 10		
Mount Ephraim .....	Ferruginous quartz .....	1 8 5	0 5 10		
Mudgee .....	Crushed iron ore and quartz .....	2 7 5	2 14 10		
Myer's Creek .....	Ferruginous quartz .....	0 7 14			
Muttama Reef .....	Concentrated blanket sand .....	0 10 21	1 7 5		
" .....	Tailings .....	0 4 20	1 18 5		
Murrumbidgee .....	Quartz containing a large percentage of sulphide of iron and zinc .....	26 9 4	1 11 19		
Monaro .....	Porous ferruginous gossan .....	0 5 0			
" .....	" quartz, with thin film (iridescent) of oxide of iron. "	1 12 16	1 10 5		
Michelago .....	Ferruginous quartz, with copper pyrites, and traces of green carbonate of copper. "	1 1 19	0 16 8		
Nerriga .....	Quartz, and a little copper and iron pyrites .....	1 1 16	0 10 21		
" .....	Ferruginous quartz .....	5 14 7	2 8 23		
Nerrigundah .....	" showing free gold .....	12 4 23			
Newbridge .....	" rubbly quartz .....	0 5 2	2 8 16		
" .....	" quartz .....	1 7 4	135 16 2		
" .....	" gossan, containing baryta .....	0 10 21	2 14 10		
New Year's Gift Reef. "	Quartz, with pyrites and galena .....	4 7 2	4 1 15		
New Gold Flat .....	Crushed ferruginous lodestuff .....	0 5 10	0 10 21		
Nymagee .....	Compact pyrites .....	0 3 0			
Nyngan .....	Quartz .....	1 5 0			
Nowendoc .....	Mispickel .....	0 4 0	2 14 10		
Oberon .....	Quartz, little pyrites, and zinc blende, and specks of free gold. "	3 16 5	1 12 12		
" .....	Ferruginous quartz, showing free gold .....	15 4 21	3 5 8		
" .....	" .....	4 1 15	1 7 4		
Obley .....	Magnetic pyrites, and copper sulphides, and carbonates. "	0 5 10	0 15 5		
Orange .....	Tailings (pyrites) .....	9 10 13	7 17 8		
" .....	Concentrated pyrites .....	30 15 19	29 2 13		
" .....	Porous ferruginous gossan .....	0 3 0			
" .....	Copper gossan .....	0 5 16			
" .....	Talcose schist, with zinc blende and pyrites .....	0 12 21	75 2 16		
" .....	Brown iron ore (porous) .....	0 4 0			
" .....	Gossan and pyritous quartz .....	0 5 2			
" .....	" .....	0 19 4	0 6 12		
" .....	Compact brown iron ore and gossan .....	0 4 3	1 1 16		
" .....	" " and basalt .....	0 5 0	1 1 16		
" .....	Ferruginous porous quartz .....	0 10 21	224 17 2		
" .....	" .....	0 16 6	4 7 2		
" .....	Stalactitic iron ore .....	0 4 8	15 15 18		
" .....	Ferruginous porous quartz .....	0 10 21	135 0 14		
" .....	" .....	0 5 10	1 7 4		
" .....	" felspathic lodestuff .....	0 5 10	0 16 6		
" .....	" .....	1 1 16	5 8 21		
Oberon .....	" quartz .....	0 5 10	0 16 6		
Parish of Jersey .....	Micaceous schist and ferruginous porous jasperoid rock .....	0 6 12	0 4 3		
Pine Ridge .....	Gossan and brown iron ore .....	2 3 13	0 4 0		
Poor Man's Lease .....	Tailings .....	2 14 10	0 8 3		
Razorback .....	Quartz and stibnite .....	0 18 23			
" .....	Stibnite and ferruginous quartz .....	1 1 16	0 5 10		
" .....	Quartz with sulphide and oxide of antimony .....	0 10 21			
Red Rock .....	Ferruginous porous quartz veinstone. "	2 3 13	0 10 0		
" .....	" .....	1 7 4	2 8 23		
" .....	Porous siliceous ironstone .....	2 3 13	0 10 21		
" .....	" ferruginous quartz and clay .....	4 12 19	2 19 20		
Rockley .....	Crushed " .....	0 4 0	16 17 13		
" .....	" gossan .....	1 1 16	3 16 5		
" .....	" quartz .....	0 6 10	179 13 8		
" .....	" .....	0 5 0	58 16 0		
" .....	" .....	1 15 22	227 16 22		
" .....	Gossan and quartz .....	0 16 6	6 5 2		
" .....	Ferruginous " .....	1 12 16	1 1 16		
Rockwell Paddock .....	Felspathic rock .....	0 3 0			
Sandy Creek .....	Ferruginous claystone and quartz .....	18 6 20	3 1 22		
Shoalhaven River .....	" quartz .....	1 1 16	0 10 21		
Smith's Creek .....	" .....	4 15 0	0 10 21		
Sofala .....	Gossan .....	4 1 14	0 10 21		
Springside .....	Ferruginous quartz, showing free gold. "	39 15 6	0 10 21		
Stewart's Brook .....	" .....	7 6 22	2 3 13		
Stony Creek .....	Mispickel and ferruginous quartz .....	0 10 21	0 5 10		
Stony Pinch .....	Crushed pyritous quartz .....	1 12 16			
Tallewang .....	Ferruginous quartz .....	0 16 6			
Tamworth .....	" .....	0 5 0			
" .....	Porous ferruginous quartz .....	46 13 2	0 16 8		
" .....	" showing free gold .....	98 5 10	0 10 21		
Tanara .....	Mispickel in felspathic base .....	2 3 13	1 12 16		
Temora .....	Galena, blende, pyrites, gossan, and quartz .....	0 4 0	225 18 21		
Tenterfield .....	Ferruginous granite and free gold. "	7 0 23	0 9 19		
" .....	Quartzite and quartz .....	2 12 1	0 4 0		
" .....	Ferruginous " .....	0 16 7	1 7 4		
" .....	Quartz and iron pyrites .....	1 12 16	11 8 16		
Tindary Mount .....	Ferruginous quartz .....	3 16 5	1 7 4		
Tingha .....	Metallic bismuth .....	5 6 4	5 3 10		
Trunkey .....	Ferruginous porous quartz .....	2 11 17	0 10 21		
" .....	" quartz .....	0 16 6			

Locality.	Description of Mineral.	Per ton.		Per cent.	
		Gold.	Silver.	Lead.	Copper.
Trunkey.....	Quartzite with iron pyrites and one piece micaceous schist .....	oz. dwt. gr.	oz. dwt. gr.		
Tuena.....	Talcose schist enclosing porous quartz-vein .....	0 4 0	1 1 16		
Tutlin.....	Quartz.....	0 10 21	4 7 2		
Toogong.....	Tailings .....	0 16 6	0 5 10		
Tarcutta.....	Quartz and mispickel .....	2 9 0	0 10 0		
Uralla.....	Ferruginous quartz and sulphide and oxide of antimony.....	0 4 0	1 12 16		
Upper Lewis Ponds..	Porous ferruginous gossan .....	4 19 0	1 12 12		
"	"	0 6 12	5 12 21		
"	"	0 8 8	4 3 19		
"	Earthy " " with cerussite crystals.....	0 5 10	7 6 12		
"	Crushed ironstone.....	0 10 0			
Vandebilt Minc..	Porous ferruginous gossan .....	0 4 16	47 7 8		
Valley Mine .....	Crushed sample.....	0 10 21			
Wagga Wagga .....	Ferruginous quartz .....	0 4 0			
Wagonga Heads..	" " showing free gold .....	8 3 8	1 12 16		
Western District.	Quartzite with arsenical and iron pyrites and zinc blende .....	1 1 16	0 10 21		
Wingello .....	Ferruginous quartz .....	3 16 5	0 10 21		
Wiseman's Creek.	Pyritous vein in clay slate .....	4 12 12	4 10 8		
West Trench .....	Ferruginous quartz from West Trench .....	0 10 21			
Windellama .....	" .....	0 16 6	0 10 21		
Young.....	Iron pyrites .....	0 3 0			

## COAL.

The output of coal for 1887, as compared with that of 1886, shows an increase of 92,322 tons, while the value of the output for 1887 exceeds that of 1886 by £43,276. The export of coal to inter-colonial ports shows an increase in quantity of 49,495 tons, and in value of £20,260. The export to foreign ports shows an increased quantity of 5,082 tons, but a decrease in value equal to £6,723. Our total export of coal for 1887 exceeds that of 1886 in quantity by 54,577 tons, and in value by £13,537, while our Home consumption in 1887 exceeds that of 1886 by 37,745 tons. The average price per ton for coal sent to Intercolonial Ports in 1887 was 10s. 5-89d. as compared with 10s. 7-22d. in 1886, the average rate from 1858 to 1887 being 11s. 2-14d. per ton. The average price per ton for coals sent to Foreign Ports in 1887 was 11s. 1-08d., as compared with 11s. 4-31d. in 1886, the average rate from 1858 to 1887 being 12s. 7-59d. per ton. The average price realized upon our total output for 1887 was 9s. 2-57d. per ton, as compared with 9s. 2-53d. per ton in 1886, and 9s. 9-45d. per ton from 1858 to 1887.

The aggregate thickness of coal-seams bored through in 1887 with the Government diamond drills was 44 ft. 8 in., namely:—At Mittagong, 33 ft. 2 in.; at Redhead, 3 ft. 10 in.; and at Bundanoon, 7 ft. 8 in.

During the month of March, 1888, the pit of the Metropolitan Coal Company, at Heathcote, reached the coal-seam at a depth of 1,095 ft., and has since then pierced the seam measuring 13 ft. of clean coal.

QUANTITY and Value of Coal raised from the opening of the Coal-seams to 1857, inclusive:—

Year.	Quantity.	Average per ton.	Value.	Year.	Quantity.	Average per ton.	Value.
Prior to		£ s. d.	£			£ s. d.	£
1829	50,000	0 10 0	25,000	1844	23,118	0 10 8-34	12,363
1829	780	0 10 1-23	394	1845	22,324	0 7 10-27	8,769
1830	4,000	0 9 0-00	1,800	1846	38,965	0 7 0-46	13,714
1831	5,000	0 8 0-00	2,000	1847	40,732	0 6 9-01	13,750
1832	7,143	0 7 0-00	2,502	1848	45,447	0 6 3-38	14,275
1833	6,812	0 7 6-73	2,575	1849	48,516	0 6 0-45	14,647
1834	8,490	0 8 10-00	3,750	1850	71,216	0 6 6-77	23,375
1835	12,392	0 8 10-19	5,483	1851	67,610	0 7 6-51	25,546
1836	12,646	0 9 1-06	5,747	1852	67,404	0 10 11-33	30,885
1837	16,083	0 9 8-81	5,828	1853	96,809	0 16 1-51	78,059
1838	17,220	0 9 9-05	8,399	1854	116,642	1 0 5-63	119,380
1839	21,283	0 9 9-73	10,441	1855	137,076	0 12 11-96	89,082
1840	30,256	0 10 10-86	16,498	1856	189,960	0 12 4-06	117,906
1841	34,841	0 12 0-00	20,905	1857	210,434	0 14 0-97	148,158
1842	39,900	0 12 0-00	23,940				
1843	25,862	0 12 6-54	16,222				
					1,468,961	0 11 10-72	869,391

TABLE showing the Quantities and Average Value per ton of Coal exported to Intercolonial and Foreign Ports respectively, the Quantity of Coal consumed in this Colony, and the Average Price per ton of the total output of the Collieries, from 1858 to 1887 inclusive.

Year.	Exports to Intercolonial Ports.			Exports to Foreign Ports.			Total Exports.			Home consumption.	Total Output and Value.		
	Quantity.	Average per ton.	Value.	Quantity	Average per ton.	Value.	Quantity.	Average per ton.	Value.		Quantity.	Average per ton.	Value.
	Tons.	£ s. d.	£	Tons.	£ s. d.	£	Tons.	£ s. d.	£	Tons.	Tons.	£ s. d.	£ s. d.
1858	101,488	0 15 1-67	78,824	12,030	1 0 1-85	12,132	119,527	0 15 8-05	88,956	102,870	216,367	0 14 11-84	162,162 0 0
1859	129,586	0 14 6-07	94,312	44,849	0 17 5-27	38,672	178,935	0 15 3-49	132,984	134,278	308,213	0 13 8-14	204,571 0 0
1860	140,183	0 14 10-86	104,471	93,694	0 16 11-10	79,290	239,877	0 15 8-57	183,761	134,985	368,862	0 12 8-30	226,493 0 0
1861	157,278	0 15 2-25	119,433	50,502	0 16 5-37	41,532	207,789	0 15 6-92	160,965	131,287	342,067	0 12 9-32	218,820 0 0
1862	195,427	0 15 0-55	147,019	113,355	0 17 4-34	98,403	308,782	0 15 10-75	245,422	167,740	476,522	0 12 9-73	308,234 0 0
1863	213,999	0 13 8-40	146,532	84,129	0 17 6-10	73,649	298,033	0 14 9-30	220,181	135,851	433,889	0 10 10-08	230,230 0 0
1864	283,539	0 10 3-74	146,199	88,927	0 14 10-90	66,289	372,460	0 11 4-01	212,488	176,646	549,012	0 9 10-10	270,171 0 0
1865	292,064	0 9 11-83	146,129	90,804½	0 15 0-79	68,029	382,968½	0 11 2-20	214,158	202,560½	685,526	0 9 4-43	274,303 0 0
1866	344,194	0 9 2-98	159,175	196,711	0 14 4-63	141,413	540,905	0 11 1-37	300,588	237,333	774,238	0 8 4-44	324,049 0 0
1867	312,101	0 9 4-33	146,111	161,256	0 13 8-47	107,148	473,357	0 10 8-40	253,269	200,655	770,012	0 8 10-79	342,655 0 0
1868	329,052	0 9 5-76	155,975	218,934	0 12 5-29	136,226	543,036	0 10 7-96	292,201	406,195	954,231	0 8 9-03	417,809 0 0
1869	340,466	0 8 9-07	149,059	255,037	0 11 3-31	149,130	595,553	0 10 0-16	298,195	324,221	919,774	0 7 6-32	346,146 0 0
1870	335,564	0 8 6-02	142,056	242,325	0 10 3-67	125,025	678,389	0 8 3-07	267,631	290,175	868,504	0 7 3-54	310,826 0 0
1871	378,891	0 8 6-01	162,470	186,538	0 10 1-22	94,320	565,439	0 9 0-05	260,090	333,355	893,784	0 7 0-47	316,240 0 0
1872	394,052	0 8 8-11	170,947	275,058	0 9 11-46	138,914	609,110	0 9 2-42	307,861	343,316	1,012,426	0 7 9-92	396,198 0 0
1873	425,937	0 12 0-32	272,110	347,142	0 14 7-59	238,979	773,079	0 13 7-32	526,089	419,783	1,192,802	0 11 1-94	665,747 0 0
1874	467,683	0 13 8-30	320,119	406,442	0 15 4-76	312,123	873,025	0 14 5-31	632,247	431,587	1,304,012	0 12 1-37	700,232 0 0
1875	518,853	0 13 7-77	354,074	403,154	0 15 0-64	317,409	927,007	0 14 5-84	671,453	402,722	1,329,729	0 12 3-89	819,429 17 2
1876	542,952	0 13 8-45	372,045	325,865	0 15 0-45	253,166	868,817	0 14 4-70	625,211	451,101	1,319,918	0 12 2-06	803,360 5 6
1877	563,757	0 13 8-64	386,746	351,970	0 14 10-31	262,237	915,727	0 14 2-08	648,977	528,544	1,444,271	0 11 10-74	858,993 8 2
1878	629,323	0 13 8-77	427,054	483,077	0 14 7-99	239,452	1,006,420	0 14 0-93	703,406	669,077	1,575,407	0 11 8-28	920,036 7 4
1879	621,087	0 13 0-75	421,103	376,962	0 14 0-13	273,509	998,049	0 13 11-05	694,707	655,332	1,583,381	0 12 0-12	940,878 18 3
1880	550,072	0 11 2-67	309,004	292,634	0 11 5-70	116,295	753,360	0 11 3-48	425,299	712,824	1,491,180	0 9 6-55	603,248 5 8
1881	657,135	0 7 9-34	255,572	372,709	0 8 3-29	161,958	1,024,944	0 8 1-30	417,539	739,753	1,169,597	0 6 8-33	615,236 11 7
1882	760,226	0 9 9-64	372,334	501,819	0 10 11-50	274,639	1,201,545	0 10 3-09	647,093	847,737	2,109,232	0 8 11-97	948,065 0 0
1883	856,704	0 10 5-75	449,356	656,741	0 11 7-34	381,306	1,512,445	0 10 11-65	829,662	1,009,012	2,521,467	0 9 6-40	1,201,941 12 11
1884	994,087	0 10 8-06	523,938	696,876	0 11 5-14	398,107	1,690,793	0 11 0-15	931,045	1,058,846	2,749,109	0 9 5-71	1,303,076 19 11
1885	991,924	0 10 7-13	525,443	761,432	0 11 6-62	441,220	1,756,356	0 11 0-09	966,603	1,122,567	2,878,863	0 9 3-72	1,340,212 13 7
1886	1,027,775	0 10 7-22	544,824	793,090	0 11 4-31	492,173	1,735,805	0 10 10-93	947,002	1,091,910	2,930,175	0 9 2-53	1,303,164 4 1
1887	1,077,270	0 10 5-89	505,084	713,172	0 11 1-08	395,456	1,790,442	0 10 8-75	960,539	1,132,055	2,922,497	0 9 2-57	1,346,440 2 7
	14,026,679	0 11 2-14	8,176,107	9,328,213½	0 12 7-50	5,892,176	23,054,892½	0 11 8-94	14,007,233	14,521,053½	33,476,916	0 9 9-45	18,829,717 6 9

The following Comparative Statement shows that in the Northern, Western, and Southern Districts, the output in 1887 exceeds that of 1886 both in quantity and value.

COMPARATIVE Statement of Output of Coal in the Northern, Western, and Southern Districts.

	1883.		1884.	
	Tons.	Value.	Tons.	Value.
Output, Northern District .....	1,890,619 16 0	928,026 13 5	2,055,342 10 3	1,011,933 13 7
Increase as compared with previous year .....	330,102 16 0	212,089 9 11	155,722 14 3	83,907 0 2
Decrease do .....	.....	.....	.....	.....
Output, Western District .....	232,418 3 0	77,780 18 6	273,823 14 0	74,161 9 7
Increase as compared with previous year .....	34,779 3 0	14,865 17 4	41,405 11 0	.....
Decrease do .....	.....	.....	.....	3,619 8 11
Output, Southern District .....	389,419 2 0	196,134 1 0	419,942 9 0	216,981 16 9
Increase as compared with previous year .....	47,293 2 0	26,020 13 0	30,523 7 0	20,847 15 9
Decrease do .....	.....	.....	.....	.....

	1885.		1886.		1887.	
	Tons.	Value.	Tons.	Value.	Tons.	Value.
Output, Northern District .....	2,113,372 13 0	1,032,904 13 0	2,178,116 0 0	1,084,554 17 1	2,243,792 0 0	1,096,720 0 7
Increase as compared with previous year .....	59,030 2 1	20,970 19 9	61,743 7 0	51,657 3 9	65,676 0 0	12,165 3 6
Decrease do .....	.....	.....	.....	.....	.....	.....
Output, Western District .....	311,762 16 0	76,836 13 3	281,229 0 0	68,615 15 0	302,137 0 0	79,036 0 2
Increase as compared with previous year .....	37,939 2 0	2,675 3 8	.....	.....	20,908 0 0	10,420 5 2
Decrease do .....	.....	.....	30,533 16 0	8,220 18 3	.....	.....
Output, Southern District .....	453,727 15 3	230,471 7 0	370,830 0 0	149,993 12 0	376,568 0 0	170,634 1 10
Increase as compared with previous year .....	33,785 6 3	13,489 10 3	.....	.....	5,788 0 0	20,690 9 10
Decrease do .....	.....	.....	82,897 15 3	80,477 15 0	.....	.....

In the Northern District the average price of coal was 9s. 9<sup>3</sup>d. per ton in 1887, as compared with 9s. 11<sup>5</sup>d. per ton in 1886. In the Western District the average price of coal was 5s. 2<sup>7</sup>8d. per ton in 1887, as compared with 4s. 10<sup>5</sup>5d. in 1886. In the Southern District the average price of coal was 9s. 0<sup>7</sup>7d. per ton in 1887, as compared with 8s. 1<sup>0</sup>7d. in 1886.

The number of coal and shale mines under inspection in 1887 was 42 in the Northern District, and 30 in the Southern and Western Districts—total, 72; and notice was received of 8 opening out and of 1 abandoned, whereas in 1886 there were 66 under inspection and 11 opening out.

During the year there were 110 accidents in collieries; of these 95 were fatal, and 45 non-fatal; of the 95 fatal accidents, 81 were due to the disaster at the Bulli mine. The number of fatal accidents in 1887 exceeds the number in 1886 by 66, and the number of non-fatal accidents in 1887 exceeds the number in 1886 by 2.

#### COAL.

A Company has been formed to work a coal-seam near Mittagong, and another Company has been formed to work seams near Wingello. The Berrima Colliery is still putting out a limited quantity of coal, and the Erith Colliery is about to start again. Land has been taken up to work the seams of coal, three or four in number, in the Main Range, at Little Forest, near Milton. The largest seam is about 2 feet thick, the coal is bright and burns well. In the Maitland division a new Company has been formed to work the Thornley Colliery and surrounding land, and a Company is about to be formed to open a colliery in the parish of Stamford upon an area of 1,996 acres held under lease; a small colliery has been opened near East Maitland. A colliery has recently been commenced at Gunnedah.

During the year the following analyses of Coal were made by the Department:—

Locality.	Description of Mineral.	Analysis.	Coke %	Sulphur %	Specific Gravity.
Bundanoon Creek	Inferior splint coal.....	Hygroscopic moisture.....	1.02		
		Volatile hydrocarbons.....	14.96		
		Fixed carbon.....	38.38		
		Ash.....	45.64		
			100.00		
Bundanoon diamond drill bore.....	Bituminous coal.....	Hygroscopic moisture.....	2.25		
		Volatile hydrocarbons.....	19.92		
		Fixed carbon.....	38.38		
		Ash.....	45.64		
			100.00		
Do.....	do.....	Hygroscopic moisture.....	1.55		
		Volatile hydrocarbons.....	23.77		
		Fixed carbon.....	47.33		
		Ash.....	27.35		
			100.00		
Bulli.....	Fine brown and black coal-dust and a small piece (½ in. in diameter) of bright bituminous coal, together with small piece of wood and clay shale, said to be "taken where the boy is said to have been affected by the explosion, and thrown about the mouth of the tunnel".....	Hygroscopic moisture.....	2.15	78.31	1.52
		Volatile hydrocarbons.....	19.92		
		Fixed carbon.....	49.92		
		Ash.....	29.30		
		Sulphur.....	.52		
			101.00		
Do.....	Very fine brown and black bituminous coal-dust and a little sand.....	Hygroscopic moisture.....	2.40	80.67	
		Volatile hydrocarbons.....	16.30		
		Fixed carbon.....	50.43		
		Ash.....	30.24		
		Sulphur.....	.63		
	100.00				
Do.....	Very fine brown and black bituminous coal-dust and a little sand, "taken from about 50 yds. from old furnace overcast, or 150 yds. from tunnel mouth".....	Hygroscopic moisture.....	2.40	80.67	
		Volatile hydrocarbons.....	16.30		
		Fixed carbon.....	50.43		
		Ash.....	30.24		
		Sulphur.....	.63		
	100.10				
Do.....	Coal-dust, with stringy splinters of wood.....	Hygroscopic moisture.....	2.25	80.77	
		Volatile hydrocarbons.....	16.45		
		Fixed carbon.....	51.27		
		Ash.....	29.50		
		Sulphur.....	.53		
	100.00				

## COAL—continued.

Locality.	Description of Mineral.	Analysis.	Coke %	Sulphur %	Specific Gravity.
Bulli .....	Fine dust and pieces of bituminous coal up to $\frac{1}{4}$ in. in diameter. ....	Hygroscopic moisture..... 1.40 Volatile hydrocarbons..... 19.00 Fixed carbon..... 55.37 Ash..... 23.70 Sulphur..... .53 100.00	79.97		
Do .....	Dust of bright bituminous coal and a piece of same up to $\frac{1}{4}$ in. in diameter, with a little quartz sand	Hygroscopic moisture..... 1.46 Volatile hydrocarbons..... 19.14 Fixed carbon..... 51.94 Ash..... 26.91 Sulphur..... .55 100.00	78.85		
Do .....	Coarse and fine dust and bright bituminous coal and small pieces of clay shale	Hygroscopic moisture..... 1.40 Volatile hydrocarbons..... 20.25 Fixed carbon..... 51.90 Ash..... 25.81 Sulphur..... .64 100.00	77.71	...	1.450
Berrima West	Bituminous coal with veins of anthracitic character .....	Hygroscopic moisture..... 2.47 Volatile hydrocarbons..... 19.60 Fixed carbon..... 65.02 Ash..... 12.91 100.00	77.93	0.70	1.362
Casino .....	Inferior splint and bituminous coal .....	Hygroscopic moisture..... 4.40 Volatile hydrocarbons..... 30.22 Fixed carbon..... 36.04 Ash..... 29.34 100.00	65.38	0.59	1.410
Flaggy Creek.	Bright bituminous coal from new seam.....	Hygroscopic moisture..... 2.07 Volatile hydrocarbons..... 37.07 Fixed carbon..... 55.92 Ash..... 4.42 Sulphur..... .52 100.00	60.34	...	1.285
Gladstone Colliery.	Bright bituminous coal .....	Hygroscopic moisture..... 2.05 Volatile hydrocarbons..... 27.62 Fixed carbon..... 57.25 Ash..... 12.67 Sulphur..... .41 100.00	69.92	...	1.282
Do .....	Bituminous coal .....	Hygroscopic moisture..... 1.77 Volatile hydrocarbons..... 28.40 Fixed carbon..... 59.72 Ash..... 9.60 Sulphur..... .51 100.00	60.32	...	1.362
Holt-Sutherland Estate.	Coal from diamond drill bore at Holt-Sutherland Estate about 15 miles from Sydney, at a depth of 22 feet. ....	Hygroscopic moisture..... 0.36 Volatile hydrocarbons..... 13.52 Fixed carbon..... 70.96 Ash..... 14.72 Sulphur..... .44 100.00	...	...	1.44
Do .....	do .....	Hygroscopic moisture..... 0.24 Volatile hydrocarbons..... 14.03 Fixed carbon..... 73.96 Ash..... 11.16 Sulphur..... .66 100.00	...	...	1.34
Do .....	do .....	Hygroscopic moisture..... .68 Volatile hydrocarbons..... 12.21 Fixed carbon..... 69.92 Ash..... 16.80 Sulphur..... .39 100.00	...	...	1.48

## COAL—continued.

Locality.	Description of Mineral.	Analysis.	Calo %	Sulphur %	Specific Gravity.
Holt-Sutherland Estate.	Coal from diamond drill bore at Holt-Sutherland Estate about 15 miles from Sydney, at a depth of 2,227 feet, 4 feet 2 inches thick..	Hygroscopic moisture..... 0·67 Volatile hydrocarbons..... 13·06 Fixed carbon..... 70·70 Ash..... 15·16 Sulphur..... '41 <hr/> 100·00	85·86	...	1·48
Do .....	Coal from diamond drill bore at Holt-Sutherland Estate about 15 miles from Sydney, at a depth of 22 feet.....	Hygroscopic moisture..... 0·40 Volatile hydrocarbons..... 12·63 Fixed carbon..... 74·04 Ash..... 12·52 Sulphur..... '41 <hr/> 100·00	...	...	1·36
Do .....	Coal dust brought up in water during boring the seam struck in the Holt-Sutherland diamond drill bore, at a depth of 2,227 feet .....	Hygroscopic moisture..... 2·25 Volatile hydrocarbons..... 33·90 Fixed carbon..... 52·01 Ash..... 11·84 <hr/> 100·00	...	...	1·32
Homeville .....	Cannel coal, from Homeville, West Maitland .....	Hygroscopic moisture..... 2·25 Volatile hydrocarbons..... 33·90 Fixed carbon..... 52·01 Ash..... 11·84 <hr/> 100·00	...	...	1·322
Mittagong .....	3 pieces of core from the top, middle, and bottom of seam (top, splint and bituminous coal, middle and bottom, bright bituminous coal) from Diamond Drill bore=4 ft. 7 in. of core ...	Hygroscopic moisture..... 1·35 Volatile hydrocarbons..... 25·77 Fixed carbon..... 60·06 Ash..... 12·24 Sulphur..... '56 <hr/> 99·98	72·31	...	1·347
Do .....	3 pieces of coal from top, middle, and bottom (top and bottom, splint bituminous, and the middle bright bituminous coal)= 2 ft. 10 in. core.....	Hygroscopic moisture..... 1·40 Volatile hydrocarbons..... 24·01 Fixed carbon..... 59·22 Ash..... 14·08 Sulphur..... '69 <hr/> 100·00	73·30	...	1·376
Do .....	Bituminous and splint coal= 4 ft. 7 in. core .....	Hygroscopic moisture..... 1·65 Volatile hydrocarbons..... 27·87 Fixed carbon..... 52·30 Ash..... 17·40 Sulphur..... '78 <hr/> 100·00	69·70	...	1·420
Do .....	Splint coal with bituminous bands=3 ft. 4 in. core.....	Hygroscopic moisture..... 1·17 Volatile hydrocarbons..... 19·25 Fixed carbon..... 47·59 Ash..... 31·42 Sulphur..... '57 <hr/> 100·00	79·017	...	1·338
Mudgee .....	Coal from 30 miles from Mudgee	Hygroscopic moisture..... 1·71 Volatile hydrocarbons..... 30·69 Fixed carbon..... 49·62 Ash..... 17·25 Sulphur..... '73 <hr/> 100·00	66·87	...	
Do .....	Coal from Mudgee, seam 6 ft. 6 in. thick .....	Hygroscopic moisture..... 1·00 Volatile hydrocarbons..... 23·17 Fixed carbon..... 57·86 Ash..... 17·36 Sulphur..... '61 <hr/> 100·00		...	
Ocean Colliery	Bituminous coal from Ocean Colliery, West Dapto, from top seam, 10 ft. thick .....	Hygroscopic moisture..... '84 Volatile hydrocarbons..... 24·92 Fixed carbon..... 66·27 Ash..... 7·56 Sulphur..... '41 <hr/> 100·00	73·83	...	1·338

## COAL—continued.

Locality.	Description of Mineral.	Analysis.	Coke %	Sulphur %	Specific Gravity.
Parish of Joadja..	Splint coal .....	Hygroscopic moisture.....	73·96		
		Volatile hydrocarbons.....			
		Fixed carbon.....			
		Ash.....			
		Sulphur.....			
		100·00			
Hylstone.. .....	Bright bituminous coal .....	Hygroscopic moisture.....	...	...	1·317
		Volatile hydrocarbons .....			
		Fixed carbon.....			
		Ash.....			
		Sulphur .....			
		100·00			
Southern District:	Bituminous coal .....	Hygroscopic moisture.....	66·33	0·69	1·29
		Volatile hydrocarbons.....			
		Fixed carbon.....			
		Ash.....			
Warrumbungle R.	Tertiary coal .....	Hygroscopic moisture.....	54·88	...	1·329
		Volatile hydrocarbons.....			
		Fixed carbon.....			
		Ash.....			
		Sulphur .....			
		100·00			

Fuller particulars concerning the composition of the Coals of this Colony may be found in the Annual Report of this Department for the year 1880.

## SHALE.

The output of shale in 1887 was less by 3,553 tons than in 1886, and the price per ton was 2s. 0 36d. per ton less than in the preceding year.

The following table shows the quantity and value of Kerosene Shale produced during the years 1865 to 1887:—

Year.	Quantity.	Average price per ton.	Total value.	Year.	Quantity.	Average price per ton.	Total value.
	Tons.	£ s. d.	£ s. d.		Tons.	£ s. d.	£ s. d.
1865	570	4 2 5·47	2,350 0 0	1877	18,963	2 9 0·81	46,521 0 0
1866	2,770	2 18 10·48	8,150 0 0	1878	24,871	2 6 11·40	57,211 0 0
1867	4,079	3 14 9·21	15,249 0 0	1879	32,519	2 1 1·96	66,990 10 0
1868	16,952	2 17 7·11	48,816 0 0	1880	19,201	2 6 7·03	44,724 15 0
1869	7,500	2 10 0·00	18,750 0 0	1881	27,894	1 9 2·59	40,748 0 0
1870	8,580	3 4 3·18	27,570 0 0	1882	48,065	1 15 0·00	84,114 0 0
1871	14,700	2 6 3·91	34,050 0 0	1883	49,250	1 16 10·77	90,861 10 0
1872	11,040	2 11 11·91	28,700 0 0	1884	31,618	2 5 7·86	72,176 0 0
1873	17,850	2 16 6·55	50,475 0 0	1885	27,462	2 8 11·62	67,239 0 0
1874	12,100	2 5 1·48	27,300 0 0	1886	43,563	2 5 10·79	99,976 0 0
1875	6,197	2 10 2·22	15,500 0 0	1887	40,010	2 3 10·43	87,761 0 0
1876	15,998	3 0 0·00	47,994 0 0				
					481,252	2 5 0·01	1,083,173 15 0

## SILVER AND LEAD.

Though the quantity of fine silver exported in 1887 was considerably less than in 1886, the quantity of silver and lead ore exported in 1887 so largely exceeded that of 1886 that, comparing the export of silver and ore for the two years, 1887 shows an increase in value over 1886 equal to £82,381. The fact that such a large proportion of the produce of our silver-mines is sent away for treatment, indicates the want of appliances or skill to treat the ore locally. It is perhaps fortunate for this branch of mining that the owners of our silver-mines recognise the expediency of sending away their ore, instead of investing capital building furnaces which may or may not be capable of treating the ore effectively. It is to be hoped that works will ere long be established in this Colony at which the various ore of silver can be treated so as to secure the maximum of profit to mine owners.

QUANTITY

## QUANTITY and Value of Silver and Silver and Lead Ore exported.

Year.	Silver.		Silver and Lead Ore.				Total Value.
	Quantity.	Value.	Quantity.		Value.		
			Ore.	Metal.			
Up to	oz.	£ s. d.	Tons cwt. qr. lb.	Tons cwt.	£ s. d.	£	
1881.....	726,779·14	178,405 0 0	191 13 0 0	.....	5,025 0 0	183,430	
1892.....	38,618	9,024 0 0	11 19 0 0	.....	360 0 0	9,384	
1893.....	77,065·18	16,488 0 0	136 4 0 0	.....	2,075 0 0	18,563	
1894.....	93,669·25	19,780 0 0	9,167 11 1 7	.....	241,910 0 0	251,720	
1895.....	794,173·80	159,187 0 0	2,095 16 0 0	190 8	107,626 0 0	266,813	
1896.....	1,015,433·10	197,544 0 0	4,802 2 0 0	.....	294,485 0 0	492,029	
1897.....	177,307·75	32,458 0 0	12,529 3 2 0	.....	541,952 0 0	574,410	
	2,923,037·22	612,886 0 0	28,934 8 3 7	190 8	1,198,463 0 0	1,736,319	

Though the result of last year's operations shows a considerable increase upon that of the preceding year, there is reason to believe that the output of the current year will greatly exceed that of last year. The following extracts from the reports furnished by officers of the Department indicate the enormous extent of country over which lodes of silver and lead ore are distributed :—

In the Bathurst District the Wardens and Mining Registrars report :—“The Tucna division has been brought prominently before the public during the year by the rich discoveries of silver ore at Costigan, near Tucna. A Company has been formed and smelters erected. Four shafts have been sunk and 30,000 oz. of silver obtained, valued at about £4,875; also 103 tons of lead. Another property was also put into a Company, called the Cordillera. Smelters are being erected, shafts sunk upon the lode, and a tunnel driven into the hill has cut the lode, which assays well. The old Peelwood copper-mine, which was abandoned some years ago, is said to be exceedingly valuable for silver, lead, and copper. At Back Creek, Rockley, most of the leases are idle under suspension, though several of them are rich in minerals, probably silver. Mitchell has been going to the bad all the year. The Sunny Corner Company (the only one working) obtained 16,472 tons of ore, 318,016 oz. of silver, valued at £55,652 16s., and they had 1,000 tons of ore at grass, valued at £3,500. At Lewis Ponds and Bulga there are lodes of silver ore which promise to equal some of our richest silver-mines. The Lewis Ponds Gold and Silver Mining Co. have sunk to a depth of 117 feet, where a gossan lode of from 5 to 20 feet in width has been struck. During the year 293 tons of ore have been raised, which is being sent to Germany for treatment. There is a probability of payable silver being found at Kempfield and Diamond Valley, near Trunkey. In the Lachlan District at Back Gamma, 15 miles north-east of Forbes, a reef which was taken up for gold is likely to prove a silver lode. At Nymagee the Nymagee has carbonate of lead and silver lodes running parallel to the copper lodes. In the Albert Mining District the Broken Hill Proprietary Company during the year raised 51,000 tons of ore, from which they obtained 65 tons 18 cwt. 1 qr. of silver, valued at £394,790, and 9,914 tons of lead, valued at £69,400. The deepest shaft is 336 feet deep, the deepest level is 316 feet, the width of the lode is from 14 feet to 170 feet. The Broken Hill Block 14 Co. raised 800 tons of ore, valued at £1,800. The British Broken Hill Co. raised 30 tons of ore, valued at £300. The Consols Co., Broken Hill, raised 50 tons of ore, valued at £1,000. The Umberumberka Co. raised 4,605 tons of ore, of which 1,605 tons was sold for £34,330, leaving 3,000 tons of ore at grass, valued at £9,000. The Barrier Ranges Co. raised in the aggregate 567 tons of ore, valued at £6,581. The Britannia and Scotia Co. raised 113 tons of ore, of which 105 tons was sold for £1,680. The Round Hill Co. raised 15 tons, which was sold for £115. The Consolidated Blocks Co., Round Hill, raised 25 tons, valued at £300. Rossiter & Co. raised 84 tons of ore, valued at £1,236. The Rise and Shine Co., Mt. Gipps, raised 40 tons of ore, valued at £160. The field in a general way is being vigorously prospected, more especially about Broken Hill, Rockwell Paddock, Pinnacles, and Purnamoota, and the galena lodes of Thackaringa have attracted considerable attention. The export of minerals from this division during 1897 were valued at £522,455. This does not include the ore sent from Thackaringa, which would probably bring the amount up £600,000. In the Tumut and Adelong Mining District, at Captain's Flat, near Queanbeyan, the Koh-i-noor Co. has two lodes, one 20 feet wide, the other 3 feet, from which 45,705 oz. silver, and 124½ tons of lead, besides gold and copper, have been obtained. A lode containing silver, gold, and lead, has been cut in the Vanderbilt mine, from which 150 tons of ore have been raised, which assays 10 to 180 oz. silver per ton, and in another mine a quartz reef has been cut which is impregnated with lead crystals. A Company is being formed to work some silver lodes at Bredbo, in the Cooma division. At Carter's mine, in the Nowra division, prospecting is still carried on, but nothing payable has yet been found. The discovery of a silver lode in the Araluen division has been reported, and the ground

ground is being tested. A silver lode has been discovered on private land at Pudman Creek, in the Yass division. At Moruya the owner of the silver-mine has been engaged some weeks in crushing, with fair results. Assays of ore from lodes near Bombala varied from 12 to 25 oz. of silver and 2 oz. of gold per ton. The Warrell Creek silver lodes in the Kempsey division are shut up from miners, the land being included in mineral conditional purchases. These lodes are well-defined, and comprise argentiferous pyrites and silver galena ores, and if opened would provide a large, new, and permanent field. At Mount Pigott, about 5 miles from Boat Harbour, a deposit of gossan ore has been found, containing gold and silver. One mile west of this a well-defined reef, 12 inches wide at surface and 24 inches at a depth of 12 feet of ferruginous quartz, heavily charged with argentiferous pyrites, silver being the predominant metal. There are many other reefs and lodes on both the western and eastern spurs containing gold, silver, antimony, &c., but as depth is reached silver will, it is thought, predominate. Near Fairfield the silver discoveries have caused great excitement, especially the mine known as the "White Rock." There is no defined lode, but the mass of rock is intersected by numerous veins of galena, sulphide of silver, &c., varying in width from 2 to 12 inches. The veinstuff is said to be about 10 per cent. of the whole mass, and the rock is found by assay to contain a considerable quantity of silver. Another discovery has been made on a granite range about 8 miles north of Tenterfield. An assay of stone from the prospector's shaft proved to be exceedingly rich in silver. The lode is well-defined. The highest assay gave 795 oz. silver and 6 oz. 12 dwt. of gold per ton, the lowest assay shows 13 oz. silver and 2 oz. 14 dwt. of gold. At Denison Town land has been applied for to test deposits of silver ore found there. The attention of capitalists has at length been drawn to the hitherto neglected silver lodes of the Vegetable Creek division. At Webb's mine, on Little Plant Creek, where fahlerz and antimony appear to predominate, the plant for treatment of the ore was completed at the end of the year. The argentiferous galena ores at Pye's Creek will, it is anticipated, prove easier of treatment. The lode in the Pye's Creek Co's. mine at a depth of 92 feet is said to be 10 feet with a core of solid galena 4 feet across and veins of the same ore 2 and 4 inches thick running through quartz and gossan on each side. A large quantity of ore has been raised and stacked, and it is intended to erect a furnace to smelt it. The ore is said to average 50 per cent. of lead, and from 50 to 720 oz. of silver per ton of lead. Shafts sunk on adjoining mines are said to have given similar results. The country taken and being explored extends southerly from Pye's Creek between 30 and 40 miles. Nine miles east of Deepwater some promising lodes have been discovered.

THE following assays of Silver, Lead, and Zinc Ores were made in the Department of Mines during the year :—

## SILVER.

Locality.	Description of Mineral.	Per ton		Per cent.	
		Silver.	Gold.	Lead.	Copper.
		oz. dwt. gr.	oz. dwt. gr.		
Barrier Range ..	Ferruginous carbonate of lead .....	19 6 12	.....		
" "	" carrying carbonate of lead and copper .....	23 18 20	.....		
Back Creek .....	Quartz leaders in schist .....	87 18 12	1 7 4		
" .....	Ferruginous quartz .....	285 6 18	1 4 11		
" .....	" " vein .....	134 6 19	0 5 0		
" .....	" " " " .....	243 7 8	0 3 0		
" .....	Porous siliceous gossan and quartz .....	223 15 8	3 5 8		
" .....	" " " " .....	211 18 11	2 9 0		
" .....	" quartz and a little micaceous schist .....	186 9 10	1 7 4		
" .....	Quartz, with talcose schist casing .....	530 10 12	2 19 21		
Bulga .....	Porous ferruginous quartz .....	43 8 21	0 13 0		
" .....	" " " " .....	19 1 12	0 10 21		
" .....	" " " " .....	27 4 10	0 5 10		
" .....	" " " " .....	39 8 8	0 6 12		
" .....	" " " " .....	155 0 14	0 10 21		
" .....	" " " " .....	13 7 21	0 5 10		
Burruga .....	Ferruginous gossan, with crystals and carbonate of lead .....	43 13 7	0 8 16		
Brewangle .....	Porous gossan, with crystals of cerussite .....	19 12 0	.....		
Bell River .....	Claystone, with green carbonate of copper .....	15 16 2	1 1 16		
" .....	Porous brown iron ore .....	17 6 4	.....		
Barrier Range .....	Galena .....	42 9 8	.....		
Big Plant .....	Fahlerz from 28 ft. deep, portion 1,004, near Emmaville .....	31 16 22	.....		
Binda .....	Quartz and galena .....	256 8 14	.....		
Blayney .....	" with a little galena and pyrites .....	98 0 8	0 5 0		
Bolivia .....	" with a little galena .....	11 3 4	.....		
Boonoo Boonoo .....	Ferruginous quartz, with pyrites .....	11 3 5	0 5 0		
" .....	" " " " .....	18 10 5	.....		
" .....	" " " " .....	40 5 19	.....		
" .....	Quartz, with iron pyrites .....	11 8 16	.....		
Bungonia .....	Arsenical pyrites and altered rock .....	14 14 0	.....		
Broken Hill .....	Ferruginous carbonate of lead and galena .....	24 10 0	.....		
Borders of Queensland.	Galena and carbonate of lead .....	72 19 2	.....		

Locality.	Description of Mineral.	Per ton.		Per cent.	
		Silver.	Gold.	Lead.	Copper.
Bulga	Crushed brown iron ore	oz. dwt. gr. 468 14 2	oz. dwt. gr. 0 3 0		
"	Porous	32 5 16	0 6 12		
"	" ferruginous gossan	45 19 0	0 3 6		
"	" quartz	91 9 8			
"	"	13 0 2	0 10 21		
"	"	12 0 6	0 5 2		
"	" and brown iron ore	179 13 8	0 5 10		
"	"	16 17 13	0 5 21		
"	" brown iron ore	31 6 2			
Burrage	" ferruginous gossan, with carbonate of lead	16 17 13	0 5 10		
"	Metallic copper	16 9 17	0 5 10		
Captain's Flat	Porous ferruginous gossan	11 19 13	0 4 0		
"	"	78 18 21			
"	"	16 18 21	0 4 0		
"	"	14 14 0	0 4 18		
"	" Ferruginous gossan and rubble	43 11 2	0 3 0		
"	" Soft red earthy gossan	100 14 10			
"	" Chloride of silver	19,828 13 8			
"	" Ferruginous siliceous gossan	11 19 12			
"	" Brown iron ore and chloride of silver	269 10 0	0 4 0		
"	" Gossan and quartz	15 4 21			
"	" Gossan	88 4 0	0 3 0		
"	" Chloride of silver in earthy gossan	8,550 10 0			
"	" Ferruginous brown gossan	40 16 16	0 3 0		
Cobar	" Galena and quartz	74 6 7		32.5	
Cookbundoon	" Ferruginous breccia, quartz and pyrites	11 0 2			
"	" Yellowish red gossan, with carbonate of lead	12 5 0	0 3 0	31.13	
"	"	21 12 20		38.2	
"	"	30 12 11		32.88	
"	" Ferruginous yellow claystuff and quartz	18 4 18	0 4 0	30.2	
Crookwell	" Siliceous brown iron ore	15 13 12	42 10 12		
Cooma	" Ferruginous porous quartz	34 16 12	0 4 0		
Camden	" quartz, with a little pyrites and galena, from 13 miles from Camden.	14 14 0			
Country of Yanco- winne.	" Ferruginous gossan, with galena	19 12 0			
Diggers' Creek	" lodestuff	11 8 16	5 19 18		
Delaney's Dyke	" quartz, with free gold	10 17 18	12 10 10		
Deepwater Creek	" copper gossan	165 15 15			12.9
Denison Town	" Quartz, with lenticular vein of galena and carbonate of lead, from Robertson and party's lode.	16 12 2			
"	" Galena and pyrites	19 1 2		76.5	
Emmaville	" Crushed sample from Big Plant lode	61 0 4			
"	"	35 11 22			
"	" Ferruginous gossan	43 0 5			
"	" Zinc blende, gossan, and iron pyrites	10 7 2			
EmuSwampCreek	" Ferruginous porous quartz	46 15 7	0 8 16		
"	" and brown iron ore	59 1 2	0 3 5		
"	"	10 6 21			
"	"	55 14 21	0 3 0		
Forbes	" Copper gossan	34 6 8	0 3 0		
Fairfield	" Claystone, with mispickel and fahlerz	48 9 2			
"	" Quartz, with zinc blende, galena, and pyrites	162 15 18			
"	" Ferruginous quartz	31 0 16	0 3 0		
Goran Lake	" Galena and oxide of iron	80 16 22	0 4 0		
Goulburn	" Sulphide of lead, copper, and a little carbonate of copper and quartz.	21 10 4			
"	" Ferruginous porous do	57 3 8	0 3 0		
Gulgong	" Galena	19 17 10		74.2	
Gumble	" Crushed sample of earthy carbonate of copper	11 8 16	0 4 0		
Gayong	" galena and quartz, with a little copper pyrites	58 5 2	0 5 2		
"	" Tailings, consisting of quartz, magnetic iron pyrites, and galena	67 10 5	97 9 2		
Glen Innes	" Galena and pyrites, with felspathic lodestuff, from within 20 miles of Glen Innes.	10 17 5		27.5	
Holt-Sutherland Estate, Diamond Drill Bore.	" Reddish grey clay shale, from 1,787 feet deep, from 15 miles from Sydney.	10 11 0			
Jenolan Caves	" Galena	63 14 0	0 3 0		
Jerrara Creek	" Earthy porous quartz	115 19 8			
Kimo	" Tailings, consisting of magnetic iron oxide and a little iron pyrites.	24 10 0	7 1 13		
King's Gate	" Ferruginous quartz and a little galena	23 18 23	0 3 0		
Lewis Ponds	" porous gossan, with carbonate of lead and crystals	40 12 6	0 3 0		
"	" Ferruginous porous quartz	11 3 4	0 5 10		
Lake Bathurst	" Yellow sandy iron ore	27 4 10		45.5	
"	"	32 2 10			
Major's Creek	" Quartz, with a little copper and iron pyrites	28 17 2			
Marulan	" Arsenical pyrites, galena, and quartz	23 19 2	0 10 21		
Michlago	" Quartz, with galena	25 0 21	13 1 8		
Mitchell Creek	" Zinc blende	13 1 9			
Mt. Costigan	" Porous quartz	19 3 2	0 3 6		
"	" ferruginous gossan	17 8 10	0 4 8		
"	"	54 19 18	0 3 6		
Middle Creek	" Galena and carbonate of lead and copper in quartz veinstone from Isis Silver-mine.	55 16 2	0 3 0		
May Flower Claim	" Galena, from May Flower Claim, Silverton	46 15 8			
Newbridge	" Ferruginous rubbly quartz	20 8 6	0 5 2		

Locality.	Description of Mineral.	Per ton.		Per cent.	
		Silver.	Gold.	Lead.	Copper.
Newbridge .....	Ferruginous quartz .....	oz. dwt. gr.	oz. dwt. gr.		
" .....	Gossan, with heavy spar .....	135 16 2	1 7 4		
Noiuro .....	Quartz, galena, and iron pyrites .....	20 19 4	.....		
One-tree Hill .....	Ferruginous porous quartz .....	76 4 10	.....		
" .....	" quartz and micaceous schist .....	10 17 19	0 2 4		
Orange .....	Pyritous tailings, from Old Battery .....	13 12 5	.....		
" .....	Talcose schist, with zinc blende and pyrites .....	29 2 13	30 15 9		
" .....	" with pyrites and a little galena .....	75 2 16	0 12 21		
" .....	Iron pyrites and a little galena in felspathic loDESTUFF .....	49 10 21	.....		
" .....	Ferruginous gossan .....	14 3 2	0 3 0		
" .....	" porous quartz and iron ore .....	11 19 3	.....		
" .....	" .....	26 13 21	.....		
" .....	" .....	52 5 8	.....		
" .....	" .....	224 17 2	0 10 21		
" .....	Siliceous ironstone .....	10 15 2	0 21 1		
" .....	Ferruginous quartz .....	13 12 5	.....		
" .....	" and brown iron ore .....	12 2 1	.....		
" .....	Porous brown iron ore .....	10 12 17	.....		
" .....	Stalactitic iron ore .....	15 15 18	0 4 8		
" .....	Porous ferruginous quartz .....	25 6 7	0 16 8		
One-tree Hill .....	Ferruginous siliceous gossan .....	72 8 5	0 3 0		
" .....	" porous quartz and talcose slate .....	37 0 2	.....		
Orange .....	" quartz from R. Wood's claim .....	32 13 8	.....		
Peelwood .....	" gossan, with cerussite, with cerussite and azurite crystals.	28 17 2	.....		
" .....	Porous siliceous brown iron ore, and a little ferruginous quartz, a portion showing slate casing.	59 6 21	0 3 0		
" .....	Ferruginous quartz, stained with arseniate of iron in micaceous schist.	15 4 21	.....		
Pine Ridge .....	Galena veinstone and carbonate and sulphide of lead .....	20 13 18	.....	61-5	
Pretty Gully .....	Ferruginous quartz, with galena .....	62 1 8	.....		
Parnamoota .....	Iron ore, containing chloride of silver .....	2,068 6 21	.....		
" .....	Calcareous ironstone .....	967 3 19	.....		
" .....	Earthy limestone, with chloride of silver .....	1,679 12 5	.....		
" .....	Iron ore .....	307 14 8	.....		
" .....	Compact ironstone .....	1,942 17 0	.....		
" .....	Soft red ironstone, with chloride of silver and a little carbonate of copper.	4,182 3 0	.....		
Pye's Creek .....	Crushed galena .....	63 19 10	.....		
Pine Ridge .....	Galena .....	22 10 0	.....		
Pudman Creek .....	Ferruginous galena .....	12 11 10	.....		
Red Rock .....	" quartz, and a little copper pyrites .....	15 6 11	.....		
Reedy Creek .....	Quartz, with galena and a little pyrites .....	22 17 8	.....		
Rockley .....	" .....	11 19 13	.....		
" .....	Crushed ferruginous gossan .....	16 17 13	0 4 0		
" .....	Earthy gossan .....	141 16 12	.....		
" .....	Crushed sample of ferruginous gossan .....	179 13 8	0 6 8		
" .....	" .....	58 16 0	0 5 0		
" .....	Partially crushed porous earthy gossan and quartz .....	227 16 22	1 15 22		
" .....	Galena .....	27 15 16	.....		
" .....	Ferruginous quartz in micaceous schist .....	38 13 2	.....		
" .....	Quartz and talcose slate .....	139 6 10	0 6 12		
Rye Park .....	Ferruginous galena .....	13 1 8	.....		
Silverton .....	Galena and a little clear quartz .....	10 12 8	.....		
" .....	Ferruginous galena and a little carbonate of lead .....	13 1 8	.....		
" .....	Earthy carbonate of lead .....	191 18 8	.....		
" .....	Siliceous porous ironstone, containing pyrites and galena .....	15 10 8	.....	34-32	
Southern District .....	Galena and iron pyrites .....	47 18 5	0 3 0		
Springside .....	Ferruginous quartz, showing free gold .....	39 15 6	0 10 21		
Sewell's Creek .....	Quartz containing grey sulphides and carbonate of copper .....	34 6 0	0 2 4		
Silverton .....	Ferruginous loDESTUFF, with white chloro-bromide of silver .....	72 2 16	.....		
" .....	" with traces of green carbonate of copper .....	71 17 8	.....		
Temora .....	Galena blende and pyritous gossan and quartz .....	225 18 21	0 4 0		
Timor .....	Ferruginous quartz and a little galena .....	63 3 2	.....		
Tuena .....	Quartz and galena .....	10 17 18	.....		
" .....	Quartzitic iron ore .....	98 12 21	0 3 0		
" .....	Ferruginous gossan .....	20 19 5	.....		
Talbragar .....	" carbonate of lead .....	17 19 8	.....	71-2	
" .....	" .....	14 3 2	.....		
" .....	" .....	22 9 3	.....	82-4	
Vanderbilt Mine..	Porous ferruginous quartz, from Vanderbilt mine, Captain's Flat .....	47 7 8	0 4 16		
" .....	" .....	87 18 12	0 3 0		
" .....	" .....	23 8 5	0 4 0		
Windellama .....	Grey and yellow sulphide of copper, and traces of green carbonate of copper .....	11 8 16	.....		

LEAD.

Locality.	Description of Mineral.	Lead, per cent.	Gold, per ton.	Silver, per ton.
Barrier Range	Galena	30.2	oz. dwt. gr.	oz. dwt. gr.
Bredbo	Ferruginous carbonate of lead	47.5	0 16 8	8 3 8
"	Friable	58.52		15 16 8
Broken Hill	Ferruginous " " from 8 miles from Broken Hill	71.5		24 10 0
Cobar	Galena, with a little quartz	32.5		76 6 7
Cookbundoon	Yellowish red gossan with carbonate of lead	31.13	0 3 0	12 5 0
"	" " " "	38.2		21 12 20
"	" " " "	32.88	0 4 0	30 12 11
"	Ferruginous yellowish claystuff and quartz	30.2	0 4 0	18 4 18
Denison Town	Galena and pyrites from Robertson and party's lode	76.5		19 1 2
Gundagai	" pyritous quartz	51.15		4 9 20
Glen Innes	" " with felspathic lode stuff from within 20 miles of Glen Innes.	27.5		10 17 5
Humewood	Galena and quartzite from Humewood, near Yass, at a depth of 33 feet.	57.5		4 18 0
"	Quartzite and carbonate of lead from wall of lode	42.25		3 5 8
"	Carbonate of lead and a little copper pyrites	40.2		4 1 16
Jenolan Caves	Galena	60.2	0 3 0	63 14 0
Molong	Calcite with pyrites and zinc blende	0.32		
Pine Ridge	Brown iron ore and ferruginous quartz, ferruginous carbonate, and sulphide of lead from new discovery at Pine Ridge, Talbragar.	34.5	0 3 0	9 9 16
"	Galena veinstone and ferruginous carbonate and sulphide of lead	61.5		20 13 18
"	Vein casing ferruginous quartz	1.25		1 12 16
"	Galena	71.5		22 1 0
"	Ferruginous gossan with carbonate of lead	20.4		1 12 16
Pudman Creek	" galena	40.2		12 11 10
Silverton	Earthy carbonate of lead	75.42		191 18 8
Tarago	Carbonate of lead	62.5		
Talbragar	Ferruginous carbonate of lead	71.2		17 19 8
"	Galena	82.4		22 9 3
Yass	Slag from lead ore	13.49		
"	Ferruginous gossan with galena	30.2		9 16 0
Yancooinne country.	" " from lease 2,306	45.5		19 12 0

SHALE.

Locality.	Description of Mineral.	Analysis.	Specific Gravity.
Bathgate	Kerosene shale from Bathgate, near Wallerawang	Hygroscopic moisture	0.90
		Volatile hydrocarbons	61.11
		Fixed carbon	6.52
		Ash	31.47
		100.00	1.308
Mudgee	Kerosene shale from 16 miles from Mudgee	Hygroscopic moisture	0.70
		Volatile hydrocarbons	62.98
		Fixed carbon	8.67
		Ash	27.20
		100.00	1.207
Mount Victoria	Kerosene shale, partly weathered, 8 miles from Mount Victoria	Hygroscopic moisture	0.80
		Volatile hydrocarbons	55.27
		Fixed carbon	14.36
		Ash	29.57
		100.00	1.228
Mount Victoria	Kerosene shale	Hygroscopic moisture	0.37
		Volatile hydrocarbons	58.45
		Fixed carbon	5.41
		Ash	35.77
		100.00	1.220
Mount Victoria	Kerosene shale	Hygroscopic moisture	0.65
		Volatile hydrocarbons	78.17
		Fixed carbon	11.52
		Ash	9.66
		100.00	1.072
Mittagong	Inferior kerosene shale	Ash, 46.12 per cent.	
Ruined Castle	Kerosene shale from Ruined Castle, Katoomba	Hygroscopic moisture	0.35
		Volatile hydrocarbons	84.02
		Fixed carbon	10.10
		Ash	5.53
		100.00	1.046

Locality.	Description of Mineral.	Analysis.	Specific Gravity.
Rawdon .....	Inferior kerosene shale .....	Hygroscopic moisture .....	2.65
		Volatile hydrocarbons .....	28.45
		Fixed carbon .....	32.06
		Ash .....	36.84
			100.00
Sofala .....	Kerosene shale from East of Sofala .....	Hygroscopic moisture .....	1.22
		Volatile hydrocarbons .....	50.60
		Fixed carbon .....	8.63
		Ash .....	38.63
		Sulphur .....	0.92
	100.00	1.370	

## ZINC.

Locality.	Description of Mineral.	Zinc, per cent.
Bredho .....	Calamine .....	45.5
Captain's Flat .....	Carbonate of zinc, and traces of green carbonate of copper .....	42.177
Wellington .....	Zinc blende from 5 miles south-east of Mitchell Creek .....	46.58

## TIN.

At Gumble in the Molong division a lode has been found 9 feet wide between slate and granite walls. The ore has assayed as high as 60 per cent. of tin, and 2 or 3 per cent. of copper, and the average would be 7 or 8 per cent. of tin. At Poolamacca and Wankeroo, in the Barrier Ranges, a great number of tin-bearing lodes have been discovered extending over a very large extent of country; these have been tested in various places and some fair prospects have been obtained and ore of considerable value has been raised and some samples have been sent away for testing, but no ore has yet been treated on the ground. The Mount Eurioiwrie Co. are erecting a plant capable of reducing some 400 tons of ore per week.

At Bendemeer three parties have been working for tin ore and have raised  $7\frac{1}{2}$  tons which realized £465. In the Inverell division, though the weather has on the whole been favourable, the output of ore has decreased to, say, about 1,536 tons; this is attributed to the fact that the alluvial deposits are nearly worked out, and although there are numerous reefs on the field very few are being worked, capital being required to develop them. The stream tin deposits in the Tenterfield division are nearly exhausted and the lodes and deep leads have not yet been prospected owing to want of capital. The quantity of tin won in the division during the year is estimated at 270 tons, valued at £16,200. A party is at work on a rich tin lode about 8 miles north-west of Tenterfield, a quantity of the ore has been bagged and sent to Sydney for treatment.

In the Glen Innes division the output of tin ore in 1887 exceeded that of 1886 by more than 700 tons. This increase was due to the rise in the price of tin and the abundant rainfall and was general throughout the division. Much of the land which had been previously prospected and abandoned as too poor to pay was taken up and worked profitably. Although prospecting for a continuation of the deep ground westward of portion S, parish of Hamilton, has failed to discover the lead supposed to trend towards the Gulf, a connected run of rich wash has been traced and worked from the Wesley mine to portion S.

A Prospecting Association has been formed at Emmaville to test the deep deposits below the basalt. If successful, an enormous expansion will be given to this branch of mining. Prospecting is being pushed on very generally over the whole division. Lode mining has been persevered in by a few parties, in spite of much difficulty. During the year the Ottery mine produced 2,171 tons 12 cwt. of tin stone, which, when crushed, returned 76 tons 3 cwt. 1 q. 18 lb. of block tin ore, or at the rate of 3.5 per cent. This Company has constructed a tunnel 340 feet, which at 350 feet is expected to cut the lode 150 feet perpendicular below the surface. At the 90-foot level the lode is in places over 10 feet wide, and there is exposed from that level upwards some twelve months' work. If the present price of tin be maintained, a great impetus will be given to lode mining. The quantity of ore raised, according to the returns furnished to the Warden, is 2,846 tons 4 cwt., valued at £185,003 on the ground. 888 tons 15 cwt. of refined tin was forwarded from the smelting works by rail to Morpeth.

Although the output of tin in 1887 did not largely exceed that of 1886, the value thereof shows an increase of £57,767. This is of course due to the increased price of tin.

TABLE

TABLE showing the quantity and value of Tin exported from, and the produce of, the Colony of New South Wales, since the opening of the Tin-fields in 1872.

Year.	Ingots.			Ore.			Total.		
	Quantity.		Value.	Quantity.		Value.	Quantity.		Value.
	Tons cwt.	£ s. d.	Tons cwt.	£ s. d.	Tons cwt.	£ s. d.			
1872	47 0	6,482 0 0	849 0	41,337 0 0	896 0	47,819 0 0			
1873	911 0	107,795 0 0	3,660 0	226,641 0 0	4,571 0	334,436 0 0			
1874	4,101 0	366,189 0 0	2,118 0	118,133 0 0	6,219 0	484,322 0 0			
1875	6,058 0	475,168 0 0	2,022 0	86,143 0 0	8,080 0	561,311 0 0			
1876	5,449 0	379,318 0 0	1,509 0	60,320 0 0	6,958 0	439,638 0 0			
1877	7,230 0	477,952 0 0	824 0	30,588 0 0	8,054 0	508,540 0 0			
1878	6,085 0	362,072 0 0	1,125 0	33,750 0 0	7,210 0	395,822 0 0			
1879	5,107 2	343,075 0 0	813 15	29,274 0 0	5,920 17	372,349 0 0			
1880	5,476 6	440,615 0 0	682 6	30,722 9 0	6,158 12	471,337 9 0			
1881	7,590 17½	686,511 0 0	609 6	37,492 0 0	8,200 3½	724,003 0 0			
1882	8,059 0	809,571 0 0	611 0	32,890 0 0	8,670 0	833,461 0 0			
1883	8,680 1	802,867 0 0	445 4	21,685 0 0	9,125 5	824,552 0 0			
1884	6,315 16	506,726 0 0	349 13	14,861 0 0	6,665 9	521,587 0 0			
1885	4,657 18	390,458 0 0	534 18	25,168 0 0	5,192 16	415,626 0 0			
1886	4,640 18	449,303 0 0	326 18	18,350 0 0	4,967 16	467,653 0 0			
1887	4,669 8	509,009 0 0	291 13	16,411 0 0	4,961 1	525,420 0 0			
	83,078 6½	7,104,111 0 0	16,771 13	823,765 9 0	161,849 19¼	7,927,876 9 0			

The following assays of Tin Ore were made in the Department of Mines during the year:—

## TIN.

Locality	Description of Mineral.	Metallic tin %
Bendemeer	Black sand containing stream tin ore	23·2
Deepwater	Quartz containing oxide of tin	15·3
Gilgai	Ferruginous quartzite	5·
Gulf Tableland	Lode tin ore from Gulf Tableland, Vegetable Creek	43·6
Glen Creek	Tinstone in quartz	1·4
Gragai	Stream tinstone sand	40·8
Gumble	Copper gossan	0·72
"	Concentrated ore	17·7
"	Tailings from 1 ton	0·5
Inverell District	Lode tin ore	12·62
New McIntyre River	Lode tinstone	48·4
Oban	Black sand	36·4
Silverton	Granite with tinstone and tourmaline, from between 25 and 30 miles from Silverton	8·56
"	"	6·6
Tenterfield	Tinstone (very siliceous) containing magnetite	15·3
Upper Macleay River	Stream tin sand	57·3
Wagga Wagga	Tinstone and iron gravel	43·2

## COPPER.

The Wardens and Mining Registrars report.—In the Bathurst District, the Burruga mine, after having been shut down for eighteen months, was again started in September last,—during the four months 120 tons of refined copper have been sent to market. This mine has been worked to a depth of 210 feet and shows a splendid face of ore. If the present price of copper be maintained several mines in the locality will be worked. At the old copper-mines, Carrangarra, in the parish of Byng, gold and silver have been found at a considerable depth. If the statement furnished to the Mining Registrar, Orange (see his report), be true, this is a most wonderful mine. At the Belara copper-mine 100 tons of ore was raised, valued at £300, but no smelting was done. In the Cobar District the Great Cobar Company raised during the year 19,163 tons of ore, which gave 1,521 tons of fine copper, valued in Sydney at £68,445. The lode in this mine varies from 2 feet to 50 feet in width, the deepest shaft is 564 feet, and the deepest level 420 feet. Three bores have been put down, one of them proving the lode 98 feet below 564 feet. From the surface to a depth of 275 feet the lode consists of grey oxides and blue and green carbonates, below that depth the lode is composed wholly of copper pyrites. Throughout the lode there is a trace of silver and a strong trace of bismuth. About 8 miles north-west of Cobar this Company holds 60 acres in which extensive exploratory work is being done in search of a copper lode, but so far nothing payable has been found, but the indications are encouraging. The Nymagee Co., at Nymagee, raised 9,860 tons of ore, from which 1,045 tons of fine copper has been smelted, valued at £48,107. The deepest shaft is 628 feet, the deepest level is 618 feet, width of lode 10 to 25 feet. Frost & Co., at Hermitage Plains, have a shaft 40 feet deep on a lode 6 feet wide from which 50 tons has been raised. At Mount Hope some prospectors have found a little gold in an ironstone lode, but it is not known that it is payable. The place is likely to get a fair trial. A copper lode has been discovered at Budawang Mountain, in the Moruya division, specimens from which appear to be rich. The

The output of copper in 1887 shows a moderate increase upon that of 1886, and the increase in value, namely, £31,437, is very satisfactory; nevertheless there is reason to believe that the operations of the current year will show a very much larger increase.

TABLE showing the quantity and value of Copper, the produce of the Colony, exported from the Colony of New South Wales, from 1858 to 1887.

Year.	Ingots.		Ore and Regulus.		Total.	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
	Tons cwt.	£	Tons cwt.	£	Tons cwt.	£
1858			58 0	1,400	58 0	1,400
1859	30 0	578			30 0	578
1860			43 0	1,535	43 0	1,535
1861			144 0	3,390	144 0	3,390
1862			213 0	5,742	213 0	5,742
1863	23 0	1,680	114 0	420	137 0	2,100
1864	54 0	5,230			54 0	5,230
1865	247 0	15,820	22 0	545	269 0	16,365
1866	255 0	18,905	23 0	1,885	278 0	20,790
1867	393 0	30,189	0 2	5	393 0	30,194
1868	644 0	23,297	172 0	4,000	816 0	27,297
1869	1,980 0	74,605	104 0	2,070	2,084 0	76,675
1870	994 0	65,671	6 0	60	1,000 0	65,731
1871	1,350 0	87,579	94 0	1,297	1,444 0	88,876
1872	1,035 0	92,736	417 0	13,152	1,452 0	105,888
1873	2,795 0	237,412	51 0	1,690	2,846 0	239,102
1874	3,638 0	311,519	522 0	13,621	4,160 0	325,140
1875	3,520 0	297,334	157 0	4,356	3,677 0	301,690
1876	3,106 0	243,142	169 0	6,836	3,275 0	249,978
1877	4,153 0	307,181	360 0	17,045	4,513 0	324,226
1878	4,983 0	337,409	236 0	7,749	5,219 0	345,158
1879	4,106 15	256,437	36 7	915	4,143 2	257,352
1880	5,262 10	359,260	131 18½	4,799	5,394 8½	364,059
1881	5,361 0	350,087	132 16	4,975	5,493 16	355,062
1882	4,865 3	321,887	93 1	2,840	4,958 4	324,727
1883	8,872 17	574,497	84 10	2,704	8,957 7	577,201
1884	7,286 6	415,691	18 18	578	7,305 4	416,179
1885	5,745 5	264,905	0 15	15	5,746 0	264,920
1886	3,968 18	166,429	57 18	1,236	4,026 8	167,665
1887	4,463 19	195,752	290 8	3,350	4,763 7	199,102
	79,132 13	5,053,142	3,760 13½	108,210	82,892 16½	5,163,352

The following assays of Copper Ore were made in the Department of Mines during the year:—

Locality.	Description of Mineral.	Copper.	Gold.	Silver.
		Per cent.	Per ton.	Per ton.
Blayney	Magnetic oxide of iron, with traces of carbonate of copper	17.3	oz. dwt. gr.	oz. dwt. gr.
Cobar District	Chlorite rock, with metallic copper	5.32		1 1 16
"	Metallic copper borings	99.65	2 12 4	1 5 0
"	Copper gossan, 30 miles east of Cobar	23.3		0 10 21
Deepwater	Ferruginous copper gossan	12.9		165 15 0
Forbes	Copper gossan	9.85	0 3 0	34 6 0
"	"	18.05	0 4 0	1 12 16
Goodrich	Crushed sample of quartz and copper pyrites	4.65	0 13 0	
Goulburn District	Yellow sulphide of copper	31.25		3 10 18
Gordon	Sulphide of iron and copper	29.65	0 3 6	0 13 0
"	Quartz, with green and black sulphides of copper	3.82	0 8 3	
"	Tailings	5.87	0 19 12	0 16 8
"	Copper pyrites	3.05		
Gumble	Ironstone, with red oxide and green carbonate of copper	21.85	0 16 6	2 14 10
"	Magnetic pyrites and copper sulphides and carbonates	1.95	0 5 10	0 15 5
"	Earthy malachite	37.2	0 4 0	
Gumble Tin and Copper Mine.	Stanniferous and cupriforous lodestuff, from Gumble Tin and Copper Mine, Molong.	3.80		
"	Crushed sample of earthy carbonate of copper	8.2	0 4 0	11 8 16
"	Copper gossan	4.20		
"	Siliceous serpentinous rock	1.72		5 14 8
"	Concentrated ore	6.35		
Goodrich	Specular iron, copper pyrites, and a little green carbonate of copper	12.5		1 1 16
Hill End	Green sulphide of copper and traces of black and green carbonate of do.	52.10		
Holt-Sutherland Estate.	Purple-grey shale containing metallic copper, from Holt-Sutherland Estate, 15 miles from Sydney.	0.21	0 9 19	
Molong	Siliceous copper gossan	0.35		
"	Altered slate, with carbonate of copper, 7 miles from Molong	13.32		2 14 10
Muttama	Yellow sulphide of copper	21.4		
Nymagee	Metallic copper borings	99.4		6 3 0
Orange District.	Copper Gossan	35.95	0 5 0	0 16 0
Parish of Pulganbar.	Ferruginous quartz, with copper and iron pyrites	25.21		8 3 8
Peelwood	Grey and yellow sulphide of copper, with blue and green carbonate of copper.	29.1	6 10 16	0 5 0
Windellama	"	30.1		11 8 16

## 45

## IRON.

During the year the Esk Bank Iron Co. (the only Company engaged in making iron) made 2,746 tons 12 cwt. of bar and rail iron valued at £13,459 11s. 8d., and 50 tons 16 cwt. 1 qr. 22 lb. valued at £1,083 3s. 5d. The number of men and boys employed during the year was 160.

The following analyses of Iron and Maganese Ores were made in the Department of Mines during the year :—

## IRON.

Locality.	Description of Mineral.	Analysis.	
Clarence Town .....	Iron ore from 3½ miles from Clarence Town.	Moisture .....	% 4.15
		Ferric oxide .....	64.64
		Ferrous oxide .....	3.74
		Manganese oxide .....	trace
		Alumina .....	13.72
		Silica .....	6.59
		Lime .....	0.37
		Magnesia .....	0.32
		Titanic acid .....	6.50
		Phosphoric acid .....	trace
		100.03	
Mittagong .....	Yellow earthy iron oxide .....	Peroxide of iron .....	19.2
" .....	Do do .....	Do .....	38.4
" .....	Ferruginous soil .....	Ferric oxide .....	63.06
Wingello .....	Earthy oxide of iron .....	Do .....	15.2

## MANGANESE.

Locality.	Description of Mineral.	Manganese %	Colch %
Bogan District .....	Manganese dioxide .....	87.2	
Molong .....	Manganese ore .....	67.33	

## BISMUTH.

On private land near Gumble, in the Molong division, a deposit of bismuth has been discovered, and is being tested. The ore is said to assay 3 to 18 per cent. of bismuth and 4 oz. silver per ton. A shaft has been sunk on the lode, which is 2 feet wide.

In the Glen Innes division, the only mine constantly at work is the Kingsgate, where 40 men and 20 boys are employed. The ore is not found in fissure lodes, but in pipes which have been followed down in the granite rock to a depth—in some instances—of 100 feet. The ore is roughly broken, hand-picked, and washed before being bagged for shipment to England—and then averages about 50 per cent. According to the Railway Returns, 35 tons 9 cwt. 1 qr. 25 lb. was forwarded during the year. Very little work has been done on the adjoining mine, but it is apparently as rich in bismuth, and is said to contain valuable ores of silver.

The following assays of Bismuth Ores were made in the Department of Mines during the year :—

Locality.	Description of Mineral.	Bismuth, per cent.
Delaney's, Molong .....	Ferruginous felspathic quartzite .....	6.78
Molong .....	" veinstone with carbonate of bismuth .....	18.9
" .....	Lodestuff with sulphide and carbonate of copper, from 7 miles from Molong .....	2.52
" .....	Felspathic lodestuff with a little carbonate of bismuth, from between Molong and Parkes .....	0.23
" .....	" " " " " .....	6.90
" .....	" " " " " .....	40.9
" .....	Bismuth ore .....	0.35
" .....	" " " " " .....	0.98
Tingha .....	Lodestuff (quartzite with metallic bismuth) .....	0.35
" .....	Stuff concentrated from 15 lb. rubble containing native bismuth and oxide of bismuth .....	76.62

## COBALT.

## COBALT.

The Cobalt mines at Port Macquarie are still being worked—some tons of ore at grass waiting completion of the works. The following analyses of cobalt and nickel were made in the Department of Mines during the year :—

## COBALT AND NICKEL.

Locality.	Description of Mineral.	Cobalt, per cent.	Nickel, per cent.
Bungonia .....	Oxide of manganese .....	2.44	0.35
" .....	Siliceous manganese .....	2.62	
" .....	Manganese and fine grained sandstone .....	2.63	
" .....	" .....	2.39	0.15
Buro .....	Concretionary cobaltiferous manganese oxide .....	5.70	1.37
Marulau .....	Concretionary manganese oxide with quartz .....	2.01	1.42

## ANTIMONY.

The Eleanora Company, Hill Grove, raised 110 tons of antimony. The following—the assays of antimony, chromium, &c., &c.—were made during the year in the Department of Mines :—

## ANTIMONY.

Locality.	Description of Mineral.	Antimony, per cent.
Boorook .....	Stibnite .....	54.5
Mudge District .....	Sulphides of antimony and lead .....	50.36

## CHROMIUM.

Locality.	Description of Mineral.	Sesquioxide of Chromium, per cent.
Armidale .....	Chromite, from 10 miles from Armidale .....	43.0

## LIMESTONE.

Locality.	Description of Mineral.	Analysis.
Carlos Gap.....	Limestone .....	Per cent. Carbonate of lime .....
		96.26
		Oxide of iron and traces of alumina.....
		.60
		Carbonate of magnesia .....
		1.63
Silica .....		
1.45		
Phosphoric anhydride.....		
trace.		
Moisture .....		
.24		
	100.28	
Port Macquarie.....	Limestone .....	Moisture .....
		0.47
		Silica .....
		2.57
		Alumina and traces of oxide of iron .....
		0.72
		Carbonate of lime .....
94.3		
Carbonate of magnesia .....		
1.22		
Alkalies (loss) .....		
.08		
Lime .....		
62		
	100.00	
Wollongong .....	Siliceous limestone.....	Carbonate of lime .....
		54.71
		Magnesia .....
		1.75
		Oxide of iron.....
		5.10
		Manganese.....
		.61
Alumina.....		
7.92		
Silica .....		
27.51		
Phosphoric anhydride .....		
.28		
Moisture and organic matter.....		
2.12		
	100.00	

This stone contains all the ingredients for the manufacture of Portland cement. If properly mixed in the right proportions, with nearly its own weight of lime, dried and calcined at a carefully regulated temperature, I do not see why a cement cannot be manufactured from the stone.

J. C. H. MINGAY, F.C.S.,  
Assayer.  
MISCELLANEOUS

## MISCELLANEOUS ANALYSES.

Four samples of clay shale from near Sydney; examined as to fire-brick purposes, &c.

These samples were tested by the method used in the Metallurgical Laboratory, Royal School of Mines, London, they being kneaded with water and fashioned into small prismatic pieces with sharp edges, thoroughly dried, and heated in a covered crucible for some hours in a powerful wind furnace fed with coke.

Nos. 1 and 2. —These samples were submitted to the above test in a wind furnace for some hours, and were found neither to have fused or altered in appearance, the edges remaining sharp. They are a fine description of clay, being free from grit, and I think would be useful for the manufacture of pottery fire-tiles, &c.

No. 3. —This sample contains a small quantity of organic matter (leaves, &c.) On kneading some and making it up into a "pat" and calcining, it was found to be spotted over with small holes due to the gases given off from the organic matter in the sample. The sides were sharp, and in other respects this is a good fireclay, and useful for many purposes.

No. 4. —This is a coarser description of clay, and has more sand in its composition. It is a good fireclay and stood the test well; will make excellent firebricks.

J. C. H. MINGAYE, F.C.S.,  
Assayer and Analyst.

White earth from the Warrumbungle Range; examined for diatomacea.

Examined microscopically and found to contain diatoms, one long form being particularly noticeable.

R. ETHERIDGE,  
Paleontologist.

Carbonaceous clay from Wollondilly. Ash, 61.83%.

Water from diamond drill bore at Ballimore, near Dubbo. For analysis.

Carbonate of lime	...	...	...	...	...	...	...	...	14.00
Chloride of magnesium	..	...	...	...	...	...	...	...	12.05
Oxide of iron	...	...	...	...	...	...	...	...	1.02
Alumina	...	...	...	...	...	...	...	...	trace.
Silica	..	...	...	...	...	...	...	...	0.21
Alkaline carbonates	...	...	...	...	...	...	...	...	199.38
									226.66

Epidote rock from Delaney's Dyke, Molong; for examination.

Insoluble in acids 61.25%; consisting of silica, alumina, lime, magnesia, and traces of iron and manganese.

Soluble in acids 38.75. Consisting of alumina, iron, lime, magnesia, silica, and traces of copper and manganese.

Metallic iron from near Bingera, for examination as to its meteoric character:—

The specimen has been submitted to a careful qualitative analysis, and found to contain strong traces of copper, cobalt, and nickel. As traces of these metals usually accompany meteoric iron, I am of opinion that this sample is meteoric iron.

J. C. H. MINGAYE, F.C.S.,  
Assayer and Analyst.

Water from bore at Ballimore, Talbragar River, near Dubbo, for analysis:—

The water yielded on evaporation, 224.62 grains per gallon of fixed residue, consisting of—

Bicarbonate of sodium	.....	183.10
Potassium	.....	12.83
Lithium	.....	0.05
Calcium	.....	11.38
Magnesium	.....	9.36
Strontium	.....	trace.
Iron	.....	0.70
Chloride of sodium	.....	6.92
Alumina	.....	trace.
Silica	.....	0.28

224.62

Trace of phosphates:—

Free ammonia	.....	0.052 parts per 100,000 parts
Albuminoid ammonia	.....	0.003 " "
Specific gravity of water, at 65 F.		= 1.00359.

NOTE.—The water was free and clear from odour, highly charged with carbonic acid, and containing a small amount of sediment, which on analysis was found to consist of silica with a small quantity of organic matter and iron. On evaporating a large quantity of the water to dryness, traces of bismuth, lead, and copper were found. These traces, I have every reason to believe, owe their presence in the water to the action of the water on the metallic drums in which the water was sent for analysis. The free ammonia is excessive; this is probably due to the shale measures through which the water has to percolate; but taking the albuminoid, ammonia, and other constituents into consideration, it will not condemn the water. The quantity furnished was small, and necessitated small quantities being used for the different determinations. At least 20 to 30 gallons of the water should have been received. The carbonic acid was not determined; if this is required it will be necessary to furnish a sample in two or three soda-water bottles securely corked. On the whole this is a good mineral water, and will compare favourably with many of the English and Continental waters, being rich in bicarbonates of sodium and potassium, and containing lithia.

J. C. H. MINGAYE, F.C.S.,  
Assayer and Analyst.

Ash obtained in Analysing sample of coal from diamond drill bore, Mittagong:—

Silica	.....	67.10	} Insoluble in acids, 88.42.
Alumina	.....	21.32	
Alumina	.....	6.37	} Soluble in acids, 11.58.
Peroxide of iron	.....	4.01	
Protoxide of manganese	.....	trace.	
Lime	.....	0.81	
Magnesia	.....	trace.	
Phosphoric anhydride	.....	0.22	
Sulphuric	.....	trace.	
Alkalies (loss)	.....	0.17	
		100.00	

## DIAMONDS.

Though several mines have been opened in the Tingha division, and have been more or less regularly worked, I have been unable to obtain any record of the results. It is known that a large number of diamonds have been won in the Tingha division and elsewhere, but no details have been furnished. Attached to this report is an account of the examination of the diamond-bearing deposits in the Inverell and Cope's Creek (Tingha) divisions by the Geological Surveyor in charge, assisted by Mr. Geological Surveyor Anderson.

In

In conclusion, it affords me very great pleasure to submit the following summary of the mineral products up to the end of 1887, the value of which has reached nearly seventy-three millions sterling.

## SUMMARY.

	Quantity.	Value.		Total Value.	
		£	s. d.	£	s. d.
Quantity and value of gold prior to 1st January, 1887 .....	9,774,806.19 oz.	36,469,138	12 10		
Quantity and value of gold raised in 1887 ..	110,288.06 ,,	394,578	16 3		
Totals .....	9,885,094.25 oz.	36,863,717	9 1	36,863,108	19 5
Quantity and value of silver raised prior to 1st January, 1887 .....	2,745,720.87 oz.	580,428	0 0		
Quantity and value of silver raised in 1887 ..	177,307.75 ,,	32,458	0 0		
Totals .....	2,923,028.62 oz.	612,886	0 0	612,886	0 0
Quantity and value of coal raised prior to 1st January, 1887 .....	36,970,364.97 tons.	18,352,668	16 10		
Quantity and value of coal raised in 1887 ..	2,922,497.00 ,,	1,346,440	2 7		
Totals .....	39,892,861.97 tons.	19,699,108	19 5	19,699,108	19 5
Quantity and value of shale raised prior to 1st January, 1887 .....	441,242 tons.	995,413	5 0		
Quantity and value of shale raised in 1887 ..	40,010 ,,	87,761	0 0		
Totals .....	481,252 tons.	1,083,174	5 0	1,083,174	5 0
Quantity and value of copper exported prior to 1st January, 1887 .....	Ingots ..... 74,667 19 } Ore and Regulus... 3,469 16½ }	4,964,250	0 0		
Quantity and value of copper exported in 1887 .....	Ingots ..... 4,463 19 } Ore and Regulus... 299 8 }	199,102	0 0		
Totals .....		5,163,352	0 0	5,163,352	0 0
Quantity and value of tin exported prior to 1st January, 1887 .....	Ingots ..... 80,408 18 } Ore and Regulus... 16,490 0 }	7,402,456	0 0		
Quantity and value of tin exported in 1887 .....	Ingots ..... 4,669 8 } Ore ..... 291 13 }	525,420	0 0		
Totals .....		7,927,876	0 0	7,927,876	0 0
Quantity and value of iron made prior to 1st January, 1887 .....	33,431 tons 6 cwt. 2 qrs. 2 lb.	250,921	19 5		
Quantity and value of iron made during 1887 ..	2,797 ,, 8 ,, 2 ,, 4 ,,	14,542	15 1		
Totals .....	36,228 tons 15 cwt. 0 qrs. 6 lb.	265,464	14 6	265,464	14 6
Quantity and value of antimony exported prior to 1st January, 1887 .....	Metal..... 426 15½ } Ore and Regulus... 3,120 15 }	65,508	0 0		
Quantity and value of antimony exported in 1887 .....	Metal..... 46 18 } Ore..... 101 9 }	1,641	0 0		
Totals .....		67,239	0 0	67,239	0 0
Quantity and value of asbestos exported prior to 1st January, 1887 .....	25 tons 18 cwt.	488	0 0		
Quantity and value of asbestos exported in 1887 .....					
Totals .....	25 tons 18 cwt.	488	0 0	488	0 0
Quantity and value of bismuth exported prior to 1st January, 1887 .....	68 tons 7 cwt.	13,880	14 0		
Quantity and value of bismuth exported in 1887 .....	36 ,, 11 ,,	6,695	0 0		
Totals .....	104 tons 18 cwt.	20,575	14 0	20,575	14 0
Quantity and value of silver-lead exported prior to 1st January, 1887 .....	Metal..... 3,239 9 0 0 } Ore..... 13,356 4 1 7 }	651,511	0 0		
Quantity and value of silver-lead exported in 1887 .....	Metal..... 9,991 13 1 0 } Ore..... 2,538 10 1 0 }	541,952	0 0		
Totals .....		1,193,463	0 0	1,193,463	0 0
Value of sundry minerals exported prior to 1st January, 1887 .....		25,433	0 0		
Value of sundry minerals exported in 1887 ..		15,624	0 0		
Totals .....		41,057	0 0	41,057	0 0
				72,938,402	2 0

Department of Mines,  
Sydney, 10th April, 1887.

HARRIE WOOD,  
Under Secretary for Mines.

## WARDENS' AND MINING REGISTRARS' REPORTS.

BATHURST DISTRICT—TRUNKY, TUENA, ROCKLEY, MOUNT M'DONALD, BATHURST, OBERON, AND MITCHELL DIVISIONS.

(*Mr. Warden Smith, P.M., Trunkey.*)

I HAVE the honor to forward my report for the past year. From the detailed account, as given below, you will see that mining matters have progressed satisfactorily in the districts, excepting at Mitchell and Rockley. The falling off in the yield of gold at Mount M'Donald was caused by the bad state of the roads, carting to the battery being almost impossible for several months.

*Tuena.*—The district of Tuena has been brought prominently before the public during the year by the rich discoveries of silver ore at Mount Costigan, near Tuena. A Company was formed, smelters erected, and four shafts sunk on the property. Silver valued at about £4,875 (30,000 oz.), was obtained, also 103 tons of lead.

Another property was also put into a Company, and called the "Cordillera." Smelters are being erected. Shafts sunk upon the lode. A tunnel driven into the hill has cut the lode, which assays well.

Four miles further south brings me to the Old Peelwood Copper Mine, a freehold of 500 acres. This mine was abandoned some years ago, but the present proprietary look upon it as exceedingly valuable for silver, lead, and copper. About 8 miles west of this last property is a freehold of 640 acres, known as "Junction Point." This, together with some gold leases close by, have been put into a Company, and are being again worked for gold.

Nearer Tuena, a place near the creek, known as Maiden's Flat, is being worked for alluvial, but the ground is very wet. I don't think anything payable is to be got out of this venture.

About Scrubby Rush prospecting has been going on all the year, the battery since the holidays has been going day and night. I have not heard whether the prospects look well or not. Gold to the value of £3,750 has been got by fossickers, and sold locally. About 450 men are working on the field just now, but I believe 1,500 will be at work before the end of this quarter. 1,785 acres of land have been applied for mining purposes.

*Trunkey.*—During the year heavy rains fell here; this gave the sluicers a chance for short periods during the winter. Gold to the value of £7,600 (alluvial) was sold locally during the year, as against £2,462 worth sold in 1886. The Bathurst Company and Pine Ridge Company have kept on during the whole year, but I am afraid the results have not been satisfactory. 286 acres of land have been taken up for gold-mining, 50 acres being on Mount Gray. From this lease several loads of stone have been taken to Sydney *en route* to London, where the property, I believe, is owned.

*Burrage.*—This mine, after having been shut down for eighteen months, was again started in September last by Mr. Lloyd. During these four months 120 tons of refined copper have been sent to market. I hear the value of copper in Sydney is £60 a ton; the above would therefore be worth £7,500. If copper keeps at this figure, several other mines in the locality will be worked.

*Oberon.*—I think this portion of the district will shortly be looked upon by gold-miners with more favour than formerly. Only three quartz properties are being worked, yet the results of little crushings are encouraging. Thirty-three men are working on or in connection with these properties, and have won during 1887 gold to the value of £2,400.

*Mount M'Donald.*—Gold to the value of about £11,000 has been obtained during 1887 from quartz-mining. There has been scarcely any alluvial gold sold locally. One hundred and thirty-eight acres of land have been taken up for leasing. The mining population is about 133 men; but from the appearance of the village and the stores, one must conclude that trade is done to a large extent with the outside public, and not with the miners only.

*Rockley.*—This portion of the district is very dull, persons owning leases seem so anxious to get suspension of the labour condition upon their leases. I would like to hear of the sale of all mineral leases at Back Creek. I feel confident they, or several of them, are rich in minerals, probably silver. About £500 worth of alluvial gold has been sold locally, and 160 acres of land applied for as leases.

*Lithgow.*—In this district 89½ acres of land have been applied for as gold leases, and 3,430 for other minerals, including shale and coal.

*Mitchell.*—This field has been going to the bad all the year. Silver to the value of £9,042 was obtained (55,642 oz.) by the Sunny Corner Company, but no other mines are working. A great many men having been thrown out of work by the stopping of the mines, went prospecting (fossicking), and in the Lagoon Gully got some very nice gold; there were also two or three small crushings of quartz; the total yield of gold is valued at £4,830. Eighty-three acres of ground were applied for to lease, and the mining population has been reduced to about 500 men.

The total number of miners employed in the district is 1,452.

The total area of land taken up as leases is 6,002 acres.

The value of the gold won during 1887 was of a value of about £30,080. The value of silver from Tuena (30,000 oz.) and Mitchell (55,640 oz.) was about £13,917. The value of the 103 tons of lead obtained at Tuena was about £1,133. The value of the 120 tons of copper obtained at Burrage was £7,500.

*Recapitulation.*

Men employed .....	1,452
	£
Value of gold won .....	30,080
„ silver .....	13,917
„ lead .....	1,133
„ copper .....	7,500
	£52,630

## BATHURST DISTRICT—ORANGE DIVISION.

(Mr. Warden Lane, M.P., Orange.)

For some months past there has been renewed activity in the direction of mining pursuits in my division of the Bathurst District.

*Ophir*.—The Bluff Amalgamated Company has been reformed during the past year, since which time some encouraging results have attended the operations. Other claims are still being worked, evidencing the fact that all confidence is not lost in the old "Parent Gold-field."

*Forest Reefs*.—Nothing very satisfactory has resulted from the great expenditure of labour in this locality during the past year, but the indications continue promising. I have been informed that scientific opinion is strongly in favour of these diggings.

*Four-mile*.—Some few persons continue plodding along here, thus evincing a confidence I hope may be realized.

*Calinla*.—Little or nothing worth reporting is being done in this neighbourhood. A few persons continue to persevere, hoping to meet with something as a reward eventually.

*Lucknow*.—This favoured mine continues to maintain the reputation it has borne for a series of years. Mr. Newman, the indefatigable manager, has lost none of his zeal and energy in developing its richness. A deal of stuff has been brought to "grass" during the year, some of which was very rich. I should not be surprised at something wonderful being discovered any day.

*Carangara Byng*.—At these old copper mines gold and silver have been found at a considerable depth. The rock resembles some of the stone at Lucknow, though it is more like quartz than carbonate of lime. The proprietor and tribute men are very sanguine as to the future of this mine.

*Lewis Ponds and Bulga*.—There are lodes of silver ore at these places which promise to equal some of our richest silver mines. Several mineral leases have been granted. I have heard it said by a competent judge, "these mines promise to become a second Broken Hill." The operations are in a very infantile state at present, so that I do not feel justified in saying more than the above. It is undesirable to excite an inordinate feeling in any direction. In 1872 and 1873 the gold mania raged to an ungovernable degree, which was followed by the opposite extreme to its fullest tension. A healthy excitement is productive of good; and *vice versa*.

Mr. Murphy, Mining Registrar, is collecting some details from the outlying places, and will presently, I hope, be in a position to supply interesting facts bearing upon the different mining operations I have above referred to in a general way.

*Copper*.—This pursuit is, I might say, a thing of the past in this district.

Mr. Murphy will send his report on receipt of the particulars he is daily expecting from the different places above indicated.

## BATHURST DISTRICT—CARCOAR DIVISION.

(Mr. Warden Connolly, P.M., Carcoar.)

I HAVE the honor to forward my annual report of the Carcoar Division of the Bathurst Mining District.

The yield of gold for the past year (8,238 oz. gross) shows a decrease upon the returns of the previous year, caused chiefly by the temporary suspension of work at the Brown's Creek mine, at the Junction, now known as the "Revival," and at Galley Swamp—on the two latter, under permit from the Warden; for the erection of more efficient machinery for gold-saving purposes, at the Junction; and at Galley Swamp, for the addition of pumping machinery to Messrs. Lane & Co.'s plant. Nearly the whole of the claims on this field having been worked down to the water-level, it has become absolutely necessary to get rid of the water by means of the most modern appliances for pumping.

Two of the largest claims at Galley Swamp have recently been purchased by influential syndicates, and work is being pushed on vigorously by the new holders, with prospects of most satisfactory results; whilst the oldest and largest claim on the field, owned by Messrs. Lane & Co., when their pumping plant is completed, will no doubt maintain its position as the premier claim on this gold-field.

At the Revival mine, the old Junction, the erection of superior gold-saving machinery of the most approved kind is going on rapidly, and it is expected that within a month this valuable and extensive claim will be in full work.

The Gold Hill mine, Burnt Yards, on Church and School lands, in close proximity to the old Prince of Wales, has been crushing for some time, and will shortly finish; the yield is expected to be exceptionally good. A large number of leases have been sold in this locality, on the same estate, and more are constantly being applied for, speculators evidently having a high opinion of the auriferous deposits known to exist on these lands.

At Milburn Creek and Scrubby Rush, which adjoin, trial crushings from various shafts have yielded remarkably well; but the absence of machinery for crushing purposes must, until the want is supplied, retard the progress of the miners, the nearest battery, at Mount M'Donald, being 7 miles distant.

At Managan's Gully, a part of the King's Plains gold-field, sluicing is being carried on with success, with occasional finds of very rich patches of nuggetty gold of unusual size, slightly interspersed with quartz.

I have not heard anything in reference to copper-mining during the past year in this division; but the late rise in the price of that mineral, if permanent, will no doubt cause attention to be directed to the lodes known to exist in various places.

I think there can be very little doubt that with the large amount of capital and energy now being devoted to mining enterprise in this division, a greatly increased yield of gold may be confidently looked forward to during the current year.

## BATHURST DISTRICT—MITCHELL DIVISION.

(Thos. Wright, Mining Registrar.)

During the past year mining in this portion of the Bathurst Mining District has been quiet. Although quiet, it has been firm; but owing to the large lots of land that are held by syndicates and others without employing any labour whatever, the inhabitants of the field have been forced to fossick about for a little gold wherever they could get a chance. If one-tenth of the lessees would comply with the labour conditions on their leases, there would be ample employment on the field for all hands. Sunny Corner mine is the mainstay

mainstay of the place, and that Company employ 220 men. The Pacific furnaces were kept running up to the end of the year, during which they smelted 16,472 tons of ore, which yielded 318,016 oz of silver, valued at £55,652 16s., with about 1,000 tons of ore at grass valued at £3,500. During the year this Company have erected five reverberatory furnaces for treating the Black Mineral, which is less expensive than the Pacific furnaces; and the results of treating through the reverberatory furnaces are very satisfactory indeed. The Silver King property has changed hands during the past year, and the present owners have removed the Pacific furnaces and erected a milling plant, which has turned out a complete failure; no work further than erecting the plant has been done during the year. At the Nevada mine there are a few men driving tunnels; no smelting or other work has been done during the year. The Great Mitchell Amalgamated Silver-mining Company have disposed of their smelting plant and other building to Sunny Corner Company, who have removed it on to their own property. There are four reefs in this division now at work, which are yielding from 3 dwt. up to 2½ oz. per ton.

The Old Homeward Bound reef has been taken up again for gold; this is situated at Dark Corner. Prospecting is being carried on, and the lessees are quite confident of finding something good before long.

During the year there were 7 applications for gold-mining leases and 1 application for a mineral lease; there were 319 miners' rights, 74 business licenses, and 2 mineral licenses issued. There were 1,127 oz. of alluvial gold bought by the local Banks and storekeepers, which was got on Bob's Creek, about 1 mile from Sunny Corner. The population has decreased to about 1,700 people.

#### BATHURST DISTRICT—BATHURST DIVISION.

(*W. G. B. Smith, Warden's Clerk.*)

I HAVE the honor to forward herewith my report for 1887. Mining in my district has, I have reason to believe, taken a decided turn for the better lately, and there is every prospect of more gold being won during this year than last. Turner and party, at Clear Creek, have just completed the erection of a battery. This battery originally cost above £2,000; it was bought for about £180 by above party; the cost of erection was about £850; it will therefore be seen that Messrs. Turner & Co. intend giving their leases a good trial. The first crushing and washing up took place on the 7th inst.: a small quantity was crushed, viz., 17 tons, which yielded nearly ½ an oz. to the ton; it is expected that the next crushing will show a considerable improvement. Thompson and party, at Cheshnis Creek, are down a good depth; some of the stone taken out looks well; they expect to be ready for crushing in four weeks, but will be caused considerable inconvenience and expense in having to cart the quartz about 5 miles to the nearest battery.

1887.

Gold leases applied for .....	16
Mineral leases .....	8
Mining tenements .....	1
Miners' rights issued .....	115
Mineral licenses .....	3
Business .....	3

#### BATHURST DISTRICT—ORANGE DIVISION.

(*Stephen Murphy, Mining Registrar.*)

I HAVE the honor to submit my report for the year 1887.

The mining collections for that period have been as follows.—

	£	s.	d.
225 miners' rights .....	88	0	0
49 mineral licenses .....	49	0	0
1 business license .....	1	0	0
Gold leases .....	90	10	0
Mineral leases .....	177	10	0
Deed fees .....	26	0	0
Stamp duty .....	11	15	0
Revenue proper .....	413	15	0
Survey fees, &c. ....	145	0	0
Total .....	588	15	0

In all, 13 gold-mining leases have been taken up during the year, representing an area of 105 acres, also 32 mineral leases, representing an area of 750 acres, making a total of 855 acres. The mineral leases are chiefly situate at the Bulga Mountains, about 6 miles from Orange, and at Lewis Ponds, some 16 miles distant. I have been informed that mining experts have expressed very high opinions as to the indications of heavy lodes of silver at both these localities. At the Bulga, one of the claims, known as the "Hidden Treasure," has been in the receipt of assistance from the Prospecting Vote, and fair progress is being made in the sinking of the shaft. Other parties are at work, and within a comparatively short time the locality will be well tested. Some have expressed the opinion that the Bulga is to rival the Broken Hill with respect to its silver wealth, and I trust that such may be the case.

#### *Lewis Ponds.*

The Lewis Ponds Gold and Silver Mining Company has gone to a depth of 117 feet, exposing a gossan lode of from 5 to 20 feet in width. During the year about 293 tons of ore have been raised, which, according to the numerous assays made, is estimated to yield 366 oz. gold and 13,185 oz. silver, in all, of the value of £3,882 5s. The ore is being sent to Germany for treatment, but the returns from the first shipment have not yet come to hand. Judging by the great number of highly satisfactory assays, made at different establishments, and taking into account the very favourable reports of experts, this mine should prove a most valuable property.

*At Lucknow.*

Mr. H. W. Newman reports that gold to the value of over £16,400 has been won during 1887, £15,326 of that sum representing the return of the New Reform G. M. Co., limited. Mr. Newman expresses regret that the Government does not take up the matter of treating refractory ores, which, he is persuaded, would very materially assist mining enterprise throughout the Colony. At present the bulk of the ore, after passing through the local machinery, is bagged and shipped to Germany for treatment. The other two Companies in Lucknow—the New Reform Pups and the Jackass Flat G. M. Co.—are described as only prospecting, though the former has gone 300 feet and the latter 150 feet deep, the indications in both cases being considered satisfactory.

*Forest Reefs.*

At this diggings the Great Extended Gold-mining Co., Limited was compelled to cease operations in September last, owing to the great influx of water. When this occurred the workings had reached a distance of 2,600 feet from the main shaft, and the washdirt was 25 feet lower than the shaft, and still descending. The water had been lifted from the drive to the shaft by means of hand pumps, but, at last, the inflow became too strong to be kept under by this process. This is much to be regretted, as the deeper ground showed better gold, besides which the mine employed some fifty persons on the spot, and expended large sums in the purchase of mine timber and fuel.

Great interest is being manifested in the two new shafts being put down with a view of finding the deep lead which is believed to exist at Forest Reefs. The first of these, the Band of Hope Co., is down some 230 feet, and after sinking 20 feet lower it is proposed to drive towards the deeper ground or gutter. Up to the present this Company has been able to cope with the water by means of a whim and horses.

The second new shaft is that of the Grand Junction Gold-mining Co. (No Liability), and has been sunk to a depth of some 85 feet. The sinking has been through trap rock from the surface, and has, in consequence, been both slow and expensive. The Minister for Mines, upon the recommendation of the Prospecting Board, has recently granted this Company £4 per foot for 160 feet, which will be a material assistance. As the shareholders expect to sink 260 feet (if they are in the deep ground, as they hoped), they have need of both capital and perseverance. I have recently learned that the inflow of water has so increased as to render it necessary to arrange for pumping machinery. The great increase in the volume of the water is looked upon as an indication of deep ground. It is hoped that these new efforts will prove the correctness of the prophecy attributed to a well-known geologist, viz., "That the Forest Reefs is to be the Bendigo of New South Wales."

*Ophir.*

At this old field a number of miners are still employed, and appear to make a decent living. The Bluff Gold-mining Co., employing ten men, are carrying on operations, and have recently been raising quartz which has yielded at the rate of 2 oz. 17 dwt. to the ton. Their deepest level is about 100 feet, and the veins average from 15 to 18 inches in width. I trust that during the present year all those who have stuck to this field in spite of all discouragements may be amply rewarded.

*Carangara, Parish of Bynng.*

I have been favoured with the following particulars by one of the gentlemen interested in the undertaking referred to:—

"The Carangara Estate, the property of Dr. Codrington, comprising 759 acres, was worked some years back as a copper-mine very successfully. In July, 1886, six speculators, resident in Orange, leased the estate for the purpose of prospecting for gold. At a depth of about 35 feet they met with a very rich brown vein similar to that obtained at Lucknow in the early days. From this vein as much as 12 ounces of gold was obtained to a small dish, and at the rate of 8 oz. per ton from quartz at the same level. They sank on this vein to 45 feet, getting very rich stone and specimens; then drove about 35 feet along the vein, obtaining good crushing stone. It was then decided to sink the main shaft to 95 feet, and at 90 feet a drive was started to cut the rich shoot of gold marked at the 45-foot level. After driving about 15 feet at this (the 90-ft.) level, very rich pyritous stone was struck, but the drive was continued a distance of 52 feet, the vein in the bottom of the whole length of the drive averaging about 9 inches in width, and being highly charged with galena and iron pyrites showing gold freely. A monkey shaft has lately been put down in this drive about 20 feet from the main shaft, it being apparent to the mining manager, Mr. R. Batten, that he was not deep enough to secure the best results. After sinking about 4 feet, very rich pyritous stone was struck, estimated, by good judges of its character, to yield from 2,000 oz. to 4,000 oz. to the ton. The last stone, taken from the very bottom some few days since, being the richest yet taken from the mine, contains about two-thirds gold. It is anticipated that something very rich will be obtained when this vein is sunk upon, which the owners intend to do at once. This should prove a very valuable mine in the near future."

The managers of the various local Banks have very courteously supplied me with the particulars of gold which has passed through their establishments during the year 1887, the total being 4,691 oz. 3 dwt. 6 gr., of the value of £16,494 19s. 11d., or an average of £3 11s. 6d. per oz. Of this quantity, some 417 oz. were not the product of this district, having been forwarded from Ironbarks and Cargo. No doubt a large quantity of gold is forwarded direct to Sydney, as the returns forwarded to me—which represent only the chief mines in the district—show a total of the value of £21,446 17s. 11d.

The gross value of the machinery in this mining division is estimated at £22,750.

## BATHURST DISTRICT—BLAYNEY DIVISION.

(*William Roache, Mining Registrar.*)

I HAVE the honor to submit my annual report for the past year.

Mining in this portion of the division is looking better than it has for some years.

Brown's Creek Gold-mining Company having worked their ground to the water-level, a depth of 150 feet, are now about sinking their main shaft a further depth of 50 feet, which will cost about £2,500, the ground being very hard, the manager estimating that it will cost £9 per foot.

During the past year the Company have obtained 3,792 oz. of gold. The deeper they go the lode seems to be getting richer. This Company suffered a great loss through an action having been brought against

against them by a man named Cooper, who owns the adjoining property, for running sludge on his ground, and no doubt he will be a great source of annoyance to this Company if some arrangement is not come to between them. It would be a great loss to the district if this mine were to be closed, as it gives employment to about 100 men.

The Confidence Gold-mining Company, King's Plains, are now down with their main shaft 247 feet, the ground being poor, averaging 2 dwt. to the ton. During the year they have obtained 5,274 oz. 2 dwt. of gold. At present they are erecting a winding machinery, and they expect, when completed, to be able to have a night and day shift at work.

This mine, for the last four years, has paid no dividends; it has only managed to pay working expenses. Now that a Government dam has been erected, they will have no scarcity of water. The great drawback to this mine has been the great scarcity of water. Now that that difficulty has been overcome, no doubt the mine will pay handsomely.

A 10-acre lease adjoining the Confidence, and owned by Donnellan and party, who sank a shaft 120 feet, has cut the lode, which averages from 15 to 40 feet wide. This Company have sent a small crushing to Sydney, which went 12 dwt. to the ton. The dirt taken from the lode was taken promiscuously. At present this Company are not at work, having made application for suspension of work, with the view of erecting machinery on the lease.

At King's Plains, Flannagan's Gully, which has been formerly worked for alluvial, and has been very rich, a short time ago a miner named Batty obtained, at 5 ft. 6 in. from the surface, in the old workings, two nuggets—one weighing 60 oz., the other 48 oz.—which caused a rush, and several leases to be applied for. There is only a small portion of Government ground—40 acres—situated at this place.

Watson and party, who are receiving aid from the Government, are now sinking a prospecting shaft, which is down 70 feet. They have cut several gold-bearing leaders, and they expect, at a depth of 150 feet, to strike the dyke or lode which has fed the gully. Gold has been traced several places in the neighbourhood on private property, which formerly belonged to the gold-fields, but now locked up from mining; otherwise, it would give employment to a number of men for years to come.

During the year 8 gold-mining leases have been applied for, 103 miners' rights, 2 business and 2 mineral licenses.

There are two copper-mines close to Blayney—one known as the Erel copper-mine, which for some considerable time has been defunct on account of the low price of copper. The owner, Mr. Marsden, is about floating this into a Company, with a view of having it worked. This mine is situated about 300 yards from the Murrumburrah-Blayney railway line. No doubt, if the price of copper keeps up, this mine will again be at work in a very short time, which will be a great boon to the district. The other mine is situated about 1 mile from the town of Blayney, in Glasson Bros.' paddocks. The lode is small, but very rich.

#### BATHURST DISTRICT—ROCKLEY DIVISION.

(*Thomas C. Crommie, Mining Registrar.*)

I HAVE the honor to herewith forward you my annual report for 1887 for the Rockley Division, from which you will see that mining matters here have been very dull during the year.

During the above period I have sold 2 mineral licenses, 39 business licenses, and 56 miners' rights, making a total revenue of £54 10s., being a decrease on the previous year.

I have only received eight applications for mineral leases, making in all 165 acres, 125 of which are old cancelled portions at Wiseman's Creek, where there was great excitement for silver in the latter end of 1885, but which is now almost deserted. Owing of late to the rise in the price of copper, there is a reaction.

During the year there was an average of four men at work at the Back Creek silver-mines; they were, however, chiefly prospecting the ground during the year, and only raised about 10 tons of silver ore, which it is believed will average 75 oz. to the ton. The owners intend to float the property into a Company.

The Manganese-mining Company at Back Creek have suspended operations there since the month of June last, owing to the low price of the article in London.

Gold-mining is very dull here. A few parties on some of the creeks have made wages during the heavy rains by sluicing. One miner—Thomas Cotterill, of Back Creek—washed out over 70 oz. in this way, by employing hands and using hydraulic pressure.

#### BATHURST DISTRICT—OBERON DIVISION.

(*J. O. Hayes, Mining Registrar.*)

I HAVE the honor to forward my annual report of mining operations in the Oberon Division of the Bathurst Mining District for the year just closed. In doing so, I regret to say that mining in this division has not been entered into with the spirit that usually prevails on a field where working operations can be commenced with little expense. Some of the reefs in this division were operated upon many years ago by inexperienced miners, who only opened up the ground and took the stone from close to the surface. One of those claims has since been taken up by a small company of working miners, and is now worked successfully; but I fear, before very long, their efforts to make it pay will end fruitlessly, owing to the very wet nature of the country. The water is the great bone of contention on this line of reef. I have no doubt but this would prove a rich mine if floated into a Company, with a fair amount of capital, who would erect pumping machinery, to enable them to obtain the known rich deposits existing below the water-level. The ground in the vicinity of the line of reef can be worked in other respects at, comparatively speaking, little expense, not an ounce of explosives being required, the formation being so soft that the reefs can be worked out with a pick. Several leases have been taken up since I took office on 12th May last year, and as some energetic mining men are identified with them, I am hopeful that better times are in store for the mining population of this division. The following is the amount of business transacted during the year:—

	£	s.	d.
Gold-mining leases, 8.....	66	0	0
Silver-mining lease, 1 .....	5	0	0
Miners' rights issued, 33 .....	14	15	0
Business licenses issued, nil.....	0	0	0
Mineral license issued, 1 .....	1	0	0
	<hr/>		
	£86	15	0

BATHURST

## BATHURST DISTRICT—MOUNT M'DONALD DIVISION.

(G. A. Gunning, Mining Registrar.)

I HAVE the honor to submit my report of state and progress of the mines in the Mount M'Donald Division for the year ending 31st December, 1887, and in doing so regret that the gross yield of gold for the year shows a considerable decrease as compared with the output for the previous year. The decrease may be ascribed, to a certain extent, to the cessation of operations on several claims in August last, when a number of miners were induced to try their luck at the new reefs in the parish of Tintern, about 6 miles distant from Mount M'Donald.

1,702 tons of quartz were crushed during the year for a return of 2,619 oz. 6 dwt. 1 gr. retorted gold, being an average of about 1 oz. 11 dwt. to the ton. 137 oz. 4 dwt. 9 gr. were obtained from recrushing of tailings; these, with 55 oz. of alluvial gold bought by the local storekeepers, make the gross yield for the twelve months from this field 2,811 oz. 10 dwt. 10 gr., or 579 oz. 0 dwt. 13 gr. less than the total yield of 1886.

I have, during the year, issued 133 miners' rights and 18 business licenses, amounting in value to £67 5s. I also received 34 applications for gold-mining leases, comprising an acreage of 136 acres.

In August last, M'Kellar and party, prospecting within the parish of Tintern, about 6 miles from Mount M'Donald, discovered what promised to be rich reefs. A couple of shafts have been sunk to a depth of 40 feet, and a crushing out, which gave a return of an ounce to the ton. This, if carefully worked, should prove a payable claim, as the country is very easily worked, being a kind of sandstone formation.

Aubrey and party, north of and adjoining M'Kellar and party, are down about 60 feet; reef improving as they go. This party will crush during the coming month, when a payable result is expected.

The small quantity of stone crushed from some of the claims may be accounted for thus: they were in the market for six months, and, if sold, purchasers were to have the surplus after paying the cost of raising and treating of all gold won between the time of placing under offer and the date of sale. Shareholders did not exert themselves to raise crushings.

The following are some of the principal yields for the year:—

	Tons.	oz. dwt. gr.
Balmoral.....	600	1,255 11 1
Woolstone .....	44	29 0 7
Price and party.....	23	51 13 11
Butcher and party .....	146	296 6 6
Franklin and party .....	40	85 19 3
Woman's Lease.....	51	136 2 5
Matheson's.....	62	143 2 5
Caledonian .....	224	177 12 4

I regret to say that several of the claimholders have not afforded me the information sought for relative to the reefs, &c., in their claims. I am indebted to Mr. C. H. Forwood for nearly the whole of the information; had it not been for that gentleman's kindness, I would not have been able to obtain the necessary information within the required time.

The last crushings for the year (in December) show a marked improvement, and it is anticipated that the new year will see a slight revival.

## BATHURST DISTRICT—TRUNKY DIVISION.

(W. T. Lee, Mining Registrar.)

DURING 1887 the total rainfall, for which I am indebted to Mr. Surveyor Ryan, has been 42.67, or nearly 12 inches more than during 1886; the result is a considerable increase in quantity of gold won, principally alluvial, the value for 1887 being (say) £7,700, against £2,500 for 1886, showing an increase of £5,200, demonstrating rich deposits only requiring proper machinery, conserving of water, and sensible brains.

There are 173 miners on the field. During the year three applications under Amended Act of 1884 and Regulations of 1886, each for 50 acres, were made, one of which has been refused and repegged in ordinary leases. Fourteen gold leases, covering an area of 246 acres, and two mineral leases for 40 acres were applied for. Miners' rights issued, 139; business licenses, 30; mineral licenses, 2. Very little progress to report. The New Bathurst Company are not fulfilling the expectations that were raised.

Silver will probably be discovered in payable quantities near Kempfield and Diamond Valley, near Trunkey. Considerable activity prevails in mining. A party of Goulburn speculators have men employed on the Abererombie River searching for opals.

## BATHURST DISTRICT—CARCOAR DIVISION.

(W. B. Warner, Mining Registrar.)

SINCE my annual report for 1886 was forwarded to you some important changes have taken place in mining matters in this district. The effects of the new revival in mining have been felt here in the shape of an increased capital being invested in the working of our local mines. This will soon be particularly noticeable in the locality known as the Junction, formerly worked for some years by Messrs. Stimson, Meyer, and others. This Company had a magnificent plant of 32 head of stamps, but the works were eventually closed, the stone not being rich enough to pay the heavy expenses attendant on crushing by steam. The plant was sold and dispersed, and the place was idle for some years till taken up by Binstead and party and worked by means of a turbine wheel and stamps, instead of by steam. It has been found, however, after a good trial, extending over several months, that so fine is the gold that, no matter how close the screen, or slow the movement of the water used, the greater portion of the gold escapes. This has been proved beyond a doubt by the numerous assays of the stone made not only in Sydney and Melbourne, but also in England. Some of the assays made by the best mining experts seem to prove that the reefs in this locality, if worked by the chlorine process as carried on at Mount Morgan, would prove equally rich. The quantity of easily available ore, which lies in immense horizontal reefs, is practically inexhaustible. Some hundreds of acres in the neighbourhood of the old workings have been taken up on both sides of the river.

The

The old Prince of Wales claim at the Burnt Yards has been purchased by a Company called the Gold Hill Mining Company, under the energetic management of Mr. William Tanner, of Orange. New machinery has been purchased, and the first crushing of the new Company is now in progress. A large portion of the Church and School Estate in the neighbourhood is highly auriferous; but the regulations relating to the Church and School Estate are anything but encouraging to mining enterprise.

At Gally Swamp some very good results have been obtained. One Company of four men having a small plant, raised during the year 107 tons of stone, which yielded 193 oz. of gold. Some of the other claims are equally good. One or two private claimholders have sold out to an Orange Company, who will soon, with their larger capital, be able to work the claims in a more economical manner, and on a very much larger scale. The veins of stone carrying the gold on this field are mostly very small, in hard country, but very rich. When the new Companies are properly at work I expect to hear of some good returns from Gally Swamp.

There is nothing new in alluvial mining. No new finds are reported, and the only places where any considerable work is going on are Flyer's Creek and The Forest.

No copper is now being worked in my division.

About 8,240 oz. of gold have been sent down by escort this year.

During the year I sold 89 miners' rights and 1 business license.

#### BATHURST DISTRICT—BURRAGA DIVISION.

(*William Ritchie, Mining Registrar.*)

PREVIOUS to the 1st September last mining in this division was at a standstill, owing to the low price of copper. Since that date work has been resumed in the Burraga mine, and at present there are fifty-three men employed, who have raised 1,154 tons of ore, yielding 120 tons of smelted copper; value, £7,200. This mine is worked to a depth of 240 feet, and shows a splendid face of ore; other lodes are also being opened on Mr. Lloyd's land. During the year I have issued 33 miners' rights, 15 business licenses, and 6 mineral licenses, yielding a revenue of £44.

#### BATHURST DISTRICT—COWRA DIVISION.

(*B. P. P. Kemp, Mining Registrar.*)

I BEG to state that although a small amount of prospecting is still going on, no favourable results have yet been met with.

#### BATHURST DISTRICT—TUENA DIVISION.

(*T. Fred Bell, Mining Registrar.*)

I HAVE the honor to submit, for the information of the Honorable the Minister for Mines, my report for the year 1886 upon the mining industry of the Tuena Division of the Bathurst Mining District. Gold-mining here during the year has been all but abandoned as a means of livelihood, owing to the silver-mines having broken out and given employment to those who before were dependent on fossicking and sluicing only about 730 oz. of gold having been got in this division for the past year.

During the year 1,785 acres was applied for under mineral lease, and 230 acres for gold, but there has been no work done on the latter yet; some of the leases have not been executed, and the others not yet received. There is one water-jacket at work at the Mount Costigan Silver and Lead Mining Company's works, and also one of Icke's patent smelters; but the latter has not been worked successfully so far. At the Cordilleras there are two water-jacket furnaces going up and a refiner; these will all be at work in a few weeks' time.

During the year I issued 152 miners' rights, 42 business licenses, and 19 mineral licenses.

The mining industry in this district has during the past twelve months been almost entirely confined to silver-mining, hence so little gold got. The silver-mining Companies, viz., the Mount Costigan Lead and Silver Mining Company and the Cordilleras Silver-mining Company, have kept all those who were dependent on the gold-mining industry steadily at work throughout the year.

#### BATHURST DISTRICT—COWRA NORTH DIVISION.

(*Wm. Cook, Mining Registrar.*)

DURING the early part of the year a small alluvial rush took place to Sullivan's Gully. The sinking was about 50 feet. The result was not payable, although some nice nuggets were found. Amongst the largest were an 18 oz. and a 5 oz. piece (pieces up to  $\frac{1}{4}$  oz. have been found on the surface). While working the alluvial, quartz boulders containing rich gold were constantly found, which shows the existence of a rich reef in the neighbourhood. A Company of Sydney capitalists have now a party of men at work driving across the gully, with the hope of cutting the reef. Altogether, as near as can be estimated, about 100 oz. of gold have been taken from this part.

In quartz there is very little to report, no crushings having taken place. The Gospel Oak Company are erecting a 10-stamper battery on their property; a contract has also been taken for raising a large quantity of stone in readiness for the battery to start on. A large number of leases have been taken up on Stockyard Gully and Sullivan's Gully, all of which the shareholders have strong hopes of becoming payable with machinery close at hand.

There is little doubt that the coming year will show a very great improvement in this division, all of the miners who have visited the locality having formed a very high opinion of it.

#### TAMBAROORA AND TURON DISTRICT—HILL END DIVISION.

(*Mr. Warden Steel, P.M., Hill End.*)

I HAVE the honor to submit, for the information of the Honorable the Minister for Mines, my report for the past year of the Turon, Tambaroora, and Mudgee Mining Districts.

*Hill End Division.*—Alluvial working has been very small, although water has been most abundant during the year. The Red Hill Gold-mining Company, at Tambaroora, has been continuously at work for

for some time. On the M'Mahon lease a new shaft has been sunk 322 feet, 9 x 3, leaving three partitions. Seven veins have been cut, four showing gold. Machinery to the value of £1,400 has been erected on the lease, while the mine is making 2,500 gallons of water per hour. £1,163 has been paid for wages, and £509 for other expenses during the year. 576 tons of quartz have been crushed for a yield of 188 oz. 10 dwt. of retorted gold.

The Cornelian Gold-mining Company, Hawkins Hill, has been at work during the year, but it has for the most part been unremunerative, principally from prospecting a large mass of quartz and slaty formation of lode, which runs from 30 to 65 feet wide. The lowest gave 3 and the best about 10 dwt. per ton. Much difficulty has been experienced by an immense body of water accumulating in the underground workings. During the last month this Company have been drawing water at the rate of 2,000 gallons an hour. 241 oz. 3 dwt. of retorted gold have been obtained from 297 tons of quartz. About thirty-two men have been at work for some months—the average about twenty-seven men—until July, exclusive of wood-cutters and carters. Altogether, the last year's yield and the future prospects of this mine cannot be considered cheering. There has been a slight increase during the year in the sale of miners' rights, business licenses, and gold-lease applications.

No correct estimate of the amount of gold won in this division can be arrived at since the escort was abolished, which now finds its way *via* Windeyer and Sofala, thence by escort.

*Hargraves Division.*—Very little has been done here or at Windeyer. Many of the old leases have been cancelled during the year, some of which have recently been taken up; but the leases not yet being issued, no work has been commenced. Millet and party, the lessees of one of the leases referred to, have a large quantity of machinery on the ground. The plant will, it is said, cost about £1,500 when erected; and they intend to effectively prospect their leases. Mr. John Coghlan has been working on the old Eureka line of reef (formerly Bond's); and he, it is said, is bringing machinery on the ground. The shaft sunk is about 70 feet, but they have not cut the reef.

*Sofala Division.*—This, the oldest mining district under my charge, seems to hold its own, and is by far the richest division. The gold forwarded by escort amounts to 4,877 oz. (inclusive of some forwarded from Hill End).

*Surface Hill Leases.*—This property has now been formed into a Company, and everything is in order to commence operations, under the managership of Mr. A. Bullock, formerly of Hill End. One of the largest shareholders is a Mr. Morgan, of Mount Morgan notoriety, who is very sanguine of success.

*Razorback Gold and Antimony Mine.*—Work has been suspended in this mine, owing to one of the proprietors having proceeded to England for the purpose of procuring special machinery for working the ores, which is expected to arrive very shortly. The property belongs to Messrs. A. Oppenheimer, R. J. Rotton, and others. I may add that several parties here and at Hill End have been granted a portion of the Prospecting Vote, and have commenced work on their claims.

#### TAMBAROORA AND TURON DISTRICT—SOFALA DIVISION.

(M. Fagan, Mining Registrar.)

I HAVE the honor to forward my report relative to the mining interest in this division for the year 1887.

Mining matters are in much the same position as they were this time last year.

Several parties have been working in the Turon River and Crudine Creek with varying success. Dawson and mate obtained 9 oz. of gold in two days from their claim in the Crudine; Hyland & Co. obtained 60 oz. in four weeks from their sluicing claim at Maitland Point; Oliver Johnson obtained 19 oz. of gold from one dish of washdirt from his claim at Red Bank.

There are several parties of Chinese working in the old and abandoned alluvial, from whom I have been unable to obtain any information as to the amount of gold won by them, but it is believed that they have been very successful.

*Spring Creek Reef, Sofala.*—This reef has been abandoned; engine and plant sold for £300.

*Sir Garnet Wolseley Reef.*—Originally very rich to a depth of 40 or 50 ft.; 31 tons of quartz raised from a depth of 40 ft. yielded 63 oz. 15 dwt. of gold. Work on this reef has been suspended during the last three months.

*Razorback, Upper Turon,* under the name of the Turon Gold-mining Company (Mr. R. Spencer, Manager).—A 10-h.p. engine, with ten head of stampers, has been removed from the Homeward Bound reef, Box Ridge, to this mine. Twelve men are now employed in connection with the mine. Two tunnels have been extended 40 ft. each, from which 200 tons of quartz have been obtained, showing gold freely, and are now ready for crushing. Value of plant, £800.

*Big Oakey Gold-mining Company.*—This Company commenced operations in February last upon Old Surface Hill, Wattle Flat, sinking main shaft 8 ft. by 3 ft. 6 in. to a depth of 400 ft. for the purpose of intersecting all the well-known rich gold-bearing veins which have been worked in former years. The Company have a capital of £2,000, and intend to give this once very rich hill a thorough prospecting. There are six men at present employed in this mine, which is under the management of Mr. Bullock, late of Hill End.

*Box Ridge Homeward Bound Company.*—This Company's plant has been sold and removed to Razorback, and quartz-reefing is a thing of the past in this locality.

*Solitary Creek Gold-mining Company—(on Tribute).*—Six men have been employed day and night in this mine during the year, and have raised 925 tons of quartz, yielding 518 oz. 14 dwt. of gold.

*Magenta (Johnson & Co., ordinary quartz claim).*—74 tons of quartz raised from this claim yielded 75 oz. of gold.

*Back Creek.*—No mining operations have been carried on in this locality during the year. Leases held by Beyers and others have been cancelled.

The following shows the owners and results of principal parcels of quartz treated at Mr. Davidson's mill, Wattle Flat, viz.:—

	Tons.	oz.	dwt.	gr.	Reef.
Spencer, Manager .....	31	63	15	0	Sir G. Wolseley.
Bulson & Co. ....	49	48	10	0	Big Oakey.
Dowling & Co. ....	54	46	17	0	New Chum.
Grice & Co. ....	28	26	6	0	Bullock Flat.
Keeley Bros. ....	15	21	10	0	Whelan's Hill.
Davidson .....	21	14	13	0	Various.

Aid from the Prospecting Vote has been granted to the following prospecting parties in this division, viz. :—

William Johnson and Owen Lewis, Magenta Reef, Wattle Flat.  
 Webb and party, Solitary Reef, Wattle Flat.  
 R. Williams, Carney's Reef, Sofala.  
 William M'Lean, Sandy Flat.  
 Walter Allsop and party, Monkey Hill.

None of these parties have commenced active operations, nor do they intend to do so until after the holidays.

*Razorback Gold and Antimony Company.*—This Company have stopped work until the arrival of the hydrogen and amalgam process machinery which they have ordered from England to be set up at the mine.

At the Crudino, Palmer's Oakey, Wattle Flat, and Upper Turon there have been several parties of fossickers at work in the various old workings, from whom I have been unable to obtain any information as to the amount of gold won, but it is believed that the greater number of them have made good wages.

The following amount of gold has been transmitted per gold escort during the year, viz. :—  
 4,877 oz. 7 dwt. 5 gr. ; value, £18,412 Os. 8d.

Miners' rights issued .....	396
Business licenses .....	16

Twelve applications for gold-mining leases have been received by me during the year.  
 Total value of mining plant in my division, £2,260.

#### TAMBAROORA AND TURON DISTRICT—IRONBARKS DIVISION.

(*J. Shillington, Mining Registrar.*)

I HAVE the honor to forward herewith my annual report upon the mining industry of the Ironbarks Division of the Tambaroora and Turon Mining District. The most important work of the year has been in prospecting some of the reefs which were worked years ago and abandoned, and in the further testing of some reefs which have been held unworked for years for speculative purposes. Several parties have been rewarded by finding very rich stone, with the result that the attention of capitalists and miners has been directed to this long neglected field of auriferous quartz reefs. The popular opinion which obtained, until very recently, was that the reefs in the Ironbarks District were valuable only on the surface, and miles of reefs have in former years been surfaced; but when water was reached necessitating the employment of machinery the reefs were abandoned, and in no instance was a reef tested to a depth of 200 feet, and only one or two were tested to a depth of 150 feet.

The old Specimen Hill claim was taken up some months ago as an extended quartz claim (four men's ground), and one of the old shafts was cleared out and a lower level reached, and 10 tons of stone taken from an 18-inch vein at a depth of 200 feet yielded 34½ oz. This is the greatest depth reached on the whole field. A further trial of 2½ tons from the same level yielded 30 oz. of retorted gold. This result has had the effect of causing several parties to commence work on reefs with a view to test them at a lower level than hitherto reached, and should the results prove satisfactory there will be a great future for this portion of the district, as for miles the country is intersected by a network of reefs, all of which are known to be auriferous.

The Prince William reef has lain unworked for twelve years, during which time it has been held by various Companies; and in June last, being open for leasing, an application was made for 20 acres of the reef, and the work of clearing out and further sinking commenced, and at a distance of 6 feet from the old workings very rich stone was discovered. The value of this discovery was sufficient to cause the shareholders to commence sinking a main shaft to enable them to work the mine in a more systematic manner, and in sinking the main shaft very rich veins have been cut. The Perseverance claim was prospected to a depth of 140 feet, and three trial crushings of quartz taken from a vein 9 inches in width—15 tons stone yielded 30 oz., 4 tons yielded 12 oz., and 20 tons yielded 20 oz. At a still lower level the stone shows gold, apparently much richer in gold than any of the stone already treated.

The Princess Alexandra Extended Quartz Dam has been opened out till 150,000 tons of gold-bearing stone is now in sight. A Company has been formed to work this mine, and a battery of twenty stampers and a 25 horse-power engine has been purchased for crushing the quartz of this mine. A large dam is being constructed to conserve water necessary for carrying on the work. This will be a great acquisition to the field, as at present there is only one quartz-crushing plant of ten stampers in the neighbourhood. A Company has been formed to work the Post Office reef, and several Companies are now in course of formation to work reefs on which no work has been done for several years. Only two mines have been worked continuously during the year. The Gordon mine at Yeoval employed nine men during the year; crushed 1,860 tons of stone for 452 oz. gold, besides a quantity of copper containing a percentage of gold and silver. The Royal Jubilee Sluicing Company employed eight men. This Company has pumping machinery on the banks of the Macquarie River, at the Muckerawa Junction, capable of raising 75,000 gallons of water per hour. The returns were not satisfactory, and the Company propose erecting heavier and more complete machinery, so as to make the working remunerative, as it is believed that heavy deposits of gold are to be found on this Company's ground.

The rich gold-bearing quartz discovered during the year had the effect of causing considerable attention to be directed to the field generally, and sixty-one leases, for a total of 508 acres, have been applied for during the year, also five extended quartz claims have been registered. Two hundred and eleven miners' rights have been issued during the year, also twenty-two business licenses. No mineral licenses were issued, as this is essentially a gold-bearing district. Preparations are being made to commence work on several reefs immediately after the New Year, and a substantial increase in mining may be expected during the year 1888.

## TAMBAROORA AND TURON DISTRICT—HILL END DIVISION.

*(Thos. Purcell, Mining Registrar.)*

I BEG to report for your information on mining operations here during the past year, and am sorry to say that the place is steadily going down. The Cornelian Co., Hawkins Hill, has been idle for some months, but has recently started work again with eighteen men. They have only crushed during the year 297 tons, yielding 241 oz. of gold. There is very little doing on Hawkins Hill except by the Cornelian Co. Clemens & Riley are working a claim lower down, and are said to be doing very well. Riley and party, on the Venus reef, are still working, but the claim is not turning out so well as was expected. Cook & Baxter, adjoining, have had payable crushings from this line. Eldridge and party, at Golden Gully, are still working, but the last crushing went very poor. I may say that is all the work that is being done at Hill End.

Hughes, Grotofaut, and party struck a new reef at Bear Gully, about  $\frac{1}{4}$  of a mile north of the town, a few days ago. I saw some very rich specimens taken from it. It is from 6 to 10 inches wide, and is in very easy ground to work. Should it only continue, I should say it ought to go from 10 to 20 oz. to the ton.

At Tambaroora, the Red Hill is still being worked, although it stopped for some time after the unfortunate accident in which Cox was killed, for the purpose of getting more powerful machinery to keep the water down. They have been sinking a shaft 320 feet, and have now commenced to drive for the vein. A great deal of money and labour have been expended on this property, and it is to be hoped Mr. Newton, the proprietor, will be rewarded.

The only other reef claim at work at Tambaroora is the one known as Brown the Greek's. It has not done so well lately, but I am informed it is still payable.

The alluvial is getting poorer every year. It is, I may say, only worked by old fossickers and Chinese, and as no new ground is opened up, the old is worked over and over again. Houghton and party have lately taken up a 20-acre lease at the Cement Hills, about 12 miles west of here, on the Macquarie River. It is known that this hill contains gold in the soil, ranging from 1 dwt. to 4; and this party are making a tramway to run the stuff to the river and sluice it there, and anticipate very good returns.

I have not been able to get the returns of the gold sent from here during the year. Since the Escort was abolished there is no record of it. The business people, when going to Sydney, take some; more is sent by post; and some is taken to Sofala, the nearest Bank, and sold or consigned; so it would be mere conjecture.

I have issued 302 miners' rights, there being 296 for previous year; twelve business licenses, same as previous year. There have been fifteen applications for gold-mining leases during the year, there being only eleven in 1886.

I may add, in conclusion, that the support extended by the Prospecting Board at its recent visit here has given great satisfaction, and it is generally thought that some of the parties will be successful.

## MUDGEES DISTRICT—MUDGEES AND GULGONG DIVISION.

*(Mr. Warden Meares, P.M., Mudgee.)*

DURING the few months which have passed since I was appointed Warden of this district, in June, 1887, my duties have taken me to only the principal digging places, such as Gulgong, Canadian and Limestone Creek, and a few others of less importance, and from personal knowledge can I speak of these only, although I know something by repute of the other localities where miners are working.

Upon this I am of opinion that if (as I believe) there have been more men engaged in digging in 1887 than in the year before, it was the result of the depression which was felt in other branches of industry, and which shut out the occupation of the labourer from the ordinary channels of work available in better times. He was therefore obliged to turn to the gold-fields to seek a livelihood he could not find in any other direction.

Except for the activity brought about in this way, there would have been but little alluvial mining in this district, for the wages made generally were not sufficiently good to attract men from other work, if it could be got. I have rarely heard of any who made more than moderate wages at digging. There is no life in the industry. There seems to be about the same level everywhere, and more have been below than above it, although of course some had done well and above the average.

At Limestone Creek, about 16 miles south of Mudgee, there was a little stir for a few weeks, during part of which time there were considerably over a hundred men at work there; but the ground is limited. The natural features of the country—a narrow valley with steep sides—cause the workings to be quickly flooded, and the constant rain more than once injured the work done and drove the men from their claims, which, under the most favourable circumstances, were not very productive. The result is that now very few men are employed there.

I cannot mention any other locality where matters have been much better than at Limestone; nor are the workings in the various leases more productive than in the others. I do not know anywhere they are getting gold in sufficient quantity to attract attention, although money has been and is being spent by several lessees in the hope of a good return.

During the year a few nuggets have been found of greater or less value—notably one at Maitland Bar of over 300 oz. in weight, and said to be one of the purest ever unearthed.

I need not specify the amount of gold received by the Banks during the year, nor the number of miners' rights issued, as these particulars will be given by the Registrars at Mudgee and Gulgong.

In concluding this report I may remark that the diggers do not appear to pay much regard to the requirements of the law by providing themselves with miners' rights. One of the police found lately at Limestone Creek an average of one man in five out of over 100 who wore without these rights, and a similar state of things exists generally through the district. The miners as a body are very tenacious of what they consider their legal privileges, and stoutly resist any real or supposed interference with these; but they are not quick and anxious in proportion to pay the fee which entitles them to claim the privilege. I saw an instance here lately in which a man had got up a meeting of miners and prepared a petition, which they signed, against the fencing in of some land on this gold-field by the persons who held it under annual

annual leases. This man championed the miners before the Land Board, to whom the petition had been referred for report, and he objected to an overseer of one of the lessees giving evidence because he had not a miner's right. It subsequently transpired that this quibbling gentleman had not a miner's right himself. But there are not many so barefaced as this. The neglect of which I am writing is sometimes the result of want of thought, and sometimes of the want of official attention; but in a time of depression and deficient revenue such as now exists, I think miners might reasonably be required to pay the very moderate fee of 10s. a year for the benefits they receive. And if in other places they are as neglectful as here, the revenue would be deprived thereby to the extent of some hundreds a year.

#### MUDGEE MINING DISTRICT—DUBBO DIVISION.

(*Mr. Warden W. T. Caswell, P.M., Dubbo.*)

I HAVE the honor to make the seventh annual mining report for this subdivision of the Mudgee District.

The mining interest at Tomingley and Myall is still slightly progressive. The gold won from the reefs at these places in 1884 was about the value of £7,000; in 1885, £8,000; in 1886, to over £9,000; and in 1887 it has reached nearly £10,000 in value. 2,560 oz. were won; but three-fourths of this quantity was taken from No. 1 North—Mooney and party's ground—at Myall.

I have not been supplied with information from either the Dubbo Coal-mining Company or the Great Western Coal-mining Company at Ballemore; but as the latter in boring struck a mineral spring, which I know attracted the attention of the Department, I am sure you have full information of the progress made. No coal has yet been brought forward for marketable purposes.

The works of the Copper-mining Company at Girilambone are, as I reported last year, still suspended.

The population at Tomingley and Myall has neither increased nor diminished—it remains at about 250. The Public School attendance has slightly increased—it is now 35. The business establishments continue the same, all doing fairly well. A mail-coach now runs between Dubbo and Tomingley twice a week.

The water supply during the year has been ample for mining, and indeed for all purposes. A large tank—to hold 17,000 gallons—has been recently constructed for travelling stock; it is not yet full.

There are two crushing machines at Tomingley; but the quantity of quartz raised has not been nearly sufficient to keep one employed. It is said one of these crushers is to be moved to what is called the "Ten-mile," a place where there is some promising stuff, though not rich enough to be carried a distance.

The machine at Myall has done a good deal of work, principally for its owners, who are proprietors also of No. 1 North at Myall.

There have been issued at Dubbo during the year past 63 miners' rights, 7 mineral licenses, 1 business license; and at Tomingley the Registrar informs me that he issued 52 miners' rights and 7 business licenses.

As the reefs at Tomingley have not been regularly worked during 1887, I will not be able to give either the total quantity of quartz raised or the yield of gold. I will merely include in my report the scraps of information obtained from such of the miners as remained.

#### *Tomingley Reefs.*

Prospecting Claim—Tattersall and Hayes, working on reef 18 in. wide at 50-ft. level, crushed 60 tons for 62 oz. gold. The main shaft is down 150 ft.

No. 1 North.—Reakes and party crushed 114 tons of quartz for 46 oz. 12 dwt. 19 gr. of gold. This claim was abandoned for about four months, but was taken up by Croft and Reakes about four months ago. They have sunk a perpendicular shaft 160 ft., and intend sinking 40 ft. lower.

No. 2 North.—M'Donald and party crushed 75 tons for 29 oz. 9 dwt. 4 gr. of gold. They abandoned in May last, and the claim was taken up by Crowhurst and party, who crushed 78 tons for 41 oz. gold, the reef being 4 ft. wide at 140 ft. depth.

No. 3 North.—Richmond and party have crushed 320 tons for 130 oz. 17 dwt. 10 gr., and will commence stoping on reef. Reef, 8 ft. wide at 90-ft. level.

#### *Myall.*

Spare ground.—600 tons of quartz crushed for 595 oz. of gold. Width of reef, 4 ft.; depth, about 120 ft.

No. 1 North Myall.—Crushed 1,400 loads for 1,947 oz. of gold. 4-ft. reef, 130 ft. deep.

#### *Ten-mile Ridge.*

Crowhurst and party crushed a small parcel of 18 tons from the Ten-mile, which yielded over an ounce of gold to the ton.

There are no alluvial workings in Dubbo Division.

Senior-constable Bell is Mining Registrar at Tomingley.

In conclusion, I may repeat what I was able to state in the last report—that the promise for the future in mining matters is very fair.

P.S.—I am afraid the return of gold as given by the miners is not reliable. The total is over 2,868 oz., while the Bank returns of 2,560 oz. are not likely to be much below the quantity raised. I think very little gold is taken to Sydney past the Dubbo Banks. In view of the temptation to advertise the claim, I must assume the lesser quantity—2,560 oz.—is most probably correct.

#### MUDGEE DISTRICT—WELLINGTON DIVISION.

(*Mr. Warden Marsh, P.M., Wellington.*)

My charge of these portions of the districts recommenced in June last, and I notice with much regret that, as regards Wellington portion, mining shows very little improvement; and the only reason I can assign for this is that the alluvial workings have become, apparently, almost exhausted, and no fresh ground being discovered. The results in detail are shown in the accompanying returns.

One of the two quartz-crushing machines at Mitchell's Creek, near Wellington, has been, I understand, sold, and is about to be removed to Ironbarks. Turning to this latter division, I am glad to report

a very decided improvement, some takings and trial crushings showing such encouraging results that an impetus has been given to mining generally; the practical test being the projected formation of Companies, and consequent outlay of capital for *bond fide* working, the number of mining leases taken out, and the addition of the quartz battery about to be removed from near Wellington.

The Ironbarks and Stony Creek Gold-fields, I may venture to say, have not received that amount of attention from capitalists which they really deserve, as without doubt a very large area of country is in the highest degree auriferous, and will eventually prove to be most remunerative if systematically worked with necessary and proper machinery.

The returns herewith show such a marked improvement on the year preceding, and the further development of the old mines by deeper sinking, showing richer deposits of gold at greater depths, go far to prove that the investment of outside capital will result in the opening up of a mining district which, I feel convinced, will bear favourable comparison with any in the Colony. It is with much pleasure I record that the individual efforts of a large number of steady hard-working miners, who have been perseveringly working in these parts, are deserving of all praise, and that they are entitled to every consideration and encouragement. But the investment of capital by means of Companies, &c., with the necessary accompaniment of labour, would soon prove the richness of these gold-fields.

From the attention now being given to the place, I may fairly infer that the present efforts are not what I may call of a spasmodic character, but are really the commencement of a steady and permanent development of mining interests, the success of which, if I am not mistaken, a very near future will prove to be correct.

It will be observed that I have reported generally on the position, the details being fully set out in the accompanying returns.

#### MUDGEES DISTRICT—HARGRAVES DIVISION.

(*T. O'Brien, Mining Registrar.*)

I HAVE the honor to submit my report for 1887, and to state that alluvial mining in the Hargraves Division of the Mudgee Mining District has been in a very depressed condition throughout the whole year, owing to no new ground being discovered.

The old fossickers, many of them working the ground for the second or third time, manage to obtain, on an average, 15s. or 16s. weekly. Eight or ten of these fossickers were so fortunate as to unearth four nuggets, weighing respectively 357 oz., 200 oz., 47 oz., and 32 oz. These nuggets were found near the surface, in ground which had been worked many years ago.

#### *Quartz-mining.*

Several leases were applied for, but only three were granted. Mr. J. Coghlan brought a diamond drill to Hargraves in the month of January, and succeeded in boring, on the old Eureka line of reef, three holes, to the depths of 300, 150, and 90 feet respectively. Gold was struck at the depth of 80 feet in the 150-foot bore, and the sediment containing the gold was assayed in Sydney, showing a result of 4 oz. to the ton. I have reason to believe that Mr. Coghlan is about to place machinery on his ground. Messrs. Millet and Milton are erecting machinery, valued at £2,500, on the old Company's line of reef. I am of opinion that quartz-mining will become an extensive industry in this locality should the efforts of Messrs. Millet, Milton, and Coghlan prove successful. Two hundred and fifty miners' rights and twenty-seven business licenses were issued by me during the last twelve months.

#### MUDGEES DISTRICT—MUDGEES DIVISION.

(*R. H. Acheson, Mining Registrar.*)

I HAVE the honor to submit for the information of the Honorable the Minister for Mines my annual report for the year 1887 on the mining industry of the Mining Division of the Mudgee Mining District.

For the year 1887 I am gladly able to say that gold-mining in the division has vastly improved on its condition in 1886, and that year showed an improvement on the preceding year. The sale of miners' rights in 1887 shows an increase of 155 on that of 1886—183 were sold in 1886, and 338 in 1887. There were 12 gold leases applied for in 1887, against 6 in 1886. These statistics are very encouraging, as also are the purchases by the Banks of gold locally won. During 1887 were purchased 3,898 oz., against 3,501 oz. in 1886. I am reliably informed that a large quantity has been forwarded to Sydney for this year through the Railway Department and by private escort, what quantity I have been unable to ascertain.

In the following I will refer to the several localities in the division which have been worked. Maitland Bar and Merrendee—the lower end of the celebrated Meroo Creek of early gold-fields fame—yet maintain their old mining population, chiefly Chinese and continental Europeans. In that locality much gold is yet got, but not in many instances beyond the making of fair wages. It was at Maitland Bar that a mining party discovered the Jubilee Nugget of 347 oz. in May last.

During 1887 was discovered and developed the property known as the "Lucky Find," in the vicinity of Apple-tree Flat. The property is now worked by the Lucky Find Gold-mining Company. A lump of ironstone from this property of about 9 cubic inches was raised, which showed some 22 oz. of gold. This specimen, for that class of gold-bearing stone, is a magnificent one, and its discovery has been instrumental in directing active attention to prospecting in ironstone country. The Company have a large area under lease, and have just forwarded some 6 tons of stone for treatment to Sydney, but with what result I have not yet heard.

In the alluvial flats adjoining the "Lucky Find," Norris and party have stripped ground to a depth of 6 feet, and realized from 3 to 4 dwt. to the load for six months' work. Outside on Crown Lands recently a miner unearthed a 16-oz. specimen.

The Rhobarbah Gold-mining Company at Cudgegong are still working on tribute, with the result, I understand, of 1½ oz. to the ton without the pyrites, which are said to be valuable. In a few months English capital is to be introduced into this mine for improved machinery and the extension of the existing funnels.

During

During 1887 was discovered the Limestone Creek Diggings. Success on them has been variable, principally owing to the excess of water. Several nice nuggets have been found there, one weighing 30 oz. On an adjoining hill, Roberts and party have taken some leases on reefs, and in a crushing from one at the Mint 7 oz. to the ton were realized without treatment of the pyrites.

The Cullenbone Diggings, which were of no small significance in 1886, maintain, with moderate returns, a small number of local miners.

At Leaning Oak Creek, near Merrendee, Wilton and party are working claims on old reefs. The reefs look well, but the water in the workings retards operations considerably.

#### MUDGEE MINING DISTRICT—WELLINGTON DIVISION.

(A. G. Chiplin, Mining Registrar.)

I HAVE the honor to forward herewith my annual report of the Wellington Division of the Mudgee Mining District. Having only entered on my duties from 1st June last, I am not as well versed in mining matters as I would desire.

Very little in the way of mining has been done in this division during the year; the only quartz-crushing plants in the division (two in number), and valued at £5,000 and £3,000 respectively, have been idle all the year, and for several years previously. The Belara Copper-mine, situated at Goelma, 30 miles from Wellington, raised during the year 100 tons of ore, valued at £300, but no smelting was done. This mine, when in work, employs forty men, and has a plant valued at £5,000.

From information obtained, I find that the quantity of gold received in Wellington during the year was 652 oz. 15 dwt. 13 gr., as against 432 oz. 13 dwt. 16 gr. for 1886; but it is doubtful whether the whole of this was won in this division.

During the year two gold lease applications and one mineral lease application were received.

Miners' rights sold during the year	...	...	...	...	...	...	...	...	31
Business licenses sold	"	...	...	...	...	...	...	...	1
Mineral "	"	...	...	...	...	...	...	...	6

#### MUDGEE DISTRICT—TOMINGLEY DIVISION.

(R. Bell, Mining Registrar.)

I HAVE the honor to report that during the past year Tomingley has been almost at a standstill, with the exception of the Myall Reefs; want of capital and small percentage of gold obtainable no doubt being the cause. The Myall Reef has been very successful, 2,000 tons of quartz, yielding 2,542 ounces of gold, having been crushed at the Company's battery during the past year; and there is every prospect of the mine continuing to be very rich, as there is still plenty of quartz in sight to work upon.

There are at present only three claims working at Tomingley—Nos. 1, 2, and 3. In the former Reaks and party raised 114 tons of stone for 46 oz. 12 dwt. 19 gr.; this claim was abandoned by them, and was taken up by Croft and party, who are now sinking a straight shaft 200 feet; they are already down about 160 feet, but have not yet come on to the reef.

No. 2 Tomingley, M'Donald and party, now Crowhurst and party, continue to crush small parcels of stone, which average about  $\frac{1}{2}$  oz. to the ton.

No. 3 Richmond have not been able to do much work lately in consequence of two of the party being sick in the hospital, and the claim does not pay wages. Average yield of stone, about 8 dwt.

Crowhurst and party brought in a small parcel of 18 tons from the Ten-mile Ridges, which yielded 18 oz. 6 dwt., and there is every prospect of good gold being got at the Ridges.

The population of Tomingley is about 200 persons; average school attendance, 35. Public-houses, 2; stores, 2; butcher, 1; baker, 1; blacksmith, 1; bootmaker, 1. The water supply is now good, as there is a large Government tank lately sunk at Tomingley. Crushing machines, 3; miners' rights issued, 52; business licenses, 7.

#### MUDGEE DISTRICT—GULGONG DIVISION.

(H. De Boos, Mining Registrar.)

MINING work during the last twelve months has been very slack in the Gulgong portion of the Mudgee Gold-field, and affords little matter for comment, or of sufficient importance to notice in this report.

The principal event of the year, from a mining point of view, has been the taking up of the silver areas in the neighbourhood of Denison town. A number of applications have been made for mineral leases for the purpose of testing the value of this discovery, which, should it equal the prospects already obtained, will furnish work for a large mining population, and restore something like prosperity to this district. It is, however, too early to give an opinion on the subject, as nothing like a fair crushing has been made by the prospectors, who are the only party as yet at work.

The general depression in mining matters has been somewhat relieved since the distribution of the money voted by Parliament for prospecting purposes. In this district a number of parties were successful in their applications to the Prospecting Board for a share of the vote, and most of them began work early in December. Some of these parties are working in places where gold is known to exist, and where a large area of country would be available in the event of their succeeding in finding gold in payable quantities.

The Ellan Vamin claim, late Britannia, is still idle, nor does it appear likely that the proprietors will open the works again. This is to be regretted, as the ground has never been thoroughly proved, and the locality is still considered by some as one of the most likely spots in this portion of the gold-field.

On the prospecting reserve, on the Black Lead, known as Scully's, nothing has been done during the past year, with the exception of the erection of a puddling machine. The works and machinery are all in good order, and it is a pity to see them lying unused. The original reserve (160 acres) has been reduced, and the prospector now only holds 25 acres, the balance of the reserve being thrown open to the miners.

The Star Lead, adjoining the abovenamed reserve, is also idle for the present. It is held under lease, and I am informed that the lessees intend to commence work as soon as they can obtain suitable machinery for the purpose.

At

At the Nil Desperandum the work is being carried on with all possible despatch. The sinking is extremely difficult, being through limestone rock, which also makes the working of this mine very expensive. The shaft is now 270 feet deep, and there is a considerable flow of water to contend with. In my last report I mentioned the peculiar and unusual formation of the ground in this claim, and also that the Company intended sinking to the depth of 300 feet in the hope of finding the limestone resting on gravel on a slate bottom. Should this be the case, there is little doubt but that payable gold will be found, and so make this claim a valuable mining property.

Little or nothing is doing in the other portions of this gold-field. There is always a number of men scattered over the various diggings who seem to be making a living, and who appear to be satisfied with their condition; but their number is gradually diminishing year by year, as they leave to seek more remunerative work elsewhere.

*Three Gold-mining Leases.*—3 special gold-mining leases and 8 mineral leases have been applied for during the last twelve months; and 178 miners' rights, 11 business licenses, and 10 mineral licenses were issued from this office during the same time.

During the year 1887 the Banks purchased gold to the amount of 1,602 oz. 16 dwt. 14 gr.

#### LACHLAN DISTRICT—FORBES, PARKES, AND GRENFELL DIVISION.

(*Mr. Warden Sharpe, P.M., Forbes.*)

I HAVE the honor to submit, for the information of the Honorable the Minister for Mines, my annual report for the year 1887 on the Forbes Division of the Lachlan Mining District.

In the immediate neighbourhood of Forbes several alluvial mines are at work on the Old South Lead. Of these I may mention the Crinoline, the Try Again, and the Forbes Alluvial. The land they embrace is all old and abandoned ground, but the shareholders were of opinion that some unworked ground still remained, and, as regards the Crinoline, this opinion has been proved to be a correct one. And the same result will probably be arrived at in the other mines I have mentioned. In the Crinoline between 300 and 400 oz. have been obtained since May last. The Company had to incur a great deal of expense in opening up the mine and in timbering the shaft and drives. They had to purchase extensive winding machinery at a cost, in round numbers, of £900. This debt has been paid off, and the mine is now free from debt. There are 30,000 £1 shares, and it has not been necessary to call up more than 4s. on each share. In the state the mine is at present it does not seem probable that any further calls will be made. The Company have an extended alluvial claim of 25 acres. The chief expense has been in opening up the mine and in preparing to block out. Twenty-four men are at present employed, and it is intended to increase the labour at once; so that whether it is payable or not will soon be determined.

The Company known as the Forbes Alluvial adjoin the Crinoline on the south boundary. They occupy 25 acres under lease, and are erecting machinery. Their shaft had to be sunk through 30 feet of drift sand, which caused a heavy expense. As soon as the necessary machinery is completed they will further test the mine. The Britannia Quartz-mining Company are also erecting winding and pumping machinery; their crushing plant is complete and ready for work. The reef is a very large one in places, and stone yielding as much as 3 oz. to the ton has been taken from it. The Companies I have mentioned are, I am informed, almost wholly supported by local capital.

At the Bald Hills, 4 miles north of Forbes, one party of miners have been at work for some time, and I am informed that they are on payable washdirt in new ground, 170 feet sinking. This alluvial ground is outside the old lead, on which a great deal of money has been spent, but which did not give satisfactory results. Perhaps the recent discovery I have mentioned may prove of great importance. The finding of a payable lead in this neighbourhood would give a great impetus to alluvial mining in this district. The following prospecting parties are at work in this division of the Lachlan Mining District:—J. Hasenkam, at Strickland's Reef, 8 miles north of Forbes; Raphael Warner, on the Forbes and Parkes Road; Gundry, Keegan, and party, and J. W. Browne and party, at the Pinnacle Boyd Station; Henry Davidge and party between the Parkes Road and the Stockman's Waterhole. It is extremely probable that at some of these places payable gold will be found.

At the Pinnacle Reefs, about 24 miles south of Forbes, between that place and Grenfell, Nicolas and party are working eight men's ground—an extended quartz claim. This line of reef was worked twenty years ago, and at various times since. It was very "patchy," and was abandoned as not being payable. Nicolas and party determined to give it another trial, and after a considerable amount of money had been expended in sinking a shaft further along the line of reef than the old workings, they were so satisfied with the prospects they obtained that they erected a battery and crushing plant at the mine, at a cost of £900. The tanks are now to be enlarged, which will be a further expense. The Pinnacle reef, which Messrs. Nicolas and party are working, is from 3 ft. to 5 ft. wide in places. The first crushing of 600 tons was not payable; but quartz taken from a greater depth was, and a crushing of 126 tons yielded half an ounce per ton. I am informed by Mr. Nicolas that 6 dwt. per ton will pay. There are 150 tons at grass, which it is estimated will give  $\frac{1}{2}$  oz. to the ton. The working shaft on this extended claim is 130 feet deep. There is water in it, but not more than can be utilized for the engine. The crushing plant with ten stampers can crush one hundred to one hundred and ten tons of stone per week. If this mine pays, and the proprietors are satisfied so far, they purpose adding ten more stampers to the battery. The last crushing of 300 tons yielded 6 dwt. per ton. This was stone taken from above the water-level. Below the water-level the stone seems richer, and 150 tons of it yielded  $\frac{1}{2}$  an ounce per ton.

At Back Yamma, 15 miles north-east of Forbes, Messrs. James Twaddell and party are working a 5-acre lease, which was taken up for gold; but it seems probable that the reef contains payable silver.

#### *Parkes.*

At Parkes, which is the chief mining centre in this mining district, there are a good many quartz claims at work; new finds are often made, and it is probable that this field will yield employment to a large number of miners for many years to come, as it has for many years past. Some of the quartz claims are a good deal more than payable, and one claim, which I shall describe more fully presently, has made its owner a wealthy man. As showing that there is not much probability of the mines in this district being

being easily worked out. I may state that there is an auriferous belt extending north of Parkes some 50 miles to Tomingley, and south of Parkes 12 miles to Strickland's reef, and none of these reefs have been, I believe, tested to a greater depth than 260 feet, and very few to that depth. At the Dayspring and Homeward Bound reefs, near Parkes, a great deal of money has been expended in time past. I am informed that extended claims have been taken up for the purpose of testing these reefs at a greater depth than has hitherto been attained. In the Dayspring mine, which has been lying idle for a long period, the reef was about 4 feet wide, and crushed from 10 to 12 dwt. per ton. This should pay now, as I believe the rate of crushing at Parkes is very reasonable, and the expenses of cartage would not be large. On the Buchanan line of reef, in the town of Parkes, seven claims are working, and some of these are yielding handsome returns. I may mention Hazelhurst's, Drummond and party's, McIntosh and party's, and Backstrom and party's. The last-named are working a block of stone hitherto untried by previous owners of the claim, and have obtained some very rich specimens. In 'Possum Gully, Callaghan and party have discovered what appears to be a payable block of stone, and have raised 30 or 40 tons of stone, showing coarse gold freely. This discovery has caused a great deal of prospecting to be done in this neighbourhood, but so far without success. During the latter portion of last year some valuable stone was raised from the Caledonian Hill, near Parkes, which yielded as high as 2 oz. of gold per ton.

In Dean and party's claim, the Koh-i-noor, near the Caledonian Hill, I am informed there is a large body of stone in sight, estimated to yield over an ounce per ton. Three shafts are working, so the quantity of quartz raised should be large. At Tolthurst & Company's claim, on Coobong Run, some rich stone is being obtained, yielding between 2 and 3 oz. to the ton.

As regards alluvial mining, there have been several new discoveries during the past year, but none of any importance. At the Batchelor's lead, 15 miles north of Parkes, a number of alluvial claims are at work. A puddling machine and dam have been erected, and probably a good deal of prospecting will be done to prove the value of the lead. As I have already stated, there is one claim in the town of Parkes which has yielded, and is still yielding, a large quantity of gold. This claim is known as Hazelhurst's, and it had been worked and abandoned several times before the present owner found the shoot of gold which has made his fortune. His experience shows how careful a miner should be before he leaves a claim as worthless. In the latter end of 1883, Mr. Hazelhurst took up an extended claim, 200 feet by 400, on the reef which runs through the town of Parkes, and is known as the "Buchanan." He sank a shaft 80 feet on the Bushman's lead, and bottomed on the reef just mentioned, but the stone was not payable. He then tried an old shaft on the line of reef, driving some 38 feet, but was not successful. He then tried some stuff that had been thrown out of the old shaft, and got some colours. He concluded this came from an old drive in the shaft I have mentioned, in which was a leader. He tried this leader, which was only 6 inches in thickness, and got a little gold. There was only a small quantity of stone to be got at the one end before he would be on the adjoining claims, and at the other end the leader seemed to have differed out. But this was not the case; by driving he got some good prospects. He sold half the claim for £50, but the buyer was not satisfied with his bargain, and sold the share, two days after he bought it, back to Hazelhurst for £25. Hazelhurst then raised 13 tons, and got 3 ounces to the ton. At the end of the mine he sank a shaft, and has been working it ever since. This shoot of gold was 120 feet in length. The following crushings have been taken from this mine:—

		oz. dwt.	£ s. d.
December, 1883 .....	13 loads gave	40 6	145 7 11
July, 1884 .....	127 "	557 0	2,124 8 2
October, 1884 .....	66 "	209 15	728 13 7
January, 1885 .....	110 "	269 10	981 13 5
May, " .....	106 "	522 0	1,871 3 6
December, " .....	160 "	537 10	1,936 5 7
January, 1886 .....	45 "	174 14	630 6 11
May, " .....	110 "	322 0	1,140 1 11
September, 1886 .....	101 "	577 17	2,095 17 9
November, " .....	95 "	682 0	2,104 0 0
March, 1887 .....	147 "	1,197 0	4,189 10 0
June 2 .....	67 "	686 0	.....
December 30 .....	236 "	862 0	.....

#### Molong.

In this division of my district a good deal of money has been spent, with, so far, no remunerative results. About 17 miles west of Molong several leases have been taken up—two by Messrs. J. E. Kelly and party, 8 acres in each. On one of these a shaft has been sunk 60 feet, on a lode discovered by Delany and party in July last. They sank on a gossan lode, and came on what Mr. Kelly informed me was called garnet rock. The lode stuff resembles fine brown sand, and contains fine gold, which was visible in every dish—some half-dozen—I saw washed. The lode appears to be large, its bearing is north and south, and its walls are slate. The proprietors appear to have great confidence in their mine, and as an evidence of this they have erected a 5-stamper battery on the lease, with power for five more stampers, if needed. They have also excavated two dams; the expense of these and the crushing plant must have been considerable. It is reckoned that 6 dwt. per ton will pay; and various assays, carefully taken, give an average of an ounce per ton. The lode has been traced for some distance through Kelly and party's lease, and two other parties are prospecting for it with a fair prospect of success.

#### Gumble.

Eight miles south of Kelly and party's mine, at a place called Gumble, four leases of 40 acres each and one of 30 acres have been taken up, and worked by Messrs. Kelly and party for tin. Mr. Kelly informed me that a lode had been found in these leases 9 feet in width, between slate and granite walls; that the ore taken from the lode assayed as high as 60 per cent. of tin and 2 or 3 per cent. of copper; and that the average yield would be 7 or 8 per cent. of tin. No work is being done on these leases at the present time. Between Gumble and Delany's and Kelly's mine a Mr. Hills is working a mine on private property for bismuth. I was informed that assays of the ore gave from 3 to 18 per cent. of bismuth and 4 oz. of silver per ton; that the lode is 2 feet wide; and that a shaft has been sunk on it 30 feet deep. At the Bell River, at a place called Sammy's Mount, on a selection belonging to one Nicolas Quirk, 12 miles north-east of Molong, a good deal of prospecting has been done, seeking for an alluvial lead in deep

deep ground. Two shafts were sunk—one 154 and one 220 feet deep. I was informed that a Mr. Halliday started the mine, and then Mr. Moss, of Molong, continued to work it. This gentleman told me that £400 was expended in sinking and driving. The first shaft was bottomed and colours were got, but nothing payable; the wash was 4 feet thick. The second shaft could not be bottomed on account of the water; but this will probably be overcome, and perhaps a payable lead be discovered.

#### *Grenfell.*

In this division there are no new discoveries of any importance to report. In alluvial mining—at the Quandong, a few miles from Grenfell—during the year 1,200 loads of dirt have been washed, for a yield of 180 oz., and about 100 loads remain to be put through the machine. This washdirt is expected to give about an ounce to the load. In quartz-mining in this division the returns are very small for the past year; only 147 tons of quartz were crushed, which yielded 75 oz. of gold. Some prospecting areas have been taken up, and eight leases for mining purposes, during the year. A new discovery has been made on the road from Young to Marsden. About 46 miles from Young, and 22 miles from Marsden, a gold-bearing reef has been discovered crossing the main road, and two areas have been taken up by Madden and party and Beagley and party. The latter have a shaft down about 14 feet. The reef seems well defined, and is 2 feet wide, underlying 1 in 5 feet. The other party of miners have their ground on the north side of the road, and their shaft is 25 feet deep. The two parties have applied for permits to work the reef, and seem very confident that it is payable. The distance from a crushing machine is considerable, but no doubt, if sufficient inducement is offered, and the show is good enough, this difficulty will be got over. The reef runs into leased land (for pastoral purposes) on the north side, and into a conditional purchase on the south side of the road. The place is about 7 miles from Caragabal Station.

#### *Canowindra.*

In the Canowindra division during the past year 861 tons of quartz have been crushed for a yield of 950 oz. of gold; last year 629 tons were crushed for a yield of 807 oz. 12 dwt. of gold, so that there are 148 oz. 12 dwt. of gold more than was obtained last year. This was principally obtained from the reef known as the Blue Jacket. The reef called "Hayes" contributed 75 tons for a little over an ounce per ton. A party of miners are working on the Queen of the Ranges reef, and are reported to be on payable stone. The Mining Registrar informs me that a good deal of prospecting is going on in his division, and that the mines at work appear to be improving with depth. The Ironclad mine at Cargo is now in full work, having been floated for a large sum of money in the English market. New machinery has been erected for treating the ore, which has hitherto been sent away from the mine for treatment; it contains a great deal of pyrites, and the ordinary treatment does not save the gold as it should do. At Dalecouth Hill, I am informed, Messrs. Sharp and party are raising payable stone. The alluvial mines in this division appear to be almost worked out. The Mining Registrar reports that only 50 oz. of alluvial gold were won during the past year.

#### *Cudal.*

In this division a lode has been discovered at the Paling-yards Creek, about 8 miles from Cudal. The party have raised 250 tons of lodestuff. The shaft is 70 feet deep, and the lode from 6 to 10 feet wide. A 5-stamper battery has been erected at the mine, and this expense would not have been incurred unless the assays were satisfactory. At Boney's Rocks, near Toogong, there are ten parties of miners at work, but only two or three of the claims or leases are on gold. Since my last report was written a battery has been erected at Toogong. A crushing of 25 tons from the London claim at Boney's Rocks gave an ounce and 11 dwt. per ton. Irvine and party crushed 10 tons for a yield of half an ounce. The fact that stone can be crushed within a reasonable distance of Boney's Rocks should induce miners to give the reefs in this neighbourhood a thorough trial. Until the machine at Toogong was erected the stone had to be taken to Cargo, a considerable distance, and the expense of carting must have been heavy. I have omitted to mention that a crushing of the lodestuff at Paling-yards gave a return of 13 dwt. to the ton, for 63 tons which was treated at Cargo soon after the lode was discovered. I think the lode near Molong, now being worked by Kelly, Delaney, and party, is of the same nature as that at the Paling-yards.

In conclusion, I think I am justified in stating that in the district under my charge mining is in a more flourishing condition than it was when my last report was written. As an evidence of this, the quantity of gold won from reefs in two divisions—Parkes and Canowindra—during the year 1887 is larger than the yield for the year before. It is true that the increase is not very great, but there is an increase. Further, I believe in this district the number of mines at work is considerably in excess of the number employed when my last report was made. A good many reefs, too, which were abandoned for a long period have been tested during the last few months, and have proved payable. I think the number of men who have been unable to obtain employment on railway or road work, or on stations, has probably been the reason that more prospecting has been carried on in 1887 than in previous years. The fact that the Government are willing to assist partially in prospecting places which were either too expensive to work for miners without capital, or who, if they had some means, were unwilling to undertake the whole risk of prospecting localities which they thought contained payable gold, will give an impetus to mining, which will probably lead to some valuable discoveries being made here and elsewhere. Prospecting parties are at work at the following places in this district:—J. F. Connelly and party, at Melrose Plains; Netterville, Davies, and party, near Gobondry; R. J. Phillips, the Old Dayspring Reef, Parkes; D. M. Millan, at the Tichborne; F. Brogden, at Rocky Ponds; J. F. Connelly, jun., and party, Melrose Plains; Armstrong and party, north-north-west of M'Guiggan's lease, near Parkes; Baptist Warner, near Forbes and Parkes Road; L. Hasenkarn, near Strickland Reef, Gundry; Keegan and party, near the Pinnacle; Davidge and party, between the Parkes Road and the Stockman's Waterhole; James Mitchell, Gobondry Station; J. W. Browne, at Boyd.

There seems to be reason to believe that what is called a "Mining Boom" is setting in throughout the Colony, and the exceeding richness of some silver lodes at Silverton, Broken Hill, and other places, will cause large Companies to be floated, and large areas of land to be taken up, without proper precautions being taken to ascertain whether there is even a probability of success. The disastrous results which followed the mining mania at Hill End, where miles of country were taken up, leased, and Companies formed, to work reefs which had not been discovered—to work these leases large sums of money were subscribed, which found its way into the pockets of speculators, instead of being used for the purpose

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the shareholders intended it should be a lesson to the public not to be led into mining speculations without ascertaining first whether there is a fair prospect of success. All men who have had any experience in mining know perfectly well that because a claim is payable it does not follow that the adjoining land is equally rich, but this seems to be lost sight of when a mining mania sets in. As I have remarked in time past, want of caution and reckless plunging into mining speculations had brought ruin on many, has brought a valuable industry into disrepute, and caused a depression, the effects of which are still felt in all parts of the Colony, which is doubtless abundantly endowed with mineral wealth. Some of the newspapers, I have noticed, have done their duty in this respect, and, in view of a mining revival, have pointed out in very plain terms that the public should use the same precaution and care in dealing with a mine that they would not fail to use in any other line of business. As bearing on the prosperity of this district, I venture to remark that I think our population and wealth would be largely increased if certain parts of this district were thrown open to selection, which at the present time is not available for settlement, because it is on a restricted gold-field. I do not think that the mining interest would be prejudicially affected if this were done, as under the present Land Act ample power is given to the Minister to allow mining to be carried on, if any miner wishes to dig and search for gold on land that has been selected; and there is land in the vicinity of Parkes and Forbes of excellent quality, and in no small quantity, which would be selected at once and used for agricultural purposes, affording a home and support to a large number of families, if the opportunities were offered them to acquire possession of it. I may also remark, that a great deal of this land will never be required for mining purposes, although it is on a restricted goldfield.

#### LACHLAN DISTRICT—YOUNG DIVISION.

(*Mr. Warden Robinson, P.M., Young.*)

In furnishing you with my report for the last year, Young Division of the Lachlan Mining District, I have the honor to observe that very little progress in mining has been made in this locality during the past twelve months. The number of miners' rights issued is the same as we passed out for 1886. In business licenses there is a falling off to the extent of a dozen. Applications for mineral licenses are less by two than that of the preceding year. The gold won, so far as I can gather, in my division has been—for Young proper, 761 oz. 4 dwt. 12 gr., valued approximately at £2,961 14s. 11d.; Murrumburrah and other places have realised 843 oz. 15 dwt. 15 gr., representing cash exchange (say) £3,261 2s. 7d. Aggregate return for the whole of the Young Division amounts in round numbers to 1,605 oz. 0 dwt. 3 gr., and in money value, £6,222 17s. 6d. This shows a decrease in yield, compared with the previous year, of about £2,514 9s. 9d.

During the year 5 gold-mining leases have been applied for, comprising 52 acres, 6 alluvial tenements, 2 quartz claims, 5 dams, 6 water-rights, and 26 resident areas. On Victoria Hill, Messrs. Gough & Company have placed a steam-engine on their claim, of 18 acres, for pumping water from a level lower than their workings. The water is conveyed through 1,500 feet of box-race and the same length of 4-inch piping. Only one pick employed, yet during the past five weeks' labour 45 oz. of pure gold have been obtained. Since my last report the new Burrangong Gold-mining Company's leaseholds have been worked occasionally, and about £1,000 worth of gold won. The Company have added to their plant considerably, but with all their excellent appliances the heavy underflow of water is too formidable to be kept under control. This property, beyond all doubt, is highly auriferous. These holdings and plant are under offer to a wealthy English Company, into whose hands it is anticipated they will shortly pass. Adjoining the new Burrangong grounds is the South Burrangong property, upon which have recently been erected somewhat extensive plant, part of which is a 20-horse-power pumping and winding engine. Two shafts have been put down to a depth of 45 feet. These leaseholds are in every respect in character the same as the New Burrangong property.

Cunningar Mine—the Marshal McMahon old reef—is probably the most extensive gold-mining holding in the Colony. It is situated about 15 miles south-east of Murrumburrah. The Company to which it belongs has already spent about £20,000 on plant. The manager reports having recently treated 500 tons of stone, the yield being 600 oz. of gold. Sixty men are employed on the works. There is a considerable falling off in the number of miners operating at Blind Creek, near Murrumburrah. At that place and Demondrille there are twenty-four miners employed. In the neighbourhood of Wombat and Stony Creek some forty miners are occasionally working. In addition to the figures above quoted, the Mining Registrar at Murrumburrah issued forty-two miners' rights and twelve business licenses. There are only some half-dozen Chinese diggers working in the Young Division of the Lachlan Mining District.

#### LACHLAN DISTRICT—TEMORA, BARMEDMAN, JUNEE, AND COOTAMUNDBA DIVISION.

(*Mr. Warden Baker, P.M., Temora.*)

I do myself the honor to submit my report *re* the several divisions under my charge for the year 1887. Of necessity it will be short and incomplete; these defects are from causes which I could not control. Early in 1887 the duties of C.P.S. and District Court Registrar were added to my work, very much against my wish, as without this extra labour my hands were already very full. I was therefore compelled to neglect a large amount of Warden's duties—even those concerning Temora and the other divisions have been very much neglected. Justice to myself and to the important districts placed under my care demand that so much should be said in explanation. I am now relieved of those extra duties, and I hope soon to clear off arrears of mining work. The several Mining Registrars will have supplied their reports for their respective divisions, and these will, I trust, supply facts wanting in this report.

#### *Temora.*

*Population.*—From a rough estimate made by me, it would appear that the population in and about Temora has for the past year remained, as to numbers, about stationary; some have left, but new arrivals have taken their place. A considerable number of miners have during the year been engaged at work other than mining in and about the suburbs, bush-work, fencing, road contracts, &c. During the year there were issued 332 miners' rights, as against 395 issued in 1886, being a decrease in 1887 of 63, but in January, 1888, there were issued 159 miners' rights, as against 160 in the previous January; of business licenses, 71 were issued in 1887, as against 83 in 1886, being a decrease of 12. As I have before explained, these

these decreases in the number of holders of miners' rights and business licenses do not necessarily indicate a corresponding decrease in the population, because these documents are largely held by business people and others to secure a title to their residence and business areas, and as these become converted into freehold areas the necessity for holding miners' rights and business licenses decreases. During the year 1887 a large number of residence and business areas have been sold, some as J.P.s, and others by auction. The larger portion of the inhabitants in and about Temora now reside on alienated land and conditional purchases. A considerable number of "selections" have been made, and by the right sort of "selectors" too, if one may judge by the energy shown by them in making improvements. These men give large promise of speedily converting the magnificent lands of this district from little better than a dreary waste into a goodly number of pleasant and prosperous homesteads. The one great want of this district is a certain supply of water, and this can be obtained by conserving the rainfall in seasons of plenty, instead of letting it roll in all but waste to the ocean. I think the greatest legislative blessing that could be given to New South Wales would be a thoroughly good Local Government Act, with ample powers *inter alia* to deal with the proper conservation and distribution of water; and for this district such a measure would confer very special blessings.

*Gold.*—There has been a great decrease in the yield of gold comparing 1887 with 1886. The following statement furnished me by Sergeant Buckley the Gold Receiver at Temora, shows that during the year 1887 he received for transmission 3,406 oz. 14 dwt. 13 gr. In the year 1886 he received 7,161 oz. 10 dwt. 5 gr., showing a decrease for the year of 3,754 oz., omitting fractions. The Gold Receiver's statement is as follows:—

RETURN showing the quantities of gold received for transmission by Gold Escort, by the Gold Receiver at Temora, during the year 1887.

Date.	Quantities received.		
	oz.	dwt.	gr.
26 January.....	47	9	7
23 February.....	238	3	13
23 March.....	275	0	21
20 April.....	405	18	20
18 May.....	218	11	14
15 June.....	107	13	22
13 July.....	479	15	8
10 August.....	670	4	15
7 September.....	51	2	3
5 October.....	330	14	13
2 November.....	83	0	0
30 November.....	498	19	21
28 December.....			
Total.....	3,406	14	13

For the purpose of comparison, I give the total quantities of gold sent from Temora by escort each year, 1881 to 1887, both inclusive:—

	oz.	dwt.	gr.
1881.....	29,652	14	4
1882.....	33,348	0	7
1883.....	17,347	8	6
1884.....	14,381	16	1
1885.....	7,865	15	9
1886.....	7,161	10	5
1887.....	3,406	14	13

By the courtesy of Mr. Tompson, manager of the Bank of New South Wales, Temora, I have been furnished with the quantity of gold which passed through that Bank. This statement shows that of the gold purchased by that Bank, 755 oz. (alluvial gold, otherwise sold, about 645 oz., making 1,400 oz.) from alluvial obtained in the Temora Division, and of the gold from quartz, 662 oz. were obtained from Barmedman. I regret that I have not been able to get a return from the A.J.S. Bank for 1887, the manager being, he says, too busy to prepare it. In its absence I cannot by direct means ascertain how much gold came from quartz and how much from alluvial, nor how much from Temora proper; but as nearly as I can make out, there were from alluvial about 1,400 oz., from quartz about 2,000 oz. This, however, is but a rough estimate. The average price paid for gold by the Bank of New South Wales has been £3 17s. 6d. per oz.

The alluvial workings still find employment for the greater number of Temora miners, but many of them during the year had very poor returns for their labour; very little new ground has been tested, and, of course, the old ground every year gets more and more exhausted of gold. Still, some of the old claims continue to yield gold in payable quantities. Very little prospecting has been done, but there is about this district some likely-looking country which at some future time may pay for working. It should be borne in mind that the alluvial auriferous deposits in this district have been what in mining parlance is called "patchy." It is notorious that while one man at Lower Temora has made a not very small fortune by the nuggets found in his claim, some of the adjoining claims did not pay for working; and it is not at all unlikely that some of the country that has been prospected with unsatisfactory results may yet be proved to contain gold in payable quantities.

In quartz-mining we are just quietly holding our own, progressing, perhaps, a little, but very slowly. Mr. Elsbury, the manager of the South Australian Quartz-mining Company, has courteously furnished me with a statement showing that from their mine at Upper Temora he crushed in 1887 of quartz 1,718 tons, which yielded 603 oz. 8 dwt. 6 gr. melted gold, being a little over 7 dwt. per ton. For the public he crushed 309 tons for a yield of 140 oz. of gold, being a little over 9 dwt. per ton. The quartz from the South Australian Company's mine has been taken from a depth of 200 feet upwards to within about 60 feet from the surface. This Company now prospecting at some 270 feet below the surface with fair prospects of success. The lode is about 2 feet 6 inches wide. The manager says it is in hard blue diorite, but as they are using the rock-drills worked with compressed air they get through a fair amount of work at a moderate cost, considering the hardness of the country.

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The Hidden Star has been working with some three or four men with satisfactory results. This property has been sold to some Victorians, who are arranging for the erection of a crushing plant.

The Mother Shipton and adjacent mines have been all but idle the whole year. These mines have been put on the London market, with what result is at present uncertain, except the ascertained fact that the works have been very much delayed. I have sometimes been sorely perplexed as to whether I ought or ought not to grant permission to these holders to suspend labour. On the one hand, to refuse such permission might have prevented a large amount of capital being put into the development of these promising mines; and on the other hand, to grant this continuous suspension of labour might just be playing into the hands of mere speculation, "Waiters on Providence." The shareholders with whom I have had to deal are men of good reputation and character—men whose interest is largely dependent on the well-being of the district. I therefore granted the necessary permission, which has been more often required than would have been needed but for some delay in issuing one of the leases, the London syndicate being very cautious not to move until they saw all the titles perfect. The immediate effect, however, of this suspension of labour has been to allow mines to lie idle, and, as a matter of course, to lessen the output of gold.

During the year 21 applications have been made for gold-mining leases; the aggregate area so applied for, 119 acres, as against 25 applications for the aggregate area of 14½ acres in the year 1886. A considerable number, however, of the gold lease applications in 1887 were for land in and about Cowabee.

At Sebastopol the principal mines are the Morning Star, the Evening Star, and the Homeward Bound, now called La Mascotte. The last of these has been all but strangled by the demon of litigation. Scarcely any work was done in 1887, and as this is the only crushing plant within reasonable distance of the other mines, the closing of these works had the effect of all but closing those adjacent thereto. From these and other causes, mining at Sebastopol has been all but at a standstill during the year.

#### Barmedman.

On the whole, the mining interest at Barmedman during 1887 has been fairly satisfactory. The great "floating" trouble has not, however, been *minus* here. The principal mines, including the Fiery Cross, have been offered to a London syndicate, and I am informed with success; and there can be no doubt but that these mines offer a fair and sound opportunity for the legitimate investment of capital. Much, however, will depend upon the management. Mining experts condemn the mere hand-to-mouth system adopted by the Barmedman United Company in merely "scratching" about the "shallows," instead of also going down to test the lode at deeper levels. Every practical gold-miner knows that even in the best of mines there is a large amount of uncertainty as to results, and consequent risk and speculation. Sometimes rich prizes are drawn; but at other times blanks turn up. Admitting all that fully, nevertheless it is quite certain that many mines prove to be blanks to the shareholders that would be fair prizes if properly managed. Defective management must not, however, be always laid at the manager's door. Good management often means expending large sums of money in what is called "dead" work, but work without which being done the mine could not be worked properly, and unless in such cases the shareholders find the funds the management is all but powerless.

Mr. Love, the Mining Registrar at Barmedman, has furnished me with the facts forming the basis of his report, and as they are full it would be useless for me to go over the same ground. 1,370 tons of quartz have been crushed, and have yielded 1,454 oz. 9 dwt. 14 gr. of gold, being a little over 21 dwt. per ton. To this gold add 87 oz. obtained from mullock, which gives about 1,542 oz. of gold, of the money value of £5,975. This gold, it should be remembered, is included in the 3,406 oz. hereinbefore credited to Temora.

Barmedman is a reefing district. Up to the present time no alluvial has been proved to be payable, although a fair amount of prospecting therefor has been done. At the Hard-to-find, about 2 miles north-easterly from Barmedman township, the result of the past year has been fairly encouraging 315 tons of stone have yielded 496 oz. of gold. The Company owning that property had an engine on the claim, and are now about to provide proper pumping and crushing appliances, with good prospects of being fairly remunerated for their outlay. Then, close by, there is the Phoenix "Country," which in the past gave excellent prospects, and which has never had a fair and systematic testing. On the whole, Barmedman prospects are cheery. The principal mines hold out large hopes, and, as they are under the control of local men of good sound practical common-sense and thorough integrity, will, if I mistake not—in the not very distant future—afford profitable employment for a large number of men, and make Barmedman itself a prosperous mining town.

*Cootamundra.*—The principal mines in this division are at Muttama, and I have not been able to visit that place during the year—at least, not since January last—and I am unable to say much about it, except that I know by correspondence with Mr. McCarthy, the Warden's Clerk, and with miners and others that considerable attention is being directed to this district by men of means; and that the prospects are such as would justify the outlay of capital in their judicious development. During the year some traces of silver and lead, but whether payable or not has not been ascertained. Here the common "floating" struggle has greatly retarded actual mining operations.

*Clarendon Division.*—I have not been able to visit Junee or Cowaker during the year. As to Junee, I gather from my correspondence that mining has been very quietly progressing with moderate success. At Cowaker, Belmore Reef, and thereabouts small spurts of mining excitement have cropped up during the year, owing to fresh discoveries of gold which promise to give reasonably fair yields. A crushing plant has been erected at the "Belmore," and is now in the hands of the Messrs. Ferrier, and, as far as I can ascertain, these gentlemen have largely contributed to the development of this district.

In concluding this hasty and imperfect report, I desire to again call attention to the defective state of the laws regulating gold-mining. His Honor Judge Forbes, it will be remembered, on 1st April, 1886, pronounced three regulations made by the Mining Board to be *ultra vires* (Nos. 124, 125, and 126). These regulations provided for the labour conditions under which claims were forfeitable as a penalty for non-efficient working; and it is now regarded as a settled point that non-working does not now involve forfeiture, and that a man having got registered for a claim may continue to hold it without doing a stroke of work, so long as he continues to be the holder of a minor's right. Under this impression the loafing legal shepherds are jubilant, thinking they can hold their claims in that way without risk. In that, it appears to me, they in some respects misunderstand the effect of His Honor's decision. That did not attempt to say that the Mining Board had not power to impose labour conditions, but that the Board had

had no power to make forfeiture the penalty for non-observance,—and one of the strong reasons given against forfeiture being the penalty was the fact that by section 126 of the Mining Act 1874 a breach of any regulation could be punished by a money penalty of £10. Now, pending legislation to radically cure the defective state of the present law, which is urgently required, perhaps it would be of service if these scheming lazy shepherds were made to understand and feel that the luxury of holding a claim without properly working it involved the further luxury of paying a daily penalty of £10, and that in glaring cases either the police or the Warden's bailiff be instructed to prosecute. Be that as it may, it is important that something should be done to prevent scheming loafers from locking up mines, to the great injury of the legitimate honest and industrious miner.

LACHLAN DISTRICT—BARMEDMAN DISTRICT.

(*Thomas Love, Mining Registrar.*)

I HAVE the honor herewith to submit my annual report on the mining industry in the Barmedman Division of Lachlan Mining District for the year ending 31st December, 1887. The quantity of gold won during the year amounts to 1,541 oz. 19 dwt. 7 gr.; value, £5,975 2s. 3d., at the average price of £3 17s. 6d. per ounce. All the quartz crushed gave an average of 1 oz. 1 dwt. 5 gr. per ton. Six gold-mining leases, embracing an area of 40 acres 30 perches, has been applied for during the year. Eighty-eight miners' rights and sixteen business licenses have been issued.

The mining industry in this division for the year just ended bears unfavourable comparison with the previous year. This is shown by the small quantity of stone raised during the year, being only 1,370½ tons, as against considerably over 2,000 tons raised in the latter six months of the previous year. The cause of the depression, however, is not so much a falling off in the quality of stone in the several claims as it is to the fact that nearly all the claims are worked down to the water-level, and have been converted from ordinary claims into leasehold areas. This has been followed up by obtaining suspensions of the labour conditions, and by the placing of the whole of the properties in the hands of an agent to float in the London market, with the view of obtaining the necessary funds to test the different reefs at a depth below water-level. The mines being thus, comparatively speaking, locked up, will account for the falling off in the returns, and for the decrease of the number of miners on the field, who, being unable to find employment, had to go elsewhere.

In the month of March, Hassett, Nessi, and party took up a claim immediately under the southern fall of the Ada Hill to prospect for alluvial. The sinking was about 9 feet. They obtained occasional good prospects, and found three small nuggets—one (the largest) weighing 1 oz. 15 dwt., one 1 oz. 4 dwt., and one 1 oz., besides several smaller ones. They got in all about 8 oz., but failed to trace the gold away from the prospecting claim. Several parties believing that a payable lead existed somewhere in the vicinity set to work, and a number of shafts, varying in depth from 6 to 80 feet, were bottomed, but did not succeed in finding gold, or even wash. The deeper shafts bottomed on round tertiary boulders. This is the same formation as that in which all, or nearly all, the gold-bearing reefs are found in Barmedman. In many instances the reefs have been found traversing the boulders in exactly the same manner as found in slate granite and other primary rocks. The prospecting for alluvial has now been abandoned. Practical miners express the belief that the gold found by the prospectors had been deposited by a "blow" from a reef or dyke.

Messrs. Hardy and Merton, of Wagga, who erected a steam-pumping plant at the Hard-to-find reefs in the beginning of the year, have had to discontinue work in consequence of an accident to the pumps, and the consequent flooding of the mine. Strong hope was entertained when this work was started that, should they succeed in sinking to the depth they intended (150 feet), and cutting the reef at that depth, that it would mark a new era of prosperity for that portion of the field, as the stone found above water-level, although small, was rich, having given returns of over 6 oz. to the ton. On one occasion a parcel of 5 tons taken out below water-level immediately before the accident gave a return of 18½ oz. The manager, Mr. Robert Cassin, states that he has ordered new and stronger pumps, and that another effort will be made to subdue the water and reach the 150-foot level, where he anticipates cutting a much larger body of stone than that at the 80-foot or water level.

Number of miners' rights sold, 88; number of business licenses sold, 16; number of leases applied for for gold-mining purposes, 6—embracing an area of 40 acres 30 perches; total quantity of gold obtained for year, 1,541 oz. 19 dwt. 7 gr.; value at average price of £3 17s. 6d., £5,975 2s. 3d.; number of reefs from which gold has been won during year, 10.

The greatest depth at which mines have been worked and gold obtained during the year has been at Jackson's Reef (Barmedman), Jackson's Hard-to-find, and Hardy and Merton's Hard-to-find, at a depth of 130 to 140 feet. Three hundred and fifteen tons of stone taken from above claims gave a return of 495 oz. 16 dwt. 4 gr. of gold.

LACHLAN DISTRICT—JUNEE DIVISION.

(*A. R. Elliott, Mining Registrar.*)

I HAVE the honor to state, for the information of the Honorable the Minister for Mines, that there has been very little improvement in the mining industry here during the past year. The amount of gold (alluvial) won has been 89 oz., which was purchased by Mr. Ross, manager of the Bank of New South Wales, at £3 17s. 6d. per oz. During the year I issued 34 miners' rights, and received 3 gold lease applications and 2 applications for extended quartz claims, from which latter I hear some very good prospects have been obtained. I have recently been informed that endeavours are being made to get machinery on the ground.

I hope next year to be in a position to furnish a far more favourable report.

LACHLAN DISTRICT—TEMORA DIVISION.

(*James Davoren, Mining Registrar.*)

I HAVE the honor to submit the following as my report for the Temora Division of the Lachlan Mining District for the year 1887.

The gold received by the Banks during the year was 2,191 oz.; of this, 801 oz. was from quartz and 1,390 oz. from alluvial.

I am aware that some of the miners who left this district during the year took away to Sydney and Melbourne large quantities of gold won on this field, and for which the field will not have credit in this return.

The South Australian Company's machinery was the only machine or engine at work in this division during the year.

The crushing at this machine during the year was—For the Company, 1,718 tons, which gave a yield of 603 oz. 8 dwt. 6 gr., of the value of £2,337 4s.; tributors for the Company, 195 tons, which yielded 56 oz. 5 dwt. 18 gr., of the value of £218 2s. 3d.; and for others, 309½ tons, which yielded 140 oz. 6 dwt. 21 gr., of the value of £543 16s. 8d.

In the Cowabbie portion of this district 27 claims were applied for during the year 1887, and in North Berembid 11 claims were applied for; these claims have not yet been thoroughly proved, but the opinion among experienced miners is that these districts will absorb a large amount of labour during 1888.

I issued 332 miners' rights during the year, leaving decrease in the number of 63 from the year 1886. About 100 miners are engaged in alluvial and 100 in quartz-mining; the remainder are held by persons who occupy Crown lands or hold mining interests.

I issued 71 business licenses—11 less than I issued in 1886. The cause of the decrease in the number of business licenses issued this year is, a great many of the allotments held under these titles have been purchased, rendering business licenses unnecessary.

There would be much more work done in quartz in the Temora District but most of the claims abandoned have been registered, and miners are afraid to take them up owing to the decision in the Mining Appeal Court in the case of Lucas v. Bushell and others, lest they should, after finding gold, lose both their labour and the claim.

There were about 8,000 loads of dirt washed at the various puddling machines, which gave an average of about 2 dwt. to the load.

#### LACHLAN DISTRICT—MURRUMBURRAH DIVISION.

(Charles Outcliffe, Mining Registrar.)

I HAVE the honor to report for the year ending 31st December, 1887:—

The gold won during the year amounted to 767 oz. 17 dwt. 15 gr., in value, £3,354 10s. 4d., showing an increase on the previous year of 169 oz. 7 dwt. 8 gr., and value, £1,039 12s. 2d.

The number of miners' rights issued has been 42; business licenses, 12. The price of gold at the Bank, £3 17s. 6d.

The Cunningham reef, situated about 12 miles from Murrumburrah, is now in active operation.

The Archdeacon reef was taken up in August last, situated 4 miles from Wombat and 8 miles from Murrumburrah. It is 800 ft. in length and 400 ft. in width; the working shaft is 60 ft. in depth of soft granite. Six tons of stone have been crushed in Sydney, yielding 4 oz. 0 dwt. 8 gr. of gold per ton.

#### LACHLAN DISTRICT—YOUNG DIVISION.

(W. E. Rogerson, Mining Registrar.)

I HAVE the honor to report that mining operations in this locality during the past year have exhibited but little signs of activity. The principal mine, viz., the New Burrangong, has for some time past been under offer to an English Company; hence its operations have not been of any importance latterly. During the year between 400 and 500 feet of driving have been done, principally for the purpose of cutting the water off the main lead. The prospect obtained from any part of the lead so far driven upon is, I am informed by the manager, about 5 oz. to the square fathom. Two shafts have also been sunk on the southern boundary to cut water off, one that was bottomed proving payable ground. Two bores have also been put down in different places on the mine, all of which contained payable gold at the rate of about 5 oz. to the square fathom. The amount of gold obtained from the mine was 247 oz. 3 dwt. 14 gr.

On the South Burrangong gold-mining claim there has been erected a 20-h.p. pumping and winding engine, with sheds, and two shafts have been sunk to a depth of 45 feet. Several bores have been put down, the prospects of which yielded at the rate of 5 oz. to the square fathom.

The Burrangong Steam-slucing Company, Victoria Hill (Gough and party), have recently commenced operations, with very encouraging prospects. This property consists of 18 acres, and a valuable machinery plant has been brought into operation. The yield of gold for five weeks, with one pick, was 45 oz.

During the year I have issued 390 miners' rights (same number as the previous year), 21 business and 2 mineral licenses, realizing the sum of £191. Five gold-mining applications—aggregate area, 52 acres—6 alluvial, and 2 quartz claims, 5 dams, 6 water-rights, and 26 residence areas complete the record of the year's transactions.

The following particulars *re* gold purchased in Young have been courteously supplied by the managers of the Bank of New South Wales and Union Bank respectively:—

	oz.	dwt.	gr.	£	s.	d.
Bank of New South Wales ... ..	569	8	2	2,218	10	5
Union Bank ... ..	191	16	10	743	4	6
	761	4	12			
Giving a total value of ... ..				£2,961	14	11
The average price being £3 17s. 6d. per oz.						

LACHLAN

## LACHLAN DISTRICT—CUDAL DIVISION.

(W. H. Souter, Mining Registrar.)

I HAVE the honor to report as follows of the mining carried on in this division during the year 1887:—A large quantity of land has been taken up in this division, principally at Boney's Rocks, near Toogong, for gold-mining purposes. The sinking is hard stone, and can only be got out by blasting with powder. In all, 85 tons of stone have been crushed by local machinery, realizing 157 ounces of gold, valued at £467 1s. 4d. (that is in 1887). A battery has been erected at Paling Yard Creek by prospectors, Courts and party, but as it has only lately been started no returns can yet be given. The lode is of gossan, 3 to 6 feet wide, and difficult to separate from the gold; they are, however, by slow and careful working giving it a good test, which shall be duly reported. The prospectors are hardworking practical men, and will give the field a fair trial. They have about 200 tons to crush, and the lode keeps about the same width right down. A battery has also been erected at Toogong, where a certain amount of the stone at Boney's Rocks has been crushed. The Company have no fixed engine of their own at present; they are depending on an engine which the proprietor is working just now with a threshing machine at various farms in the district, but will soon be ready for crushing again. Mining prospects look fairly well in this division, and the various reefs will be thoroughly tested.

## LACHLAN DISTRICT—CANOWINDRA DIVISION.

(William Cook, Mining Registrar.)

DURING the year 1887 there has been a further improvement in mining matters all through this division, the amount of gold won being 1,100 oz. against 801 oz. for 1886.

*Blue Jacket*, Canowindra.—This has been the principal gold producer in the division; 701 tons of stone crushed for a yield of 821 oz. 9 dwt. 12 gr. They are now working at a depth of 200 ft., the stone improving with depth.

*Hayes' Reef*, Belmore, is now being worked by M'Intyre and party, who crushed 69 tons for a return of 70 oz. 15 dwt.

*Queen of the Ranges*—Joseph Smith and party have been working during the whole of the year with poor results. They are now reported to be on payable stone.

*Cargo*, Dalcott Hill.—Sharp and party have had a crushing—23 tons for 39 oz. 10 dwt. 12 gr. They also crushed 1 ton of picked stone for 25 oz. gold; 4 tons of stone sent to Sydney for treatment yielded 4 oz. per ton of free gold. The pyrites have been sent to England for treatment. Mobbs and party are also working on this line of reef.

*Ironclad*, Cargo.—This mine, which is situated at Cargo, has been purchased by an English Company, who commenced work in June last, and a trial crushing in Sydney from the 80-ft. shaft gave 2½ oz. free gold per ton, the concentrates giving 6 oz. 19 dwt. 9 gr. per ton. The stone above this level is being put through a very indifferent battery, and averages 1 oz. free gold per ton, two concentrates assaying 8 oz. per ton. New plant is to be erected for treating the refractory ore at the deeper levels. At present over forty persons are employed at the mine and battery, operations being directed chiefly to development. The deepest point reached is 400 feet from surface; here the shoot of ore assays 4 oz. 9 dwt. 3 gr. gold, 10 oz. 11 dwt. silver, and 10·16 per cent. copper per ton. The prospects of this mine are considered very satisfactory, and high results are expected from the new plant.

Alluvial has been confined to fossicking amongst old workings at Gum Flat.

## LACHLAN DISTRICT—GRENFELL DIVISION.

(W. H. Hazelton, Mining Registrar.)

I HAVE the honor to forward my report for 1887. Unfortunately I cannot record any improvement in mining matters in this division, either in alluvial or quartz. During the year the principal portion of alluvial mining has been carried on at the Quondong, at which place there has been washed about 1,200 tons of alluvial dirt, which gave a return of 180 oz. of gold. At present there are three claims working in this gully—three men in each. One party of them, John Gallagher & Co., have about 100 tons of dirt at grass; this they inform me will yield an ounce to the ton. The other two claims are prospecting. On the old main lead near Grenfell there has been very little work done. During the first part of the year two claims were worked—Fitch and party, and Gullen and party. The former washed 50 tons and the latter about 20 tons; the yield from both was 13 dwt. to the ton. This was only a patch, for they could not obtain any more payable dirt, and they abandoned it. At the Milkman's Two-mile and Star leads no mining has been done since 1886. At the Seven-mile two claims have been working, but are now abandoned, and in consequence of the persons being absent I was unable to obtain any information as to yield, &c. In March, M'Clelland and party (four men) prospected Madden's Gully for alluvial, which is situated about 2 miles south from Grenfell. After sinking and driving several shafts they only obtained the colour. In April, Ley and party (four men) prospected the locality known as Stump-hole Creek, situated on Warraderry Run, about 24 miles north-west from Grenfell, for alluvial. After giving it three months' trial, during which time several shafts were sunk and driven, but nothing payable was obtained. I may mention this party was partly assisted by the business people of the town. There are some parties prospecting for alluvial at Sandy Creek, which is about 26 miles west from Grenfell. They state that they have only obtained a strong colour, but are very confident.

In quartz I regret the return is so very small. There were only 147 tons crushed during the year. The Consofs lease, 4 acres.—Fitch and Sons have been raising stone for the last three months. Lawson's Reef.—Hincheliffe and party are also raising stone. The Enterprise, Homeward Bound, and other reefs I may say are at a standstill. The following parties have registered prospecting protection areas for quartz:—Nelson & Co., Bland; Hodge & Co., Sandy Creek; Brenner & Co., Sandy Creek. None of them have reported anything payable. There have been four ordinary quartz claims registered at Sandy Creek and one at the Bland. These parties inform me that they are prospecting, and are of an opinion that payable gold will be obtained in some of the claims at Sandy Creek. During the year eight gold-mining leases have been applied for, as under:—J. Rich, 16 acres, on O'Brien's Hill; P. Bourke, 4 acres, Lucknow Hill; J. R. Wallace & Co., 3 acres, Welcome Hill; Hogan & Spence, three leases, two 4 acres and

and one 3 acres, on the Lucknow Hill. The applicants for the three last-mentioned leases are Victorians, and I am informed that these leases are to be worked by a Melbourne or an English Company. Littlefield & Co. applied for a special gold-mining lease of 30 acres for alluvial at the junction of the Lachlan and Burrowa Rivers. In December, Messrs. Slee and Wilkinson, members of the Prospecting Board, inspected the several localities for which application for aid had been made. During the year I issued 185 miners' rights, 8 business licenses, and 1 mineral license.

LACHLAN DISTRICT—PARKES DIVISION.

(*Wm. C. Weston, Mining Registrar.*)

I HAVE the honor to forward my annual report for the Parkes portion of the Lachlan Gold-field.

The mining industry in the Parkes District shows a sound improvement for the past year, both in reefing and alluvial work. Upon the Buchanan line of reef there are seven claims working, some of which are yielding handsome returns—viz., Hazlehurst's, Drummond & Co.'s, Mcintosh & Co.'s, and Backstrom & Co.'s, the last-named working upon a block of stone which had been undiscovered by previous holders of the ground; some very rich specimens have been obtained by the party. In Possum Gully, which apparently abounds in reefs or blocks, Callaghan and party have a newly-discovered block, and have 30 or 40 tons of stone at the surface which shows coarse gold freely. The new find has caused a lot of prospecting in the vicinity, but so far without result.

During the latter portion of the year very good quartz has been obtained by different parties from the Caledonian Hill, yielding as high as 2 oz. per ton. At the Koh-i-noor claim (Dean and party's), near the Caledonian Hill, a large body of payable stone is in sight; the party have three shafts working a large easy-worked reef, and their stone averages over an ounce per ton. At Tolhurst & Co.'s, on Coobang Run, rich stone is obtained, yielding between 2 and 3 ounces per ton. The yield from reef gold for the year was 4,789 oz. 11 dwt. 7 gr., being an increase of 211 oz. upon the yield for 1886.

In alluvial work there have been several new discoveries, though none have proved more than fossickers' ground, still they employ a number of men who occasionally obtain a good patch, and also prove that there are yet undiscovered leads on the field.

At the Batchelors a number of claims are at work, and a puddling machine and dam have been erected there, which may lead to a run being found. The facilities for washing the dirt will induce further prospecting. The yield of gold for the alluvial for the year was 844 oz. 11 dwt. 22 gr., being an increase for the year of 189 oz. The total yield of gold from this field for the year 1887 was 5,634 oz. 3 dwt. 5 gr.; value, £21,128 2s. This does not include gold taken to Sydney by private hands.

378 miners' rights and 13 business licenses were issued in 1887, and 121 mining tenements registered and 14 gold-mining leases applied for during the same period.

LACHLAN DISTRICT—FORBES DIVISION.

(*E. A. T. Pery, Mining Registrar.*)

I HAVE the honor to submit my report for the Forbes Division of the Lachlan Mining District for 1887. The amount of gold won in this division (as per escort return) last year was 726 oz. 17 dwt. 18 gr., showing an increase of 230 oz. 15 dwt. 23 gr. on the amount won in 1886, to which must be added about 250 oz. still in the hands of the banks, making a total of nearly 1,000 oz. This increase is chiefly attributable to the starting of the Nil Desperandum, Crinoline, and Pinnacle workings.

The Britannia Reef Co. (Limited) are busy erecting winding and pumping machinery, and expect very shortly to have everything ready for crushing.

The Nil Desperandum Alluvial Gold-mining Co. (Limited) were getting good gold in the early part of the year, but owing to having struck a considerable body of water, were forced to suspend work, pending the erection of a new pumping plant, which, on trial, proved totally inadequate for the purpose required. Owing to the above delay, as also to the heavy expenses thereby incurred, it was found necessary to re-organize the Company, and it is hoped that under its new appellation of the "Try Again" its prospects may improve, which, owing to the good reports lately to hand, appears highly probable.

The Forbes Alluvial Gold-mining Co. (Limited), on the South Lead, Forbes, have during the year completed the sinking of their new shaft, after having experienced very considerable difficulty. The shaft bottomed on wash of a payable character. This Company has almost completed the erection of the machinery purchased from the late British Standard Gold-mining Co., at the Bald Hills, which is a first-rate plant, and expect very shortly to get to work below.

The Crinoline Alluvial Gold-mining Co. (Limited), on the South Lead, Forbes, completed the erection of their machinery in the early part of the year, and have since opened up an immense area of payable wash by means of main drives preparatory to blocking, the yield of gold from main drives having for the last four or five months paid all working expenses (including the original cost of machinery). The shareholders confidently expect when the ground is worked by "blocking" to receive handsome dividends. The total yield of gold from this claim has been over 400 oz., most of which has been obtained during the last three months.

At Strickland's Reef a large quantity of payable stone has been raised, and arrangements have been completed for the erection of a battery. Several parties are prospecting the reefs in this neighbourhood, in anticipation of its early appearance.

At the Pinnacle Reef, Messrs. Nicolas & Reymond have removed and re-erected their battery from the creek, and have been crushing some very good stone, the yield being about 315 oz. for the short time they have worked.

Several parties are sinking and prospecting in likely localities near the town, but have as yet struck nothing payable.

The Prospecting Board that lately visited the district have approved of several sites for prospecting. As but two of the above Companies have been at work (and for the latter portion of the year only), I can give no statistical returns, but trust that next year, when all are in "full swing," I may be enabled to furnish same.

During the year I have issued 243 miners' rights, 15 business licenses, and 1 mineral license.

LACHLAN

## LACHLAN DISTRICT—MOLONG DIVISION.

*(M. Hanly, Mining Registrar.)*

I HAVE the honor to submit my report of mining in this division for the year 1887.

At Woollogolong, about 15 miles westerly from Molong, five applications have been received for gold leases, embracing 38 acres, chiefly by Mr. J. E. Kelly, Delaney Brothers, Blunden and party, McGroder and party. The prospectors are Messrs. Delaney Brothers; they found a rubble lode 13 feet wide on the surface; they sank some five shafts varying in depth from 10 feet to 55 feet, and drove 100 feet partly across the lode and partly along it. Several samples of ore were sent to Sydney for assay from the different levels; that from the lowest level is said to have assayed at the rate of 13 oz. of gold and 12 oz. of silver per ton. Mr. J. E. Kelly is now having erected a steam-crushing machine; an excavation of about 1,200 yards with embankments has been made for a dam. There are about 200 tons of ore at grass, which is being added to daily. Robards and party and Blunden and party are prospecting in their respective holdings for the lode. The purchased lands of the Messrs. McCallum Brothers come close to the mine, and the lode can be distinctly traced on the surface of their land for a considerable distance.

At Killonbutta, which is about 10 miles westerly from Molong, and about 4 miles easterly from the Woollogolong mine, Myers, Mould, and Edwards are prospecting for gold; they have a shaft sunk 40 feet. The prospects before sinking are said to have been 3 gr. of gold to the dish, obtained by Edwards. At Gumble, which is 12 miles south-westerly from Molong, five mineral leases have been applied for, embracing about 190 acres. For some reason which I do not know work has ceased on all, but probably will soon be resumed. From Mr. Andrew Delaney I ascertained that on the prospecting block 280 feet of sinking and 228 feet of driving have been done. Other parties have sunk shafts from 20 feet to 80 feet deep.

Mining in this division is only in a prospecting condition, but good results are reasonably expected.

## SOUTHERN DISTRICT—ARALUEN, BRAIDWOOD, LITTLE RIVER, MAJOR'S CREEK, AND NERRIGA.

*(Mr. Warden Aldcorn, P.M., Braidwood.)*

MINING matters in the above divisions of the southern district during the year 1887 have continued very much as they were in the previous year.

The rainfall has been in excess of the average of several past years, and consequently a somewhat increased amount of work has been done in the way of ground-slucing. However, the supply of water has been very far from sufficient for continuous operations. The quantity of gold obtained from the above divisions, exclusive of Araluen, was about 3,000 oz., being an increase of several hundred ounces over the previous year. As regards Araluen, where the workings are best carried on in dry weather, the increased rainfall has been rather injurious than otherwise. Some of the stripping claims were filled in, causing loss of time as well as heavy expense in re-opening. There is consequently a falling off in the produce of this division, although the amount of gold obtained—over 4,000 oz.—may in the circumstances be considered satisfactory from so old a gold-field.

In my last report I mentioned that two parties were about to construct long and expensive races to work ground in the Nerriga Division, near the Shoalhaven River. One of these races has been completed for some months, and a beginning has been made in working the claims held by the Company. I have not recently visited the locality, but I am informed that the prospects are very good. The Mining Registrar will probably in his report give the latest results.

Not much progress has been made with the second race referred to, but it is expected that it will soon be vigorously proceeded with, and the cost, it is said, will be about £30,000. It is proposed to convey water both from the Shoalhaven River and the Little River, and the local manager of the Company is sanguine of very payable results in working some ground at the Oallen Crossing, Shoalhaven River.

As regards quartz-mining, there is little to report. At Little River the plant erected at a large cost by what was known as the Homeward Bound Co. was sold some months ago for about as many hundred pounds as it cost thousands, no real attempt to work the reefs in connection with which it was erected having been made. These reefs are therefore, for the present, abandoned. A few months ago a small crushing plant, worked by water-power, was erected at Little River, the object being to enable parties interested in the reefs to have trial crushings of stone made. Several lots have been tested, and in some instances showing payable results. The great want, however, is sufficient capital to efficiently work these reefs.

At Major's Creek little or nothing has been done in respect of the reefs on Crown Lands; but some time ago a quantity of stone from private land there was sent to England for treatment, and I have been informed that the results were so satisfactory as to lead to offers being made to the owners to have the reefs worked. It is to be hoped that the proposed arrangement may be satisfactorily carried out.

There have been several small efforts at prospecting made in different parts of the district, but they have not resulted in any new discovery, except that a party have found a silver lode about 35 miles to the south of Braidwood, near the Shoalhaven River. They have applied for a mineral lease.

## SOUTHERN DISTRICT—NOWRA DIVISION.

*(Mr. Warden M'Arthur, P.M., Nowra.)*

I HAVE the honor to submit report respecting Yalwal Gold-fields. The following mines are in active work:—

1. Eclipse, No. 95.
2. Pinnacle, No. 92.
3. Homeward Bound, No. 13.
4. Pioneer, No. 93.

The Hit or Miss mine is at present at work in sinking a new drive, but are not yet on any payable stone. The detail of winnings, work in tunnelling, shaft-sinking, also number of miners employed, are set forth in the forms forwarded herewith. I should therefore desire to dwell more particularly on the reasonable prospects and general condition of the mining industry in this district. Several of the claims were recently registered for suspension pending the formation of a Company. This project appears to have failed, and at present the original holders are again working their several leases. I might here mention

mention that the mining industry of this district is very different to the general character of quartz reefing, insomuch that the lodes or veins of gold are undefined and of a very patchy and intermittent nature. Open quarrying passing through the machinery (both good and bad stone) appears to be the most payable and practicable manner of obtaining payable winning. The tunnelling and drives have not proved satisfactory, although a very large quantity of the stone would barely carry gold; still open-faced working appears to have proved the most profitable. The tunnelling and drives have not given satisfactory results, and a considerable amount of capital has been expended in testing the field by means of shafts, &c., so erratic are the veins and lodes that open quarrying passing through the machines (both poor and rich stone) has brought about the most favourable results. The principal character of the stone is dark quartz, interspersed with fine films of gold indiscriminately situated. The gold obtained is principally of a "flaky" nature. Few specimens that I have seen bear what is termed "rough" gold. Numerous prospects have been made on and about this gold-field, but the same character of auriferous stone prevails. The only way to obtain the gold resources of this field will be to erect large and extensive machinery crushing from an open-faced quarry, though a large quantity of indifferent stone would thus pass through the machinery. Still the gold-bearing stone being so scattered that the "output" from tunnels has not proved satisfactory, as it is practically impossible to trace any defined veins by shaft sinking or drives.

The Homeward Bound claim is giving highly satisfactory results. It is being worked almost entirely on a quarrying system, the stampers crushing all stone. Whether apparently payable or not, the returns of this claim are attached hereto (£5,655 12s.), having been obtained during past twelve months, whilst the working expenses are comparatively light.

The Yalwal gold-field generally requires large capital to develop and work to advantage the several mines. The difficulties of both ingress and egress greatly retard its progress. Although water is plentiful, the carriage of machinery and general stores is very expensive, thus defeating to a great extent the efforts of smaller miners and shareholders in testing the resources of their claims.

Upon looking through the several Mining Warden's reports with regard to Yalwal, I cannot find any detail entered into for departmental information and guidance of investors. Deeming it, therefore, not out of place, some retrospect and notation of geological formation would be of interest as supplement to this report.

Yalwal gold-field was proclaimed, March, 1878, and contains 97½ square miles, situated in county St. Vincent, about 24 miles west of the town of Nowra, and is practically the gold-field of the Shoalhaven district. The locality was proved to be auriferous as early as 1852, but was not actively worked for gold-reefing until about ten years ago. A large extent of the field has been prospected by pioneer fossickers, but only about 15 or 20 acres held under gold-mining lease has been operated upon with anything like system.

These leases lie on each side of the Danjera Creek. The "Pinnacle" and "Eclipse" claims, each in area about 4 acres, lie on the west of Danjera Creek; while the "Homeward Bound," 5 acres, "Pioneer," 5 acres, "Star," 8 acres, "Hit or Miss," 7 acres—also the Great Eastern (Caledonians) 12 acres—are situated on the east side of same stream, about half a mile further south-west of the valley of Danjera Creek (Yalwal).

The Etheta and Yalwal Creeks are branches of the Shoalhaven River. The Danjera Creek, upon which Yalwal township is situated is an ana-branch of the Yalwal Creek, running through series of gullies and rough mountainous country. With regard to the geological formation in the proclaimed area, from the sea coast almost to the Danjera Creek, the lower devonian system of rocks with occasional patches of alluvial deposits on them are to be found; reaching Yalwal proper, a sudden change takes place in the rock system, brought about by the occurrence of deep ravine-like valleys, radiating in almost every direction from the confluence of the Yalwal with the Shoalhaven. The lower carboniferous measures cap all the table-land in this locality. The stratifications to the edge of the cliffs has suffered little by the physical contortions widened in the valleys below. Descending into the valley of the Danjera, where the present mines are in operation, beds of micaceous shales, drift conglomerate svenitic trap, lower silurian slates, and bands of schists; also quartzites are in a more or less confused state passed through until the water level, about 900 feet below the plateau, surfaced by the carboniferous measures before referred to. Looking from the table-land down into the gullies, valleys, falls, &c., through which the Danjera and other minor streams run, the greatest confusion in the natural formation of the surrounding country exists. This character is continued for miles. The prospects throughout this broken and rugged locality have been of a favorable nature, both on the steep ranges and nearer the streams. As before mentioned, the difficulty for transit of goods and machinery, &c., has proved a formidable drawback in even making a fair prospect to thoroughly test the resources of these gullies. The auriferous character of the stone and general geological aspect would warrant a much closer and more searching investigation, which, however, would require considerable capital to undertake in a satisfactory manner.

The actual settlement or village of Yalwal, on the Danjera Creek, is about 900 feet below the table-land. The workings generally—shafts, drives, &c.—are from 100 to 400 feet above the level of the water, principally on a bold ridge or "back reef," formed for the most part of breccia and quartzites, trending from S.S. East to N.N. West. The Danjera is joined on the east side by the Yarramumura Creek from Sailors Gully, bisecting the main ridge at the village of Yalwal. This ridge is considered highly auriferous at its base, about 20 chains wide, narrowing into an open varying from a few feet to 2 chains wide. It eventually is lost in the table-land, but has been traced for a considerable distance inland. Where this ridge is bisected it is apparent that the main body is an immense dike (dyke), composed of breccia and quartzites, interlaced with minute veins of pure silica. Back from the intersecting stream the "fall away" from the top involves some difficulty in tapping the ridge, but bold steep heads of it are seen on each side of the stream, about 40 feet wide on average; the western side slightly underlying the ridge on the east. These heads or projections are not exactly opposite or in line with each other. Some mining experts are of opinion that there are two parallel dikes (dykes), one appearing on the east and one on west of the stream; but after careful examination of the country for some distance, together with the general average incline of each I am led to the conclusion that the disparity in line is what is termed a vertical "fault" in the *one* dike (dyke), or dislocation, caused by the physical disturbances which cleft the rock system at this place, where the Danjera has now formed its bed.

Further south, on the western slope, huge masses of schist, and quartzites protrude from the ferruginous clay coating on the ridge. Good results were here obtained by prospecting parties some

eight years ago. Tunnels were driven from west to east at right angles to the ridge. Here breccia, schist, quartzose were found to exist upon the rock being cut into. No *defined* reef has been met with, the lode worked in each case being simply an auriferous (in many specimens and veins highly so), and also patchy argentiferous zone of quartzite. So far the gold is principally restricted to what might be termed *orbital* cleavages in the stone; but no unfrequently the gold is found beyond the wall of these erratically formed cells or fissures in the stone, and sometimes it "straves" out regardless of the hitherto considered reliable local indications.

The value of the gold is from £3 2s. 6d. to as high as £3 17s. 6d. (standard), but as it comes from the retort it is found to contain almost uniformly 20 per. cent. of silver, for which the average value obtained is 4s. 6d. per ounce.

With the exception of the Homeward Bound claim, which has raised during the past twelve months about 3,000 tons stone in output from their quarry, yielding 1,740 oz. 5 dwt., of the value of £5,655 12s., together with a previous record from Mint and other source of about £16,000 since it has been in operation, all the other mines may still be said to be in the prospecting stage (the particulars of output and winnings on printed forms furnished herewith). After careful investigation and taking into consideration the geological peculiarity of this gold-field, I am of opinion that considerable latitude should be allowed in the labour conditions until the reef is actually struck and payable gold discovered, although it does not seem too stringent to require four or five men to be constantly employed on a 5-acre lease under the ordinary or usual surroundings and general character of gold-fields; but where the entire area of the claim consists of quartzose rock, almost impregnable in many places, and only desolate patches payable auriferous. Until the reef or ridge is fairly opened, I think one "shift" per day would fairly satisfy the labour conditions until crushing of payable gold is reported. At present the conditions of some of the leases require from six to eight men in constant work to obviate their liability of forfeiture or cancellation, the result being that much enterprise is checked and prospective operations so expensive and practically prohibitory to any other than large capitalists. Should the latitude I suggest be approved of, it will be calculated to improve the general progress of this gold-field, and its resources be more generally discovered. Many experienced miners have great confidence of obtaining good winnings and highly payable results when the reef or ridge is well opened. [Noted before as the dike (dyke) when describing the geological features of the country.] Heretofore the proprietors' managers have kept the records of their output and winnings in a very unsatisfactory manner, and inform me that they were never asked to produce any statement of their several workings. However, for the future, and upon the occasion of my last two visits to Yalwal, satisfactory records have been forthcoming showing the general progress and affairs connected with each holding.

Carter's silver mine or lead, M.L. 2,863, has at present three men at work. One shaft has been sunk, also two drives. More prospecting than actual mining, nothing payable having yet been discovered as far as I can learn, more machinery being required to develop this lease.

In concluding my report I may mention that this gold-field, as far as concerns shareholders, and placing it in the mining market with a view of floating a company to work on an extensive scale of crushing has been confined, I am given to understand, almost exclusively to the Melbourne or Victorian brokers. Capitalists in England have, I am informed, been interviewed with a similar view of forming a large company; to the present I have not learned of any satisfactory issue. I would also add that I have experienced the greatest difficulty in obtaining any reliable information from the working managers as to their output and general results. I can only conjecture the reason of their reticence. Considerable dissatisfaction also exists amongst the miners with regard to the privacy existing as to aggregate winnings; indeed, it was not until I threatened to adopt an extreme course that I was enabled to obtain any definite information with regard to output and comparative winnings, &c., in order to prepare this report and complete the printed forms. To overcome this difficulty in the future I have apprised each of the managers that a book must be kept for each mine, showing the business transacted. On my visits to Yalwal these are to be exhibited to me to make extracts, and from time to time report to the Department of Mines progress or otherwise. I have every reason to look upon Yalwal as one of the prospective gold-fields of the Colony, wanting only large crushing machinery to develop its resources.

I attach a rough sketch\* of the locality, which, however, will convey some idea of the relative positions of the several mines.

#### SOUTHERN DISTRICT—BERRIMA DIVISION.

(Mr. Warden Wilshire, P.M., Berrima.)

I HAVE the honor to report for your information that, during the past year, the mining interests of the division assigned to my supervision have shown a considerable improvement on those of last year, more particularly in the district of Goulburn.

The number of miner's rights issued in that district last year were 145, as against 34 in 1886; the number of mineral leases, 34, as against 17 last year; and the number of gold leases, 54, as against 1 last year; thus showing a considerable increase in each case. There have also been issued 13 mineral permits in the same period.

Mining speculators from Victoria have been largely instrumental in this movement, and the Carrington Mine was the first to attract attention. Victorian capital is now forthcoming to open and test this mine in a manner that will shortly leave little doubt of its profitable working or otherwise. In the event of this lode (consisting, as it does, principally of iron ore) proving remunerative in the precious metals, there is little doubt but that the well known numerous and extensive lodes of similar mineral, outcropping at Jerara Creek and at Ryan's, near the Look Down, and other neighbouring localities, covering a considerable area of country, will also prove payable in gold and silver. Traces of both metals can, I am assured, be found in the surface cappings of these immense iron lodes, and as very little denudation appears to have taken place about the locality of these lodes, deep sinking into them will, in all probability, prove them payable in many places.

A great deal of local interest is therefore attached to the progress and ultimate result of the operations now being proceeded with at the Carrington Mine, and the future mining interests of the Goulburn district will be largely influenced by the success or otherwise of the Carrington tests. So far these tests are, I am informed, decidedly encouraging to the proprietor s

Quartz

\* Appendix A

Quartz reefing has also received an impetus. Reefs of an exceedingly rich character, it is alleged, have lately been opened by a Mr. O'Keefe (representing Melbourne capitalists), at a place called Windalama or Narrumunga, some 24 miles in the Braidwood direction from Goulburn. Thirteen or fourteen reefs have been opened within an area of some 50 acres or so, all carrying payable gold; one of them in particular, it is alleged, showing very rich results as surface indications, and the proprietors indulge in great anticipations in connection with it.

In this same neighbourhood a very large (probably glacial) gold-bearing drift is reported to exist, similar to some now being extensively and profitably worked in New Zealand, &c. The area covered is represented as being some 40 miles in length and 12 in width; but I have not seen it, and am speaking from report only. It lies some 1,200 feet above the present Shoalhaven River bed, and is said to carry gold to the extent of several dwt. per ton (or to the load); but, owing to length of carriage and scarcity of water, the drift has not as yet been worked. I mention this matter, as the existence of this apparently very valuable drift deposit may possibly not have been made known to the Department before. In New Zealand, I believe, drift, yielding 1 grain of gold only to the ton, is worked by hydraulic machinery, &c., with highly remunerative results.

Should this Shoalhaven drift-bed prove as rich as is now represented, a very valuable mining area is here indicated, and is possibly worth some attention by the recently appointed Mining Prospecting Board, with a view of its future development.

A lode yielding, it is said, 10 dwt. of gold and 14 oz. of silver to the ton, has been discovered on the Wollondilly River, near Towrang. A shaft is being sunk to prove the value and extent of the deposit.

On the iron lodes at Ryan's (Brisbane Meadows) two or three parties are engaged sinking shafts, but some time must yet elapse before any reliable results can be arrived at. These lodes, I may mention, form part of the one spoken of by the late Rev. W. B. Clarke in his "Southern Gold-fields," tests of which, made at his instigation, were found to yield gold and silver in small quantities, the tests being of surface stuff only.

The lodes outcrop on the surface in many places in the locality, and appear to be flanked on the one side by immense limestone beds, and on the other by shaley (salurian) slates. Granite exists also, in close proximity and adjacent. Quartz reefs, containing gold, are being explored. Alluvial gold, in small quantities, is also found in Bungonia Creek within a mile or so, showing the auriferous nature of the locality.

In several other places prospecting is being vigorously proceeded with, and the district generally will receive a good searching within the next few months; but, at present, very little definite information as to future results can be supplied.

There is nothing important to report concerning the iron, coal, or shale mining in the division. The Goodya Shale Company are still carrying on an extensive and important business. A company has lately been formed to work a coal-seam near Mittagong, represented principally by Melbourne people; they are now engaged constructing a 4½ gauge tramway from the coal to the Great Southern Line, some 5 or 6 miles in length. The coal is said to be good.

Another new company has just been formed in England, for working coal seams near Wingello in this district, and which locality represents the most southerly outcrop of great New South Wales coal basin.

Berrima Colliery is still putting out a limited quantity of coal, and the Erith Colliery is, I believe, to commence operations again soon, and after a standstill of some twelve months or more.

Reverting to gold, the precious metal, in payable quantities, is said to have been obtained from an iron ore deposit on private ground near the village of Robertson; but I am not in a position to confirm this or furnish any particulars.

At the Mittagong Gold-field, a Mr. Finlay had for some time a diamond washing machine at work, testing a large drift-bed there for that gem; but, after a fruitless expenditure of some £600, he has abandoned the search, under a strong conviction that no diamonds exist there, or if so, not in payable quantities—he got none at all.

#### SOUTHERN DISTRICT—BOMBALA DIVISION.

(Mr. Warden Giles, P.M., Bombala.)

I HAVE the honor to submit my report for the year 1887 upon the Bombala and Cooma Divisions of the Southern and Tumut and Adelong Mining Districts, over which I exercise supervision as Warden, and which embrace the following gold-fields, viz.:—Delegate, Towomba, Nimitybelle, Collinton, Snowy River, Crackenback, and Kiandra.

As previously instructed, I presume the Mining Registrars and Wardens' Clerks in my divisions, and who are stationed at Bega, Eden, Bombala, Nimitybelle, Cooma, and Kiandra, have already furnished their reports for the past year, giving detailed accounts of the various workings, proceeds, &c.; also the number of miners' rights, business and mineral licenses, issued within their respective divisions to the 31st December last.

At Kiandra the gold won during the past year did not exceed 1,000 oz., being considerably less than the yield for 1886. I have not made my usual inspection of this gold-field owing to the temporary appointment of Mr. Love on the 1st July last, and in consequence thereof am unable to furnish fuller information at present.

The mining population of Kiandra, Crackenback, and Snowy River Gold-fields may be estimated at 400, consisting of Europeans and Chinese.

*Nimitybelle Gold-field.*—I am pleased to state that there is a marked improvement in mining matters upon this gold-field.

*Collinton Gold-field.*—Several mineral leases have been applied for. I anticipate the Bredbo Silver-mining Company will have good results from their workings at Bredbo. At Michelago there has been a considerable stir amongst miners, owing to the discovery of some new quartz reefs.

*Towomba Gold-field.*—Several prospecting parties have been searching for gold and silver reefs on this gold-field during the past year.

The assays made of ore taken from a reef on this field near Bombala varied from 12 to 25 oz. of silver and 2 oz. of gold to the ton.

*Delegate Gold-field.*—Mining business on this gold-field continues to improve. In the parishes of Quidong, Merriangah, Cambalong, and Bombala, mineral leases have been applied for with a view to searching for silver.

SOUTHERN

## SOUTHERN DISTRICT—MORUYA DIVISION.

(Mr. Warden Maunsell, P.M., Moruya.)

In furnishing you with my annual report for the year ending December, 1887, I have much pleasure in informing you that the mining industry in this division, especially reef-mining, is in a much more satisfactory condition than it has been for some years past. Since my last report several new and apparently very promising discoveries of quartz reefs have been made in this division, especially in the neighbourhood of Nerrigundah and the Tuross River, parish of Cadjee, county of Dampier. From the general and Mint assays that have been made of the quartz from the various depths leads one to believe that when the machinery for crushing, now in course of erection, is completed, a very large yield of gold will be the result, and doubtless will give a sharp impetus to prospecting for others yet undiscovered, as it is the opinion both of scientific experts, who have recently visited Nerrigundah, as well as that of old practical miners, who worked the alluvial in the old Gulf Creek at Nerrigundah years ago, that numerous quartz reefs exist, yet undiscovered as in the alluvial, in the main Gulf Creek as well as in its lateral branches, numerous specimens of quartz containing gold were found by the alluvial miners, undoubtedly deposited there by the disintegration of quartz reefs in the immediate vicinity. Although for years past it was thought that quartz reef carrying gold existed, and in fact were found, no plant for crushing quartz and extracting the gold was erected on the gold-field. In consequence of the recent discoveries a capitalist in the locality has been induced to erect a very fine 10-stamper battery, which will commence operations in a few days, and crush for the public; which will be a great boon to the miners holding claims.

About 3 mile north-westerly from the Nerrigundah Village is situated the Mount Coman Quartz-mining Lease. This reef is noted for its great extent and width more than for its apparent richness. Messrs. Coman & Bloomfield, the proprietors, are erecting a large and costly plant for extracting the gold. The ore is not at all refractory, and grand results are expected, as the quartz exists in such quantities and so easy to work.

There exists in Quart-pot Creek, a small tributary of the Tuross River, and once an alluvial diggings, a recently discovered quartz reef, and several claims have been taken up, and from the report of the assay supposed to be very rich; and a crushing plant will soon be erected there, which will give an impetus to prospecting for further reefs in that vicinity.

At Wagonga, North Head, several claims and leases are amalgamated under the name of the Belle of Australia, now in the hands of the Bodalla Gold-mining Company, is now being vigorously worked, and powerful machinery for working a battery of 20 heads, with all modern appliances, will shortly be erected.

Mount Carrington, the property of Wiley, Carter, and others, is also a very fine quartz-mine, situated at the Wagonga, North Head, east of the Belle of Australia Mine. The work in this mine has been confined to sinking the shaft, which is down nearly 100 feet upon the reef, which is nearly 9 feet wide, and the stone is of a very rich quality for so wide a reef.

This party owns a small battery of 10 head of stampers, with wheeler, pans, and amalgamator; but unfortunately the machine is erected too far away from the mine, that the cost of cartage will be too heavy, and the owners are about to shift the machinery to a site adjacent to the mine. They will then be able to put through 100 tons a week if necessary, as the supply of quartz is practically unlimited. There are a few other reefs in this locality held by working miners, but the progress of development is so slow in these cases that I cannot report any very satisfactory results yet.

Near Moruya, at the Condoim Creek and at the old Donkey Hill, several of the old reefs are reopened, and some new reefs have lately been discovered. The crushing plant at the silver-mine has been renovated and repaired, and has been now some weeks engaged in crushing, with very fair results. It is the opinion of practical men that only by the most approved of modern appliances for saving gold can the ore of this locality be successfully dealt with.

Now with regard to alluvial mining, very little work is being done, as most of the diggers are engaged in the development of the quartz reefs.

A few claims are being worked at Mogo, but it is next to impossible to obtain results as to the quantity of gold obtained. One party at Mogo has erected a steam-pump to drain their claims. It was found inefficient for the purpose, so they are about to obtain a much more powerful one. What little ground, drained by the pump they used, resulted in a return of nearly 5 oz. to the load. There are other parties engaged about the heads of the Tuross River, near Dolundundah, in the county of Dampier, in prospecting. I have long intended visiting this locality, but have waited for a favourable opportunity; the winter season is too severe, and as the locality is almost uninhabited it would necessitate my camping out. Since the summer season set in, there has been so much rain that hardly a week but that the Wadbillija River has been unfordable. Lately this district has been visited by several scientific geologists, including Mr. Regd. Murray, Dr. Robertson, and others, who are highly pleased with the aspect of its mineral resources. It is the opinion of scientific men, practically acquainted with auriferous country, that large areas of auriferous drifts, yet untouched, exist within this division, and I think it is very desirable that an officer of the Department with a practical knowledge of geology should examine this district and report upon its characteristics. Such report would undoubtedly do more than anything else to stimulate alluvial mining in the district.

I would refer you to my report of recent discoveries in detail at the Gulf.

## SOUTHERN DISTRICT—MILTON DIVISION.

(Jno. T. Hobbes, Mining Registrar.)

In furnishing a report of the mining operations for the past year in the District of Dowling (now Land District of Milton), I have the honor to state that this being more especially a dairying district, but little attention is bestowed upon mining matters by the residents generally. There are, however, men scattered amongst the spurs of the Main Range, extending from near the head of the Clyde River to Brooman, and westerly to the Budawang Mountain, being the south-western limit of this district, who throughout are obtaining gold in addition to other minerals.

The only movements that have taken place are, first, at Spur Gulley, near Brooman, where a few years since alluvial gold was found in payable quantities, there has been a party searching for a reef which is believed to exist in close proximity, but not being practical or experienced miners, prospecting was of short duration and without favourable results.

Near

Near the Budawang Mountain there has been recently discovered what may prove to be a good copper mine. I have been shown specimens stated to have come from it denoting great richness. As the land has been applied for at Braidwood, I am unable to give further information as to its exact locality and the work done upon it, in the way of opening out.

At Little Forest, about 7 miles from Milton, two blocks of land have been applied for for coal-mining. Under spurs of the Main Range, creeks have cut through and exposed to view, three or four seams, the largest and lowest in the creek, being about 2 feet thick, the coal is bright, burns well and appears on trial to have a large proportion of gas, no sinking has been attempted, but the proprietors are taking steps to prospect the ground by sinking a shaft or using an auger. Should they be successful, a good shipping port is to be found at Ulladulla Harbour, distant about 11 miles, the road for some distance passing through Crown Lands.

SOUTHERN DISTRICT—COBARGO DIVISION.

(*L. J. Clifford, Mining Registrar.*)

I HAVE the honor to report for your information that there has been no mining carried on in this district for the past twelve months, the miners' rights issued, viz., thirty-four, by Mining Registrar at Cobargo for the year ending 31st December, was issued to miners going to the Nerrigundah Gold-field. The number of business licenses issued up to same date is twenty-three, they are issued to persons living within the Dromedary Gold-field reserve.

SOUTHERN DISTRICT—WAGONGA DIVISION.

(*A. M. Smith, Mining Registrar.*)

I HAVE the honor to forward my report for the year 1887 of the mining industry in this division.

*Wagonga.*

Work at the Bodalla Gold-mining Company's reef, the Belle of Australia, has been pushed forward with energy and system under the present management, the time lost and money squandered on this reef through former mismanagement has occasioned much delay in rectifying errors. There is no plant on the ground as yet. I understand, however, that a battery of 20 head of stampers will be erected early next year, the large body of quartz looks well, and trial crushings have proved satisfactory, twenty miners have been at work in the mine ever since the leases were granted, and many more will find employment when the works are in full operation.

The Lady Carrington Reef promises to turn out a valuable property, the stone showing gold freely the reef is 9 feet wide in some places, and stone easily got, so that the battery of the Company will shortly be kept constantly at work and employ a good many hands. There not being up to the present time any machinery attached to the John Foster Reef, the quantity of stone brought to grass has been small considering the time the reef has been worked, with however only three men, an increased number of workers will result from the erection of machinery, which the proprietors are now in treaty for, and are confident that the crushings will give profitable returns.

*Mount Dromedary.*

Mining on the mountain is in much the same condition as it has been for years, small parties of from two to six men making good wages, the veins are narrow, consequently there is little room for the employment of more than a few men to each claim.

*Nerrigundah.*

Doubtless the Mining Registrar at Eurobodalla will furnish his report on this section of the gold-field; as however all applications for gold-mining leases come through the Wagonga Office, I have a better opportunity of knowing the progress made in reefing during the year. Since my last report, the discovery of several gold-bearing reefs has given an impetus to mining that promises a revival of former prosperity, the absence of crushing machinery has been a serious drawback to the holders of small claims possessed of little money. Mr. Pollock, a resident in the township, has erected a 10-stamper battery, which will be in position to crush about the middle of January, I believe it is his intention to crush for certain claims in which interests are allotted to him in consideration of crushing. The Firey Cross (the first reef discovered), White Angel, and others, are conveniently situated to this plant, the stone from all of the reefs looks well, running from 15 inches to 3 feet wide.

Mount Coman, situated at the head of North's Creek (noted for its riches in the old alluvial days) on a high peak which has an altitude of 1,000 feet from the bed of the Creek. A true fissure reef intersects the spur, being in width from 4 feet to 12 feet. The stone is laminated and of magnificent quality, showing gold freely. Regnold Murray, Government Geologist for the Victorian Government, and Theodore Rauff, of Sydney, inspected this property, and reported on it in very high terms. A crushing plant is now in transit for the future working of the mine, and Messrs. Coman & Blomfield, the proprietors, estimate the cost of the machinery at £6,000.

*Quart-pot.*

On the Tuross River, an old abandoned alluvial digging, has again become the scene of activity, simultaneously with the discovery of the Nerrigundah reefs, gold-bearing quartz having been found at this place; a number of claims were taken up; a miner from the ground showed me a piece of stone of about 1 lb. weight, which to use his own expression was "an alarmer;" this piece when crushed yielded at the rate of 7,000 oz. of gold to the ton. It would be premature to give any opinion of the reefs in this locality, their discovery being of so recent a date. Tin-pot, where gold in quartz is known to exist, lies in the same neighbourhood.

*Alluvial.*

No alluvial diggings have been discovered since the Montreal rush, what few diggers remain are scattered miles apart from each other, working alone, known by the name of *Hatters*, fossicking anywhere, having no fixed abode, they are chiefly old men, who in most instances will tell you that they had made their pile but knocked it down.

During

During the year, 105 miners' rights, and 2 business licenses have been issued:—26 gold-mining leases comprising an area of 317 acres, have been applied for; 7 mineral leases were applied for, these however were refused by the Honorable the Minister for Mines, owing to the ground being auriferous, this decision gave general satisfaction amongst gold-miners, by putting a stop to a monopoly of land under the guise of searching for silver.

The form (Schedule 1) "Notice of intention to apply for a gold-mining lease," was at one time frequently taken advantage of by a renewal of the same on expiry of nine days, until it became known that the practice was an evasion of the Mining Act, and would if attempted, on representation to the Minister most likely militate against an applicant for a lease. Another method equally objectionable is now often resorted to—a party of miners (say four in number) take up ground with the object of applying for a lease, one of the party has the notice of intention posted up in his own name, at the expiration of nine days, another of the party does the same, and so on with the others; the only way to prevent this abuse is to stipulate for a deposit of 2s. 6d. or 5s. an acre, to be forfeited, unless the application is proceeded with, the deposit might appear as payment on account of rent. A great improvement is perceptible in the mining industry of the district, and it may be reasonably expected, when additional machinery is erected, that next year will far outstrip former years in quartz reefing, which will become the staple industry of the district if it is not so now.

SOUTHERN DISTRICT—EUROBADALLA DIVISION.

(*Henry J. Lea, Mining Registrar.*)

I HAVE the honor to report that a marked change for the better has taken place in mining matters at Nerrigundah during last year. Several prospecting protection areas and claims have been taken up by miners on the ranges about Nerrigundah, some of the stone obtained by them looks very well. There is at the present time about 200 tons of stone at grass, obtained by the miners from the different claims waiting to be crushed. Mr. James Pollock is erecting a battery at Nerrigundah, which will be ready for work next week, then the miners will be able to prove the value of their quartz.

Nearly all the mining business of Nerrigundah is transacted by the Warden's Clerk at Wagonga. The number of miners' rights issued here during 1887, was ninety-one and seven business licenses.

SOUTHERN DISTRICT—MORUYA DIVISION.

(*H. N. Barton, Mining Registrar.*)

In submitting the annual report of my division for the year 1887, I have the honor to state, for your information, that I have noted some very excellent prospects in quartz-mining. Some well defined reefs having been discovered near Moruya, in the neighbourhood of Myrtle and Dwyer's Creek, also at Donkey Hill. At Myrtle Creek, No. 9 gold lease of 25 acres, occupied by William Hunt, called the Phoenix, shows a continuous and well defined reef, between 2 and 3 feet wide—the quartz from which is of a very peculiar character, being of a dark slaty colour, strongly impregnated with pyrites, silver, sulphur, and some other metals. From the result of a crushing of about 4 tons at the Sydney Mint recently, the returns were unfavourable, not realizing upon an average more than 3 dwt. to the ton.

Notwithstanding this poor return, coarse shotty gold can be seen in almost every piece of stone: 25 lb. weight or thereabouts have since been chemically treated, and the returns pro rata was 5 oz. some dwt. to the ton.

Mr. Hunt, who is an old practical miner, seems quite satisfied that the stone referred to from the Phoenix requires special treatment to save the gold, which he feels sure has been lost by the ordinary process. Another reef, No. 14 lease of 15 acres, occupied by the same person, W. Hunt, shows good quartz with coarse gold running through the stone and looking rich. Eight men are at present down some 35 ft. in the solid. This reef is a clear whity brown stone, requiring only the ordinary crushing and amalgamating process. 2 tons are being crushed, but as far as I can learn, the result is not known. Upon the whole, I cannot but observe, that there is a considerable improvement in quartz reefing, and generally in this division, and experts have given their opinion that there are some rich reefs in this neighbourhood.

From 40 to 50 tons of quartz have been crushed by Guy's machine (the old silver mine plant), and the result has been good wages for three men's work for a considerable time. This stone has been grassed from little leaders from the Donkey Hill and neighbourhood.

At Mogo to the north there has been the usual returns from alluvial ground, the Monkey Gully and Cabbage-tree Creek, but both these places are very wet, but the water has been got under by an 8-horse power engine lately brought down, and a paddock 7 x 8 ft. was bottomed at 20 ft. realizing 4 oz. 10 dwt. a few days since. The owner of a lease in Mago has sunk three shafts, going down in the three about 200 ft., and he speaks favourably of the reefs he has discovered.

The miners at Hunt's reef at Myrtle and Dwyer's Creeks have returned from the holidays, and commenced sinking on W. A. Hunt's reef.

P.S.—A reef called the Little Gem, an 8-acre lease, is turning out splendid stone, a reliable reef. Only a few weeks work done as yet.

SOUTHERN DISTRICT—GUNNING DIVISION.

(*S. Pembroke, Warden's Clerk.*)

I HAVE the honor to report that mining has been at a standstill in the district of Gunning during the past year, although rumours have from time to time reached me to the effect that capitalists have visited on several occasions the "Jerrama" Creek gold-field reserve, with a view of obtaining information as to the auriferous nature of the land within the reserve. It is difficult to obtain reliable information, as miners may arrive from other districts, and prospect in the district without becoming acquainted with the fact. I have no doubt the present reaction in mining elsewhere will have the effect of causing the country around here to be prospected.

## SOUTHERN DISTRICT—ARADUEN DIVISION.

*(E. F. Carlile, Mining Registrar.)*

My returns for the year 1887 show:—Gold obtained 4,244 oz., value £16,359 8s., being 4,200 oz. from alluvium, and 44 oz. from quartz. The amount of alluvial gold would have been much larger but for the occurrence of severe disastrous floods, which swept away some expensive weather-board and stone dams, and broke into the boxed-tail-races, destroying some of these; several of the deep drifting claims were also filled with sand, thus entailing several months' unremunerative labour to reopen.

There have not been any new finds during the year, though there was a small rush to the Upper Strachaven, which did not, however, result in any good; but I have been informed during the past few days that there are indications of a silver mine in the neighbourhood, and some work is being done to test the ground.

A little quartz mining has been done as usual at Bell's Creek, with somewhat better result than in the previous year.

## SOUTHERN DISTRICT—LITTLE RIVER DIVISION.

*(B. J. Galway, Mining Registrar.)*

I HAVE the honor to submit for the information of the Honorable the Minister for Mines, my report for the past year, of The Little River Division of the southern district.

A start has been made to work the quartz reef in this division.

Eight leases covering 30 acres, having been applied and 155 tons of stone raised, which returned 209 oz. of gold. The depth of sinking is from 30 to 52 feet. Water being found in the working at from 30 to 40 feet.

The claims holding will have to procure pumping power before sinking deeper. The Day Dawn and Earl Granville Company have two pumps on the ground, and a drainage level has been driven into the E. G. shaft, 33 feet deep; the owner hopes to be able to prove the reef to be a further depth of 50 feet; 10 tons of stone from Earl Granville's returning 44 oz. of gold, and 5 tons from Day Dawn, 18 oz.

The reefs are all held by working men, and an apathy exists amongst the commercial and pastoral of Braidwood in regard to developing its mineral wealth. That rich and extensive deposits are to be found, is clearly proved by the extensive auriferous growth now opening up by outside parties in the adjoining division of Narriga, the district capitalists having no share in the ventures.

No rain sufficient to supply the water-races has fallen here until November; since then, there has been a moderate supply, and several of the races after a dry term of eight years are now at work. The gold to be seen will be found in the 1888 returns.

A number of the miners have been employed on the Corang race, and many old hands are finding their way back to this locality. 138 miners rights have been issued and 6 business licenses.

As the belt of deep auriferous tracts now being worked at Narriga continue to follow the course of the Corrocilly and Budawang ranges of hills through this division. No doubt when capitalists see the full development of the sluicing there, similar sluicing companies will be formed in this division.

## SOUTHERN DISTRICT.—NARRIGA DIVISION.

*(James Galway, Mining Registrar.)*

I HAVE the honor to forward report for the past year, and with much pleasure to state that the Goring Sluicing Company's water-race is completed, and an abundant supply of water is obtained for hydraulic sluicing at their claims, Tailor's Gully.

The Manager is now engaged in preparing a tail-race, which is now 25 feet deep, and an additional depth of 100 feet can be obtained as required; and has opened out on a bed of rich auriferous wash some 75 yards in width, and of a depth at present unknown, and which prospects as high as 24 grains to the dish in some parts, and very payable prospects can be obtained from any part of ground.

This water-race is, I believe, the most complete and extensive in the Colony, and reflects great credit on all concerned.

The following is a concise description of the works, which are of a substantial description:—

The race starts from the head of the Bewley River, which takes its rise in the Buddawang Ranges, and is a tributary to the Shoalhaven River. The length of race is 24 miles, and from the starting point to the first flume a cutting of 140 feet in the rock had to be cut, a large quantity of powder and dynamite being used.

Sixty-two chains of fluming carry the water over the broken ground, and the Gorang River is twice crossed at a height of 80 feet. The water runs in galvanized iron piping, then some miles of open cuttings until the Jerricknorra Creek is reached at a level of 100 feet from its bed; here, to avoid the high flumes required a syphon, consisting of wrought-iron pipes 24 inches in diameter, is used, and which, with a fall in the entire length of 5 feet, is a success, and carries a full supply of water.

Then more cuttings with tunnels of 1,300, 400, and 300 feet in length, and another flume of 400 feet completes the race.

The Company have an abundant supply of water at present, and, to obtain this in all seasons, intend to construct a reservoir at the head of the race, where a natural basin in the mountain affords a magnificent site.

This enterprise will, if successful, cause a great revival in mining in this district. The Company's works have cost £10,000, and it is to be hoped that the pluck and energy shown by the Company will be rewarded.

Parties interested in mining visiting the district will be well rewarded by a visit to the works.

Another Sydney company have taken out water rights for a race from the Shoalhaven River at Warri, to be used near the Oallen Crossing, where 525 acres are leased. They also hold water rights from the Little River, which will connect with the main race. This race will be 7 feet wide on top, 3 feet on bottom, and 3 feet deep.

The manager has been engaged for some time sinking prospecting shafts on the leases, and with marked success. From some forty shafts, varying from 25 to 45 feet, the latter not bottomed, water being met with, prospects of 6 to 24 grains to the cubic yard has been obtained, and the further back from the river the gold obtained was coarser and the alluvial richer, and, except on the river bank, no previous work or prospecting has been done. From what I have myself seen of this company's ground a grand return for their outlay may be confidently expected.

A third race on a similar scale to those mentioned was taken up, starting from the Bewley or Endrick River, another tributary to the Shoalhaven, and intended for hydraulic sluicing at Terrance's Hill, in the division where a deep alluvial wash is known to exist, but the promoters were met with such exorbitant demands for compensation from holders through whose land the proposed race would pass, that they gave up the matter in disgust.

Work in the bed of the Shoalhaven River has been much interrupted by freshes in the river, and a number of the miners there have been working on the Gorang race.

Two prospecting areas for quartz are at present occupied, and, I am led to believe, encouraging prospects obtained.

#### SOUTHERN DISTRICT—MAJOR'S CREEK DIVISION.

(*John Heazlett, Mining Registrar.*)

In preparing this, my statistical report for the year ending the 31st December, 1887, I find there has been a little improvement in gold mining, *i.e.*, so far as the quantity of gold won is taken into account, there being nearly 220 oz. over and above that of the year 1886. Moreover, some parcels have been taken to Braidwood and the Mint, which I may set down at 120 oz.; but whether this quantity is more or less than what has been disposed of at Braidwood during previous years I am unable to say, but this much I can say, *viz.*, the quantity set down in tabular form herewith has been purchased at the Creek; therefore the year 1887 has beaten the record of 1886, yet no new ground has been opened "in either quartz or alluvium."

In my previous reports I have said, that with a supply of water, this field would continue to yield handsome returns for many years to come, and as yet see no reason why I should alter my opinion. The past year has been the wettest we have had for a long time past, yet have not had a flood, or, as the diggers term it, "three days water up;" and until they get this very little can be done in the deep ground; that is to say, it cannot be worked profitably, not so with shallow or surface ground, and the past year having been more favorable, much shallow ground has been worked, and although not rich in gold, small returns are considered preferable to being idle.

During the past year the Long Flat portion of the field has been worked by ground-sluicing for the most part, and less puddling done in consequence, and no account can be given as to the number of loads or tons put through the mills, and the yield of gold therefrom. I may mention that there is ground enough here (old workings) to last for the next twenty years; but not having a good fall or get away for the stuff (which is tough) the process of working is rather slow. Major's Creek is much better adapted for ground-sluicing or flooding off on a large scale than what the Long Flat is, but not so rich in gold; and the main creek being wide it requires a great force of water to clean it out, which if not done, the claims become blocked or silted up.

*Re* quartz mining, there is little to be said in its favour, there having been only one party so engaged during the past year, and their operations have been confined to surfacing and working an old and abandoned reef, which, when first worked many years ago, was considered not payable. This party, having their own crushing mill, can make it pay better than if they were obliged to pay for the crushing; in fact, they could not afford to do so, hence erected their own battery, but having to pay rent for steam engine, and 10 per cent. royalty, they cannot do more than make a bare living, "if even so much."

What is known as Dargue's Reef at Spring Creek is having a spell, and the Snob's Reef at Big Hill has not been worked during the past six years and ten months; nevertheless, it has been held possession of all these years. I have often heard miners say that if open to be taken up they would have made up a party and have given it another trial.

I have known people to come from other parts of the Colony for the express purpose of taking up this reef, but on finding it occupied, that is, "Registered for suspension," they left this neighbourhood. I may also state that had the Snob Reef been vacant I stood a good show to have got it floated into an English Company, and have letters in my possession from a gentleman who had gone to England and successfully floated one company, and was open for more work, provided I could recommend a mundie, or, as he termed it, a pyrites mine, worthy of a fair trial. Probably this is only one of the many instances where capital is being locked out owing to speculators and adventurers taking up ground with the view to making a few pounds out of. It is not, however, the way to develop the resources of the gold-fields. During the past year I have sold forty-one miners' rights, as against sixty-one in 1886, and to account for the decrease may state that during the latter year I sold some to miners at Captain's Flat. Moreover I know that some miners within my division procure rights at Braidwood and Araluen.

#### SOUTHERN DISTRICT—BRAIDWOOD DIVISION.

(*C. E. O. Slear, Mining Registrar.*)

REGARDING mining matters in my portion of the Braidwood District, there has been comparatively little or no progress during the past year, no fresh discoveries have been made, and the present claims at work yielding nothing more than fair wages to those concerned. Capital is what is required to give any impetus to the mining industry here, but unfortunately does not seem to be forthcoming, however I am fully convinced that this district will ere long take a lead again as a mining centre.

#### SOUTHERN DISTRICT—GOULBURN DIVISION.

(*A. A. Willans, Mining Registrar.*)

IN reply to your memorandum of 31st ultimo, with reference to my annual report for year 1887.

I have the honor to state that the mining in this district is at present in its infancy.

Near the end of December last I made application to the secretary of the first mine started during my time in this district, the said mine was floated into a Company called the "New Carrington Gold and Silver-mining Co.," and he (the secretary) said that in justice to the mine he could not give me a report for the year 1887, as the smelters had only been at work for about a week. Number of mineral leases applied for during year 1887 were thirty-three, of which twenty-six were applied for between 1st of August and 31st December.

Number

Number of gold-mining leases—fifty-four, all of which were applied for between 21st August and 31st December.

During the year I issued 145 miners' rights, of which 116 were issued between 1st July and 31st December. Mineral licenses issued, numbered sixty, and fifty-nine of same were issued between 1st July and 31st December. Business licenses issued, nil.

SOUTHERN DISTRICT—BOMBALA DIVISION.

(*W. A. Dorers, Mining-Registrar.*)

I HAVE the honor to tender my report, as Mining Registrar, for the year 1887; and as on the last occasion I was pleased to be able to point to distinct evidences of the revival of the local mining industry, so at this time I am glad to be able to state that the search for gold here during 1887 has been still more actively prosecuted, and has been more satisfactorily rewarded than heretofore.

There was an application, under the 28th section, for permission to mine on a reserve situated on a creek flowing into the Little Plain River. I regret to say that—although the necessary permission has been granted—the applicants do not seem as if a start was intended. This is a pity, for the locality is, in my opinion, a rich one, judging from early indications.

One very satisfactory piece of evidence lies in the fact that less Chinese and more Europeans are engaged upon the stream claims along the Delegate River, and the work itself is no longer of that desultory character which formerly characterised our local mining enterprise, but has been concentrated upon picked spots, with fairly satisfactory results. Eighteen claims, all held by Europeans, have been in work along the river, though owing to high waters the work has had to be frequently suspended. Out of these claims, Mr. John Jones' is undoubtedly the best, and he has informed me that it has yielded him a return of about £400.

I notified present right and license holders of the necessity of renewing such rights and licenses with result that nearly all have done so, and they say that better weather only is needed for the continuance of their work.

Fifteen leases have been applied for this year for the purpose of winning gold and other minerals. Six of these are situated on the Bald Hill's Forest Reserve, close to Slaughter-house Creek, covering an area of 240 acres, the assumed reef running, according to surface indications, then north and south; another six, of similar area, are situated just outside the town, upon the road to Cooma, and their trend is north-westerly; the remaining three are close to the junction of the Bombala and Delegate Rivers, on the south bank of the former, and running north and south.

The amount of gold purchased by the banks this year is 745 oz. 12 dwt., as against 254 oz. 16 dwt. for the previous one. This increase is eminently satisfactory. Also, for the year 1877, I have issued forty-nine miner's rights, twenty-four business licenses, and two mineral licenses, have received fifteen lease applications, and have registered twenty-two mining tenements, as against forty miner's rights, twenty-nine business licenses, and six mineral licenses, one lease application, three tenement registrations, for the year 1886.

I am glad to be able to point out that the work here has, during the three years I have had the honor to act as Mining Registrar, increased from almost nil to a very fair amount. During the ensuing year, when the leases now applied for have been granted, and the machinery required for their working erected, I hope to be able to record still further progress.

TUMUT AND ADELONG DISTRICT—QUEANBEYAN DIVISION.

(*Mr. Warden Woore, P.M., Queanbeyan.*)

I HAVE the honor to submit, for the information of the Honorable the Minister for Mines, my report for the year 1887 upon the Queanbeyan Division of the Tumut and Adelong Mining District.

*Captain's Flat.*

A large amount of work has been done in the Koh-i-noor mine. At No. 1 shaft, at the 100 feet level, a drive has been made 122 feet south along the course of the lode, which contains silver, gold, copper, and lead, and all the ore above the drive to a height of about 35 feet has been taken out, leaving a gold-bearing lode adjoining on the west unworked.

No. 2 shaft, north of No. 1, has been sunk 27 feet, and is now 76 feet deep. A drive has been made from it at that depth 70 feet, running north along the course of the lode, and at 69 feet another drive has been made 67 feet, following the course of the lode.

A new shaft (No. 3), north of No. 2, has been sunk 57 feet, and at that depth a drive has been made from it south about 55 feet along the course of the lode. At 25 feet from the shaft a rise has been made of about 50 feet to near the surface. Another drive has been made on the same level, about 50 feet north along the course of the lode, and at about 18 feet from the shaft a rise has been made of about 44 feet towards the surface.

Another new shaft (No. 4), north of No. 3, has been sunk 47 feet to the end of the 50-foot drive north from No. 3 shaft, and from the bottom of the shaft a drive has been made 43 feet north along the course of the lode.

All the ore above the drives north of No. 1 shaft has been taken out, leaving the gold-bearing lode adjoining on the west unworked.

I am informed that the total quantity of ore raised during the year is 2,346 tons, 2,106 tons of which have been smelted on the ground, yielding nearly 122 tons of bullion, containing, by assay estimates, 40,877 oz. of silver, 364 oz. gold, 4½ tons of copper, and 116 tons of lead; also 54 tons of copper matte, containing by assay estimates 4,828 oz. of silver, 13 oz. of gold, 15½ tons of copper, and 8½ tons of lead; and there are from 60 to 100 tons of copper matte, the actual weight and value of which have not yet been ascertained. The remaining 240 tons of ore are now awaiting treatment.

The average number of men kept constantly employed in the mine is about twenty-four.

The smelting works in connection with the mine have been in active operation for about fourteen weeks during the year, employing about thirty-five men.

I am informed by Mr. Scoble, the manager of the mine, that the results are likely to continue satisfactory, as the mine is at present looking very promising.

At

At the Vanderbilt mine, mineral lease portion 81, 20 acres, held by William Garland, a shaft has been sunk 62 feet, from which a drive has been made west 25 feet, intersecting a gold, silver, and lead-bearing lode about 8 feet wide, running about north and south. About 150 tons of ore have been raised, from which a number of assays have been made locally, yielding, I am informed, from 10 to 180 oz. of silver, and from 1 to 4 dwl. of gold to the ton. Two men have been employed at this mine.

Mineral lease No. 86, abandoned by McNeill and party, was taken up in September last by Messrs. R. Martin and W. A. Gibson, who have continued an old shaft to a depth of about 32 feet, and cross-cutting east about 30 feet, intersected a quartz reef about 5 feet wide, impregnated with lead crystals.

The present adult population of Captain's Flat, ascertained through the police, is 140.

#### *Brindabella.*

A small company has been formed, known as Brindabella Gold-mining Company, to work Reid's ground sluicing claims at Brindabella. Nos. 15, 16, and 29, with water-race No. 24.

Mr. Reid informs me that an average of eight men have been constantly employed on these claims during the year constructing works of a preparatory character, consisting of a head-race and trail-race, and dams, &c., at a cost of about £800, and that about 600 cubic yards of stuff have been washed, yielding about  $\frac{1}{2}$  dwl. of gold to the yard.

#### *Mac's Reef.*

The 10-acre gold lease at Mac's Reef, abandoned by Messrs. Wright, was taken up in August last by Messrs. Wright, Laud, and Keefe. Two men have been employed upon it. A shaft about 50 feet deep has been sunk on the reef near the old workings. 2 tons 7 cwt of stone have been crushed, yielding about 9 dwl. of gold to the ton. At the bottom of the shaft the reef is about 4 feet wide.

Another 10-acre lease has been lately taken up at the old workings at Mac's Reef by Messrs. Bray, McAllister, and Moran, and work of a preparatory character has been commenced.

### TUMUT AND ADELONG MINING DISTRICT—GUNDAGAI DIVISION.

(*Mr. Warden Weeks, P.M., Gundagai.*)

I HAVE the honor to report that during the year 1887 there has been a considerable amount of prospecting in this district, but without any very encouraging results. I am unable to report any proved payable discovery. Many of the old abandoned reefs that paid handsomely in past years have been tried again without success. The recent erection of a crushing battery at Coolac will lead to many of the reefs in that locality being tested. Mr. J. M. D. Williams, the proprietor of the battery, is testing a reef in McLeod's selection. He has sunk a shaft 100 feet, and is now driving to test the reef. Two trial crushings of 20 tons each realized about  $\frac{1}{2}$  oz. to the ton, a return that ought to more than pay expenses, as the battery is close at hand. The reef carries gold all the way down the shaft, and there is no reason why rich bunches of ore, such as made this reef famous in old times, should not be met with at the lower levels. 8 and 10 oz. stone was taken out in years past at a depth of from 20 to 40 feet. This mine, if given fair trial, is looked upon as having the best prospect of any in this part of the district.

At the Victoria Mine, South Gundagai, Edrop & Co. are sinking a shaft 200 feet deep to test the country at that level. They have erected a splendid 20-head battery and pumping machinery. The dam throws back an inexhaustible supply of water. A Sydney syndicate is about to develop Matchett's Slate Quarry at South Gundagai. Their engineer is now engaged erecting a very complete plant, and hopes to be in full work within two months. This work will be watched with much interest, as, if successful, several other deposits of slate in the same locality will be opened up. Should slate-mining prove payable, it will give a great impetus to the whole district, as the deposits of slate are both good in quality and numerous.

Prospecting work is still being carried on at Johnston's Hill and Bongongolong, but with no definite results. A rich lode of pyrites is said to have been met with at both places.

I have nothing of interest to report with regard to alluvial mining.

### TUMUT AND ADELONG DISTRICT—COOMA DIVISION.

(*Mr. Warden Love, P.M., Cooma.*)

I HAVE the honor to submit report for year 1887 upon the Cooma Division of the Tumut and Adelong Mining District.

*Kiandra.*—From the Mining Registrar and Warden's Clerk report submitted it will be seen that the amount of gold won during the year, viz., 2,451 oz., is in excess of yield in 1886. Two new leases have been taken up, and 115 miners' rights were issued. The season, as regards water, has been exceptionally good.

*Michelago Creek.*—Eight applications under section 28 have been made for land situated on Michelago Creek, between Cooma Road and Murrumbidgee River, and embraced in travelling stock route, No. 962. From a special inspection and report made by mining experts for Messrs. Lyons and party on this field, most favourable results may be looked for when capital has been secured to properly test leases.

*Bredbo.*—Messrs. O'Rourke & party, I am informed, are about to float a company to work leases held by them at Bredbo. Mining experts have reported recently upon these holdings, and assays have been made, but I am not aware of result. A considerable sum of money has been expended in this locality during the last two years, and it is anticipated that the company about to be started will develop a rich silver field. The number of miners' rights issued at Cooma office was sixty-five: mineral licenses, twenty-seven.

### TUMUT AND ADELONG DISTRICT—TUMBARUMBA DIVISION.

(*Mr. Warden J. T. Makinson, P.M., Tumbarumba.*)

During 1887 there was a slight improvement in this Division, principally owing to the large supply of water for sluicing purposes.

The Burra Sluicing Company was most successful, the wash-up for the five months preceding Christmas resulting in a cake of 341 oz. retorted gold. A find of a 16 oz.-nugget and several smaller pieces was made by a miner at Upper Tumbarumba, and another man got, in the same locality, good coarse gold.

gold in very payable quantities. At the Mill Hill, near Tumberumba, a party of four is tunnelling between the granite and basalt to reach a spot where, twenty-five years ago, one of the present party and his mates abandoned a good prospect to go to a new rush. Hill and party (six) have had very good results from their sluicing claim in Tumberumba Creek, near the brewery. The United Tradesmen's Sluicing Company's ground has been worked by a party of tributers, but only dead work was done during the year—the cutting of a fresh head-race. Watson and party, at Tarcutta Creek, after having spent four years in cutting a tail-race and a flood-race, have their claim now in good working order, and, judging by the prospects tried when I visited the ground in December, the future results should be good.

At New Meragle, Old Maragle, and Pinchgut, several sluicing claims were worked, and, with a couple of exceptions, with only moderate success. At a claim at New Meragle, I saw 1, 2, and 3 dwt. pieces, besides fine gold, brought to light by the hose. This claim must be paying its owners handsomely.

Cazirylys and Company have begun work on a lease at Surface Hill, Carabost. The gold here is fine, and very evenly distributed, the same prospect being got from the surface to 14 feet down. A special plant, for the saving of fine gold, is being imported from New Zealand for this ground.

Quartz-mining was very dull all the year. No work has been done at the Isabella or Peep-o'-Day. Storey and party did a little towards opening the quartz reef on their lease at Paddy's River, and I am now informed that a company, with a capital of £5,000, has been formed in Sydney to work the property. The prospects seem fairly good. Straghan and Johnson found a new reef of large size in the slate country at Jingellic. It is about 6 feet wide, and carries, so far, only fine gold. A trial crushing of 2 tons gave only 8 dwts. to the ton; but the owners think that prospect from the surface sufficiently good, and are about to put a machine on the ground. When I visited the place in October, I found about 150 tons of stone raised at the various openings on the line, and trials from all parts of the heaps yielded fine gold in every instance.

The tunnel workings at Bald Hill of the defunct Basaltic Gold-mining Company, are being vigorously carried on by Rolfe and Moorehouse. Although some encouraging signs are present, this enterprise cannot yet be said to be a success.

Gold is the only mineral of value which was won in any appreciable quantity during the year. Information, carefully gathered from every available source, shows that the quantity of gold raised was—as closely as can be calculated—1,690 oz., being 310 oz. more than the 1886 yield. The number of miners' rights issued was 149—a decrease on 1886. A few of the miners left for Croydon (Q.), Silverton, and other places.

#### TUMUT AND ADELONG DISTRICT—TUMUT DIVISION.

(*Mr. Warden Vyner, P.M., Tumut.*)

I HAVE the honor to furnish you with my annual report of that portion of the Tumut and Adelong Mining District under my charge, which embraces Adelong, Reedy Flat, Upper and Middle Adelong, Sharp's Creek, Tarcutta, Mount Adrah, Adjenbilly, Sandy Creek, and Gobarragandra. I regret that I am unable to give an account of any improvement in the prosperity of these mining centres during the past year, and in Adelong itself there has been a still greater falling off than in 1886, there being a decrease of the amount of gold won of 3,258 oz. 12 dwt., and the population is very considerably reduced. A few of the claims on the Gap Reef at Adelong offer some promise of proving remunerative if sufficient capital could be obtained to work them; but the inducements they hold out do not seem sufficient to attract any at present.

Mr. A. D. Shepard's alluvial lease on Lower Adelong Creek has been almost unproductive during the past year; but, by the new appliances now being placed on it, a good hope is held out of its being as productive during the present year as formerly. At Tarcutta the mining interest is very much depressed, there being only three claims at work, and they are getting little or no gold, and there are only thirteen miners now at work on this field.

There has been a special lease of 50 acres (alluvial) taken up at Shaking Bog, near Adjenbilly, and a considerable number of men are at work on it; but it would be premature at present to predict the result.

No mining for metals other than gold is being prosecuted in my Division at present.

#### TUMUT AND ADELONG DISTRICT—ALBURY DIVISION.

(*Mr. Warden T. A. Browne, P.M., Albury.*)

I HAVE the honor to furnish my report with reference to the Albury Division of the Tumut and Adelong Mining District.

Having been gazetted as Warden so recently as last August, I have not had the opportunity of making myself personally acquainted with the extent and character of the mine-work of the district which I should have desired.

However, it may be stated generally that, although this district has been proved both in past years and quite recently to contain deposits of exceptional richness as well as fairly payable lodes and reefs, few continuously good returns can be quoted.

One of the most promising ventures was that upon purchased land, the property of Mr. Gottlob Singe, leased to the Bungowannah Company. The workings were on an auriferous conglomerate, 24 feet wide, in which prospects had satisfied them that they had an inexhaustible supply, payable even at a very low percentage.

Not less than £2,000 is estimated to have been expended upon a quartz-crushing machine, with fifteen head of stampers, a large dam, a check dam, and tramway to the workings. After the first crushing, which yielded less than 100 oz., the mine was let to tributers. They crushed 1,094 tons for 125 oz., and then, being of opinion that the appliances were not equal to the exhaustive treatment of the stone, ceased working.

The most successful mining investment at present in operation in the district is that of the Hawkview Reef, at present being worked by a company. This reef is situated upon the Hawkview Estate, 12 miles from Albury, and is understood to have lately had a crushing which went 4 oz.

At Wealund and party's claim at Black Range, 3 tons were crushed late in December, which went 31 oz. This is understood to be from a rich, but probably short, "shoot."

The

The Soudan Company, which formerly employed a large number of men in working a dyke reef at Splitter's Creek, have, I am informed, an intention of recommencing operations.

At Tarrara there would appear to be a revival of interest in mining matters, as several leases have recently been applied for.

During the past year have been issued :—

Miners' rights .....	119
Business licenses .....	6
Mineral licenses .....	2

TUMUT AND ADELONG DISTRICT—ADELONG DIVISION.

(J. James, Mining Registrar.)

THE business transacted during the year consists in the issue of 170 miners' rights and 6 business licenses, the receipt of 2 gold-mining lease applications; conditional registrations, 15; and 15 registrations in unsurveyed tenement register.

Through the courtesy of the managers of the local banks, I am enabled to furnish the following correct returns :—

	oz.	dwt.	gr.
Commercial Bank .....	1,511	15	11
New South Wales Bank .....	1,030	9	4
Total for the year.....	2,542	4	15

The following crushing returns for the year 1887 have been kindly furnished. —

	tons	cwt.	oz.	dwt.	gr.
Reefer Battery .....	958	0	1,073	1	0
Perseverance Battery.....	670	0	635	14	0
Totals.....	1,628	0	1,708	15	0

Issue of miners' rights compared :—

1886.	1887.	Decrease.
No.	No.	No.
175	170	5

Quantities of gold, the produce of this Division, compared :—

1886.			1887.			Decrease.		
tons	cwt.	gr.	tons	cwt.	gr.	tons	cwt.	gr.
2,408	10	0	1,628	0	0	780	10	0
oz.	dwt.	gr.	oz.	dwt.	gr.	oz.	cwt.	gr.
1,715	7	9	1,708	15	0	6	12	9

Quantities of alluvial gold, the produce of this Division, compared :—

1886.			1887.			Decrease.		
oz.	dwt.	gr.	oz.	dwt.	gr.	oz.	dwt.	gr.
4,085	9	6	833	9	15	3,251	19	15

Through the courtesy of Mr. William Ritchie, I am enabled to distinguish lots from several points treated at the Reefer Battery :—

	tons.	cwt.	oz.	dwt.	gr.
Corragong Mine .....	90	0	320	17	0
Gap Reefs .....	84	0	130	18	0
Donkey Hill .....	19	10	150	1	0
Challenger Mine .....	77	0	111	0	0
Mount Adrah .....	48	10	56	12	0
Small lots .....	568	0	285	13	0

The firm also sent away 41 tons of pyrites to the Cunnigar Works, Harden.

Mr. A. W. Molineaux, manager for the Amalgamated Companies, states that there has been but little work done on the mines under his charge, owing to the amalgamated properties being placed under offer to an English syndicate. The number of men employed through the year has averaged twenty. The Company's tributers have crushed at the battery 410 tons of quartz for a yield of 494 oz. 18 dwt., and 260 tons of picked tip for a yield of 140 oz. 16 dwt. gold—making a total of 670 tons of crushing stuff for 635 oz. 14 dwt. gold.

He is also pleased to report that with the commencement of the new work has been resumed in at least one of the mines, having received instructions to bale the water out of the Adelong Mine preparatory to sinking the shaft. Should success attend the efforts in this direction, work will doubtless be commenced at other points.

The gold-mining leases owned by Mr. W. Williams, senior, and worked by tributers, have come to the fore. During the year, 362 oz. of gold were obtained from 90 tons of quartz, and the leases hold out at present prospects of future good returns.

Owing to the late heavy rains and consequent inflow of water, work was retarded at the Gap claims. The Crown and Appletree could not sink the shafts. At the Lady Mary, with the assistance of a pump, 91½ tons of quartz were raised and crushed. The gold won was 131 oz. 18 dwt.

Capital is needed to try the Gap veins. The present appliances are insufficient.

77 tons from the Challenger Mine may be called the outcome of fossicking. The mine, which is now full of water, has rightly deserved the censure of least development. The deepest part pierced is only 600 ft., and as most of the work formerly was confined to the hanging-wall vein, a large area of ground on the foot-wall vein remains untouched. The water rising will eventually drive out the fossicker.

The claim of Barbour and party and the gold-mining lease of Hodge Brothers, situated on Donkey Hill, are worked with results much about the same as previous years. In the lease shaft, a winze has been sunk 30 feet. The Hill has contributed 90 tons 10 cwt.

The

*Alluvial.*

The gold obtained from this source is 833 oz. 9 dwt. 15 gr., and, by comparison, a decrease of 3,251 oz. 19 dwt. 15 gr. is shown. In my total returns, I have excluded about 518 oz. of gold from Reedy Flat and sold to the banks here. It is probable that in my report of 1886, about 400 ounces were not excluded.

Approximately, the decrease may be stated to be 2,500 ounces, to be attributed to the entire falling off at Shepardstown.

The repeated floods have greatly interfered with Mr. Shepard's new system—not yet matured. The lease has a large area yet unworked, and, with the hydraulic injector matured, a return to the usual annual yields may be expected.

In conclusion, I must state that the present state of this gold-field is one of increased depression, and its prospective state depends on capital and greater energy.

## TUMUT AND ADELONG DISTRICT—QUEANBEYAN DIVISION.

(*C. J. B. Helm, Mining Registrar.*)

I HAVE the honor to report that during the past year mining matters have been rather dull in this Division; but things are beginning to look a little more hopeful just now. A party of four local people have taken up 10 acres as a gold lease at Mac's Reef, which was an old lease abandoned in 1883. A new shaft has been sunk to a depth of 50 feet. The stone has been tested from that depth and found payable. Another party of four, from Goulburn, have applied recently for a 10-acre gold lease adjoining, and are sinking a new shaft. Some good specimens have been found.

At Brindabella, on the Goodradigbee River, a company has been formed to work 26 acres (alluvial working). A good deal of work has been done, but the water supply is not satisfactory. A head-race, 4 miles long to the works is being constructed, and an expenditure of about £900 has been incurred—so the manager, Mr. Reid, informed me. A trial washing has taken place, the result being 3 dwts. to the load.

I may state that as yet very few miner's rights have been taken out at this office this year; but of course a great number would be issued by the Mining Registrar at Captain's Flat now.

The expected visit of the Prospecting Board this week may be the means of stimulating matters about here.

## TUMUT AND ADELONG DISTRICT—NIMITYBELLE DIVISION.

(*G. W. Myers, Mining Registrar.*)

I HAVE the honor to submit my annual report for the year 1887, and I am glad to state that a perceptible improvement in mining affairs has taken place during this year. At Kydra Reefs, S. McDonald, on behalf of a company, applied for a gold lease of 10 acres, on which he has kept five experienced miners regularly at work, and succeeded in raising a considerable quantity of good looking stone. Through the courtesy of Mr. S. McDonald, the proprietor of the crushing plant, I am placed in a position to say that out of a trial crushing of 25 tons of stone, which was obtained from the surface to a depth of 35 feet, the very favourable yield of 25 oz. of gold was obtained.

Kiss, Tindall, and party have also applied for a gold lease of 10 acres at Kydra, and have had five men constantly employed, who have raised a quantity of gold-bearing quartz; but, up to the date of this report, have not had a crushing. It is the intention of both the above parties to float companies. I may state that the whole of the abovementioned stone was got from leaders only, no main reef having yet been struck. Nineteen miner's rights were issued, as against seven for the preceding year. During the year many specimens of minerals were brought to me to be forwarded to Sydney for assay; and a good deal of prospecting has been done in various parts of my Division with varying success. No doubt a considerable quantity of gold in small parcels, obtained in this manner, was sold privately, and consequently I am unable to furnish any return of such.

I anticipate a further improvement in mining matters here during the coming year.

## TUMUT AND ADELONG DISTRICT—TUMUT DIVISION.

(*Charles J. Lloyd, Mining Registrar.*)

ALL the mining in this Division is alluvial. No payable quartz reefs are being worked. One party is prospecting on the old Laemalac Reef, and another at Murphy's Reef, Micalong; but no machinery is at work up to date.

Neither of the banks here buy gold, owing to the very small quantity that is brought in. It is therefore very difficult to estimate the exact quantity of gold that is got in this Division. Eighty-four miner's rights were issued by me in 1887, as against fifty in 1886, which shows an increase of thirty-four miners. A large number of these are prospecting on Weejasper Creek, about 40 miles from here; but up to date no report of the discovery of payable gold has been received in this office.

Messrs. Ryan and party have applied for a 50-acre special lease on the Shaking Bog Creek, and have now about twenty men working there forming a water-race. When this is completed, they appear sanguine of getting payable gold. This is the only large undertaking in this Division. If it should prove successful there is no doubt that a stimulus will be given to the mining industry in this Division.

## TUMUT AND ADELONG DISTRICT—KIANDRA DIVISION.

(*W. D. Bailey, Mining Registrar.*)

HEREWITH I have the honor to forward my report for Kiandra Division for 1887.

The number of miner's rights issued was 115.

The amount of gold won, 2,454 oz. Doubtless there were other parcels that did not pass through local buyers hands that are not accounted for in this report.

The wash-ups generally were very poor, although the past was a good season for water.

Mr. Pattinson, Manager of the Kiandra Gold-mining Company reports:—Have sluiced 2,221 hours, each with two nozzles. The average height of bank sluiced away, 110 ft. The amount of bottom cleaned

cleaned up, 6,053 superficial yards. The amount of gold won, 1,707 oz. 9 dwt. Owing to the bottom dipping we have to open a new tail-race, the turn-tunnel for which we have already driven 500 feet. When this is completed, sluicing will be resumed. Our dam at the Three-mile is now full.

Mr. Drummond, of the Empress Company, at Nine-mile, reports:—During the year we have deepened our tail-race and improved the head-races. When water was available, worked the mine with seven men. The amount of gold won, 82 oz.

Heinz and Hooper report having driven 580 feet in their tunnel, on Township Hill. Put in two air-shafts—one at 43 feet and the other at 89. At a distance of 520 feet, put in a jump-up. Struck lignite and a little gold 40 feet from the lower level. At 20 feet from lower level we followed the underlie of the lignite a distance of 70 feet, but had to desist, owing to the water getting too heavy for us.

At present we are driving the lower level to drain the water from the 20-feet level. Total amount of driving and sinking, 822 feet.

At the Eight-mile, Patterson and Patrick have not cleaned up. I cannot ascertain what their yield will be.

There were two applications to lease—one of 25, the other 20 acres.

#### TUMUT AND ADELONG DISTRICT—REEDY FLAT DIVISION.

(*J. T. Hely, Mining Registrar.*)

I HAVE the honor to forward you the annual report for the Reedy Flat Division of the Tumut and Adelong Mining District for the year 1887.

The number of miner's rights issued were 65; business licenses, 3.

The amount of gold purchased by Mr. Timmis, the local storekeeper, was 530 oz.; and there is no doubt that another 50 or 60 oz. were sold privately to the banks in Adelong and Tumbarumba.

A number of payable quartz reefs are known to exist in this locality, but it requires machinery on the ground, and capital to work them.

#### TUMUT AND ADELONG DISTRICT—ALBURY DIVISION.

(*Charles A. Conley, Mining Registrar.*)

I HAVE the honor to report that mining, last year, has not progressed so satisfactorily as anticipated.

The Bungowannah Company's machinery, although very complete and modern, could not save sufficient gold, owing to the presence of refractory ores, to warrant a continuance of the large outlay necessary for carrying on operations, and work has been suspended for the present. The Soudan Company, whose claim is situated at Splitter's Creek, after spending a large amount of capital, also gave up for time being, but are about making a fresh start. At one time the above companies employed from eighty to ninety men. Messrs. Pyc & Wealands (May Day, Black Range) have had two very good crushings—44 oz. for 20 tons, and 64 oz. for 16 tons—and are about crushing again, and anticipate 4 oz. to the load. They are down 110 feet; reef 8 inches, running east and west. Messrs. Wealands and party struck a very rich patch south of Portuguese Gully, near Black Range, which yielded 31 oz. for 3 tons; but the shoot of gold is very short. They also contemplate having another crushing shortly.

During the year a fresh start was made on the Ethiopian Lease, Black Range (Lawson and party); crushing yielded 10 oz. for 4 tons.

The Nail-can has attracted the attention of four or five different parties, but their efforts have been but poorly rewarded.

The Advance Australia Company had a trial crushing at Chiltern of 3 tons; yield, 9 oz. 1 dwt. They are still sinking on a small leader. Some prospecting has been done at Nine-mile Reserve and Portuguese Gully, with varying success.

No silver or tin mining has been done, although traces of both are to be met with in the district.

#### TUMUT AND ADELONG DISTRICT—COOTAMUNDRA DIVISION.

(*A. J. McCarthy, Mining Registrar.*)

I HAVE the honor to forward my report of mining operations in this Division for the year ended 31st December, 1887.

I regret to have to state that mining has made very little progress during the period, notwithstanding the large area of auriferous country in the Division.

Three gold-mining leases, one mineral lease, one extended quartz claim, and one quartz prospecting protection area, have been applied for during the past year, and forty-one miner's rights have been issued from this office for the same period. There is very little alluvial mining going on, operations being almost entirely confined to quartz.

#### PEEL AND URALLA DISTRICT—GLEN INNES DIVISION.

(*Mr. Warden Martin, P.M., Glen Innes.*)

*Tin.*

THE exceptionally high prices ruling in the home market gave an impulse to the production of this metal, which was sustained throughout the year, and, as the rainfall was abundant, the output of ore rose to more than 700 tons above that of the previous year.

The increase came from no particular lead or new ground, but was general over the whole field; and land which had formerly been prospected and abandoned as being too poor, was again taken up and worked to a profit under the altered condition of the market.

Although persevering and expensive prospecting in the deep ground westward of portion 8, in the parish of Hamilton, has failed to discover the lead supposed to be continuous to the Gulf in that direction, a connected run of rich wash has been traced and worked from the celebrated Wesley Mine, in the same parish, to the point first above indicated. A prospecting association, formed at Emmaville some months ago, have, with much public spirit, undertaken to test the ground along the course of the old basaltic overflow, and commencing at the Gulf, where a sheer fall of between 500 and 600 feet breaks the continuity

continuity of the run, they are driving a tunnel in on the face of the declivity, at a point where the wash is exposed, at what is believed to be its western limit. If further exploration should prove this theory to be true, an enormous expansion will be given to the particular mining industry which has hitherto been the most important one of the district. In any case, the output is not likely to fall off during the coming year, should the present high price of tin be maintained, as prospecting is being pushed out very generally over the whole district, and small contributions from many sources will help to swell the general total, even should no rich leads be dropped upon.

Lode mining for this metal has been persevered in under much difficulty by a determined and hopeful few, and if the field from this source, during the past twelve months, has not exceeded 150 tons, the following remarks by the managing proprietor of the Ottery Mine (Mr. J. H. Reid) foreshadows a probability of better things to come in the near future:—"During the year the Ottery Mine has produced 2,171 tons 12 cwt. tinstone, which, when crushed, returned 76 tons 3 cwt. 1 qr. 18 lbs. black tin ore, or at the rate of 3.5 per cent. The increased value of ore has enabled the proprietary to continue exploring the mine by a tunnel. That, at a distance of 350 feet from the mouth, is expected to intersect the main lode traversing the property at a point 150 feet perpendicular from the surface. Already 340 feet have been driven in at an approximate cost of £1200, and should the point of intersection show payable ore, many years' profitable work will be assured. At the 90 feet level the lode is in places over 10 feet wide, and there is now exposed to view from that level upwards some twelve months' work. The increased price obtainable for ore (£84) should give a great stimulus to lode mining, and thus afford an opening for some of the surplus labour which for some time past has been moving about the country."

The returns of ore raised, give for:—

	tons.	cwt.
Vegetable Creek ... ..	2,639	14
Glen Innes... ..	206	10

which, at £65 per ton (the average price at the smelting works, Leur Hill), gives a value of £185,003 on the ground.

The average numbers of miners employed has been about:—

Europeans ... ..	500
Chinese ... ..	620

at rates of wages from 8s. downwards. Not many miners, however, are working on daily wages. The great majority are working on tribute, at rates varying according to the richness or comparative poorness of the ground.

888 tons 15 cwt. refined tin passed through the smelting works at Tent Hill, and were forwarded by rail to Morpeth, at a total cost for carriage by steam and rail of £3 16s. 8d. per ton.

#### Silver.

The opening up of the rich silver-mines at Silverton, coupled with the successful treatment of the local argentiferous ores at Webb's Mine, Little Plant Creek, have at last drawn the attention of capitalists to the possibility of wealth lying within the depths of the hitherto neglected silver-bearing lodes at Vegetable Creek; and now, instead of encouraging the influx of long needed capital, a word of warning is necessary in restraint of the reckless phase of speculation which thoughtlessly regards all silver-bearing properties placed on the market as of equal value, and as affording equal and certain roads to an easy and sudden acquisition of fortune. That some of the lodes discovered are very valuable can no longer be a matter of doubt, but intending investors should bear in mind that a sustained expenditure of capital will be required, under skilful and trained management, to achieve success in a form of mining where the records of failure have been so numerous.

The proprietors of Webb's Mine have been fortunate in securing the services of a thoroughly competent gentleman as captain of their mine, and to his skilful manipulation of the ores is mainly due the success which so far has been achieved. The necessary plant for treatment of the ores had been erected and raised at the close of the year, and it is expected that when the machinery is in full working order a satisfactory dividend for the shareholders will prove that the mine has not been over-valued.

The argentiferous galena ores at Pye's Creek will, it is anticipated, prove easier of reduction than those at Little Plant; but, although trial shafts are being vigorously put down on most of the properties, there are no apparent preparations to treat the ores on the ground.

The central mine on this field has been floated under the name of the "Pye's Creek Silver-mining Co.," and, from the local Managing Director, I gather that at the close of the year the shaft on the main lode had been put down 92 feet. The lode at that level was 10 feet wide, with a core of solid galena 4 feet across, and veins of the same ore 2 to 4 inches thick, running through quartz and gossau on each side. A large quantity of ore, estimated to yield from 130 to 150 oz. of silver to the ton, had been stocked at the mouth of the shaft, and it is intended to erect a reverberatory furnace on the ground for its direct smelting. The ore throughout is said to average 50 per cent. lead, and the assays, since passing the 50-foot level, to have given from 50 to 720 oz. of silver per ton of lead. Shafts sunk on adjoining properties it is said, give similar results, and altogether the outlook for silver mining is most promising in this locality.

As bands and even extensive tracts of slate are frequently met with in the granite country, on the eastern fall of the main range, it is but natural that the excitement on the subject of silver-mining should have led to much exploration in that direction; but, although much loose stuff has been submitted to assay, nothing giving so rich a promise as that of the ore from the broken country on the western fall has been discovered.

I have given Webb's and Pye's Creek Mines as examples of the best known ores in their respective localities—20 miles apart.

In the former, fersite and antimony appears to preponderate; in the latter, galena.

The country being explored and taken up on the supposed continuation of these leads extends southerly from Pye's Creek, between 30 and 40 miles. Nine miles east of Deepwater, under Capoompeta, some promising lodes have been discovered, and are being prospected.

With the exception of ore for test treatment, no metal has yet been sent out of the district.

Gold.

*Gold.*

With the exception of the operations undertaken by the Glen Elgin Gold-slaicing Company to turn the course of the Glen Elgin River, there has not been anything in connection with mining for this metal worthy of special notice. Unfortunately for the successful accomplishment of their object by the above company, an unexpected obstacle has shown itself at the 40-foot level in the cutting already opened, and to complete the work to the necessary depth of 70 feet a central core of 30 feet of hard granite will have to be removed before the waters of the river can be drained away.

The length of the artificial channel at present formed is 1,930 feet, and it is 100 feet wide, and 40 feet deep in the centre.

Nearly the whole of the mass cleared away consisted of decomposed granite in situ, and generally of so soft a nature as to be readily removed by hydraulic sluicing.

As the expense of removing the hard granite core by blasting will necessarily be heavy, it has been decided to stay operations in the cutting for the present, and to thoroughly test the supposed deposits of tin and gold in the bed of the river, with a view to ascertain whether there is a probability of an adequate return on the expenditure of additional capital in the venture.

About twenty-five European miners have been directly employed in mining for gold at scattered points from Glen Elgin to Oban; but as it is estimated that not more than 450 oz. have been won from the alluvial, the field cannot be looked upon as rich, nor the rate of remuneration such as to entice many into the wild country where for many years these often grey-headed men have led a solitary and reclusive life.

Gold is found associated with tin at Oban, and the ninety Chinese tin-miners at that place have contributed something to the total as above which I have given the European miners credit for. Beyond securing specimens with a view to float companies, nothing is being done with the gold-bearing reefs known to exist.

*Bismuth.*

It is very difficult to obtain reliable data on which to found an estimate of the output and value of this metal, as the manager of the only mine actually at work (the Kingsgate), acting under instructions from his principals, declines to give any information on those points. A personal inspection of the mine early in January showed me that forty men and twenty boys were at work at various shafts and tunnels on the company's land, and that a large amount of excavation had been effected during the year in searching for the mineral. The ore is not found in fissure lodes, as is usually the case with other metals, but in irregular shaped cavities termed "pipes," which have been followed downwards in the granite rocks to a depth in some instances of 100 feet.

The ore is roughly broken, hand-picked, and worked before being bagged for shipment to England, and averages about 50 per cent. under this treatment.

According to the railway returns, 35 tons 9 cwt. 1 qr. 25 lb. were forwarded during the year to Newcastle; and I believe this to have been about the output of the mine for the past twelve months.

At the adjoining (Glen Innes) mine, very little work has been done, in consequence, I believe, of a want of sufficient capital; but it is to all appearance as rich in bismuth as its neighbour, and is said moreover to contain some valuable ores of silver.

The country is generally of coarse granitic formation, overlaid in places with a thin crust of basalt. The bismuth-bearing granite rock is well defined, and cut off on the north, east, and west by a broad belt of slate, beyond which in those directions none of that metal has been found.

*Copper.*

This metal is known to exist in the district, and an analysis of a sample recently submitted for assay gave:—

Metallic copper, 13.2 per cent.

Fine silver, at the rate of 14 oz. 13 dwt. 2 gr. per ton.

It does not appear however that any action is being taken to secure or work the ground, whence the specimen was taken. In conclusion, I think I have sufficient warrant in assuming that a new life will be permanently infused into mining in this Division in consequence of the influx of capital, backed by enterprise and skill, which the silver mining excitement has brought about; and although it is quite certain that very many of the companies so easily floated to work local mineral lands will never pay a dividend on the money subscribed by the shareholders, still there are properties in every way worthy of the outlay contemplated, and whose certain return of profit will lead to an expansion of *bona fide* mining much beyond anything that could have been anticipated at the close of 1886.

## BINGERA DIVISION—PEEL AND URALLA DISTRICT.

(*Mr. Warden Lawson, P.M., Bingera.*)

I HAVE the honor to report on the various goldfields in my district. On almost every field the numbers have increased. There has been greater activity, if the results have not been as satisfactory as anticipated.

*Bingera Diamond fields.*—These are deserted. The plant of the A.D.M. Co. has been sold and some removed, the leases forfeited and taken up by other parties, who are not doing much work.

*Gold.*

*Bingera.*—Wearne and party have sunk on the "All Nations" Reef about 120 feet. The reef is about 8 feet wide. Several tons of stone have been tested in various plants, yielding at each between 16 to 18 dwt. of fine gold per ton, and with pyrites, about 5 oz. per ton. The proprietors have not yet succeeded in placing a battery on the property.

*Bobby Whillow.*—A few old miners still continue to make a living. Tenders have several times been called for sinking shafts on the prospecting reserves, without obtaining respondents.

*Gympie Flat.*—Adjoining the diamond-fields a small rush set in at this place, and for some months past a number of men have earned more than wages.

*Spring Creek.*—H. Reading and party have followed a reef down some 70 feet, working the casing with profitable results for months past. Miller and party have opened a copper vein, with very promising returns so far as gold is concerned, the indications and surrounding country being very similar to the rich workings at Top Bingera years ago.

*Upper*

*Upper Bingara.*—Most of the leases forfeited. Collins, Court, & Co. placed an engine and pump on one claim, the issue was not sufficiently remunerative to induce them to continue operations. With the exception of a few men working the alluvial, the field is deserted.

*Barraba.*—Tea Tree Pioneer G.M. Co. have erected a battery. In one patch 112 lb. of stone yielded 58 oz. of gold. They are now down 120 feet, but the yield is not up to the expectation of promoters.

*Ironbarks.*—Some rich finds. At one time 200 men on ground. Geddens & Co. have erected 12-stamper battery, working their own reef, and crushing for the public. Several other companies formed and started.

*Crow Mountain.*—Some few hands have done well in the alluvial, finding specks up to 8 oz. A company has restarted to work the reefs which formerly yielded well.

*Paling Yards.*—During the wet season a few men did fairly well in alluvial.

The output for the year 1887 exceeded the preceding year on all the fields, excepting "Top Bingara."

For Bingara proper, I understand, about 1,050 oz. have been forwarded. Some interest may be attached to the discovery of some remains of extinct animals existing in this locality in ancient times. Mr. C. Cullen, of the Geological Branch, Sydney, has been busy excavating bones at Myall Creek, and up to the present has unearthed fossil remains of three distinct animals, diaprotodon and others. Other interesting discoveries are anticipated.

#### Tin.

A discovery of tin was made on Gragin Creek, about 14 miles from Warialda. Four leases were taken up. First prospects were encouraging, but on cutting into the hill, the wash did not yield enough tin to warrant further outlay. Eight leases were also taken on the Delungra Creek, Myall Creek Run, but no work has been done.

#### TAMWORTH DIVISION.—PEEL AND URALLA DISTRICT.

(*Mr. Warden Irving, P.M., Tamworth.*)

THERE being no proclaimed gold-field in the portion of the Mining District of Peel River and Uralla, of which I have charge, I have necessarily but a meagre report to make at any time. Thirty miners' rights and six mineral licenses have been issued by me during 1887. I am not aware of any mining for copper, tin, manganese, cobalt, or other mineral otherwise than gold, being actively prosecuted in this division.

As regards mining for gold, five leases have been applied for at Swamp Oak Creek and Mullah Creek, a tributary of Swamp Oak Creek. Total area of these applied for portions is 70 acres. Glowing reports have appeared in local newspapers of the richness of the auriferous ironstone and quartz intended to be mined on the creeks before-mentioned, but nothing has been made known to me of any tangible nature, as to the extent of the reef or reefs, or of any assays that may have been made; nor do I know that sinking has been carried out to any depth. The mining seems to me to be chiefly of a prospecting character. It is to be hoped that there may soon be proof afforded of the stuff being payable and largely distributed, so as to afford some employment of labour and benefit, not only the applicants for the leases, but the town and district of Tamworth. In the ranges behind Tamworth some persons have been prospecting for gold. I have been shown some specimens of quartz containing gold from these ranges, but as yet no leases have been applied for. Gold has for some years back been known to exist in small quartz veins in the ranges behind Tamworth. The parties giving these reefs a trial may succeed in finding some payable quartz, though I have heard of no results from their researches as yet. There is a large extent of country between the gold-fields of Nundle and Bowling Alley Point at one extremity of the Peel District, and the gold-fields near Barraba at the other, about the nature of which, as regards gold bearing, hardly anything is known. The gold-fields I have alluded to are 70 miles to 80 miles apart. I do not think the intervening country has been thoroughly prospected.

#### PEEL AND URALLA DISTRICT—SCONE DIVISION.

(*Mr. Warden Parker, P.M., Scone.*)

I HAVE the honor to forward my fifth annual report upon the Scone Division of the Peel and Uralla Mining District, under my charge.

During the period 1st January to 31st December, 1887, 157 miners' rights and two business licenses have been issued in this office, being a considerable increase on the previous year, only forty-five miners' rights being issued in 1886.

At Stewart's Brook Gold-field, distant about 40 miles from Scone, in a north-easterly direction. About twenty claims (quartz) have been partially worked during the past eight months, and a great quantity of stone is to grass waiting to be crushed.

During the last year about 550 tons of stone has been crushed at the water-power battery at Stewart's Brook, ably managed by Mr. W. Towns, yielding 550 oz. of gold, of the value of about £2,000.

There are now about 200 gold miners, with their wives and families, settled on the field, and prospecting is going on briskly.

The want of crushing machinery is greatly felt on this field. The country is very rugged and precipitous. It costs about 30s. per ton to cart the stone from a number of good claims (where the reefs vary from 9 inches to 3 feet wide) a distance of about 3 miles to the site of the present and only machine on the field. This heavy charge prevents many claims from being worked; therefore the erection of a second crushing machine in a suitable place would most materially assist in the development of the field; as a yield of 1 oz. per ton would give the shareholders a good paying dividend where the cost of conveying the stone from the mouth of the claim to the battery should not cost more than (say) 10s. per ton.

I have heard from some shareholders that there is now a good prospect of their having a second machine erected at the required spot, which will thus save them 20s. per ton in expenses, and no doubt good results will follow; at least I hope so.

At Moonan Brook, the Denison Gold-field, six quartz reef claims have been partially worked during the past year, and 120 tons of stone has been crushed at the Water-power Battery, under the management of Mr. E. Williams, yielding a return of about 110 oz. of gold, of the value of £375.

At the present time ten miners are engaged at this place in gold-mining. There are many more men on the field who formerly worked as miners, but now occupy their time as wire fencers, bush labourers, &c., about the district.

In conclusion, I am happy to report that the gold-mining prospects of this division are much brighter than they have been at any time since my arrival in 1883, and I trust that the increase to our mining population may result in the discovery of good gold-bearing reefs.

#### PEEL AND URALLA DISTRICT—NUNDLE DIVISION.

(*Mr. Warden J. L. King, P.M., Nundle.*)

I HAVE the honor to forward my report for the past year of the Nundle Division of the Peel and Uralla Mining District. I took charge of this district on the 1st September, and since then I have made an inspection of the principal claims and leases.

During the year mining generally has taken a step forward. When Mount Ephraim was disposed of other leases were immediately applied for in the vicinity of this huge mass of cement. Leases were also taken up in other parts of the field, of which I will speak hereafter.

*Mount Ephraim Company.*—The operations of this company are carried out on an ancient river bed, commonly known in this district as cement, a large quantity of which had been ground sluiced by small parties previous to the present company being formed. The mine now occupies an excavated space of about 160 feet long by 100 feet wide by 57 feet deep. On the floor of this a shaft is being sunk, and which is now at a depth of about 60 feet, with a view of ascertaining the depth of the deposit.

Machinery, consisting of one 10-horse semi-compound portable engine, two 5-foot Huntington pans, capable of putting 40 tons of cement through per diem. Saw-bench and blacksmith's shop are all fixed and in first-class working order. The tables are undergoing some improvements. There is an excellent supply of water, and in a few days the company's mining manager will commence work in earnest, and the results are looked forward to with a very keen interest.

The five leases, extending from the back of "Prisk's Hotel," at the Hanging Rock, to Dangar's Gully, the site of Walker's old claim, are not being worked, with the exception of that near Walker's old tunnel. The new company are driving a tunnel under the basalt, and through serpentine formation, in search of the lead. They are now in some 450 feet. As soon as these leases are granted it is to be hoped that work will be commenced in earnest.

Two 25-acre leases have been applied for by Messrs. Seaver, Hirche, and others at the Red Hill (or Yahoo Gully), but no work has been done pending the leases being granted. The company have secured the water-race known as Power and Emblem's, which will provide an ample supply for all purposes. The results from this property are considered certain to be good, as some very coarse gold has been obtained by the ordinary hand crushing and washing process.

Henderson's Claim, at Mount Misery, is still being worked. The tunnel is now some 1,900 feet in. The cement obtained, however, is not as rich as it has been nearer the surface.

At Anderson's Flat, near Bowling Alley, Mr. Hale and Dr. Read intend to join in the expense of erecting heavy pumping machinery, and have great hopes of success after the water is mastered.

#### *Reefs.*

Work is being vigorously carried on at Foley's Reef, Bowling Alley Point. The tunnel is about 755 feet in, and they have again struck the reef showing gold. This reef is one of the finest in the district, being 3 feet 6 inches wide in many places, and very rich patches have been obtained by different parties during the progress of the tunnel. The parties who now hold the claim are working with a will, and will soon have sufficient stone for a crushing.

The John Bull and Carrington are also at work on what is believed to be the same reef. The John Bull had a crushing just before Christmas. I am informed it went 1 oz. to the ton. The owners of the Carrington, after widening their shaft, struck gold, and have since been driving to the south.

On the company's estate the Marquis of Lorne Company has been wound up with a great loss to the shareholders, but it is likely to be soon worked again in a more economical way, the opinion of many being that it is one of the best properties in the district. The Scandinavian is the only other claim at work in this locality.

In the vicinity of the Hanging Rock, Kennedy and Prisk have applied for a lease embracing their old shaft, which they abandoned some time ago on account of excess of water, and have driven a tunnel 90 feet lower down the hill, some 212 feet in. At 190 feet they struck a rich leader, and are now driving to the south of the reef showing gold, and intend stopping up towards their old shaft in which they were upon gold when driven out by the water. There are several other tunnels being driven on this line of reef, but with no very great results.

Rusicka's old claim has again been taken up by M'Nelly and Nethersole, and operations will be shortly commenced.

No work is being done on the Brown Snake reef, and the claims east of the Serpentine are all idle. A large number of rich leaders are continually being found, but are principally on or near the surface, and are in the vicinity of the Hanging Rock.

Alluvial mining is not much resorted to now, though occasionally a few nice water-worn nuggets are found. The Chinese are continually fossicking in the river and creeks, but it is impossible to say what their returns are.

The supply of water is sufficient for all purposes at present.

Nothing has been done in respect to other minerals.

The revenue has been largely increased by the rents on leases lately taken up, and the future of the field depends on the results that will be obtained from Mount Ephraim, Yahoo Gully, and Dangar's Gully leases.

Reef mining is in a better state than last year, the claims being worked with more energy.

No serious accidents to report, and very few disputes. All workings visited by me well secured and ventilated.

## PEEL AND URALLA DISTRICT—ARMIDALE DIVISION.

(Mr. Warden C. E. Smith, P.M., Armidale.)

I HAVE the honor to submit my annual report for the Armidale portion of the Peel and Uralla Mining District for the year 1887. It appears the gold obtained during the past twelve months is in excess of the quantity found in 1886 by 1,000 oz., as nearly 5,000 oz. are represented as the approximate yield for 1887. Antimony ore, to the extent of 110 tons, have been raised, and about 10 tons of tin have been secured during the past year.

Prospecting has been carried on with varied success in different localities by a number of miners, and even finds of gold have occasionally been reported, and a few of the newly discovered quartz reefs are alleged to be of considerable importance and highly auriferous, but cannot be profitably developed without considerable capital, and expensive machinery directed by competent and experienced mining engineers. Companies have been formed, or are in course of formation, to work rich quartz veins found at Baker's Creek, Hillgrove, and favorable accounts of profitable workings are expected, as the crushings by George Smith and party are reported to be very remunerative, and indicate rich payable gold-field has been discovered.

The operations of the Eleanora Gold-mining Company at Hillgrove, close to Baker's Creek, extracted 2,183 oz. 18 dwt. 5 gr. of gold, valued at £8,481 16s. 6d. from 6,313 tons of stone, and gave employment to from fifty to fifty-five men, and raised 110 tons of antimony. Three shafts have been sunk respectively 175, 85, and 100 feet, but the stone raised though very poor has more than paid expenses. The machinery in use is a 25-stamper battery, air compressor, with drills, whims, &c.

## PEEL AND URALLA DISTRICT—TINGHA AND INVERELL DIVISIONS.

(Mr. Warden Fraser, P.M., Inverell.)

I HAVE the honor herewith to submit my annual report for 1887 on the Tingha and Inverell Divisions of the Peel and Uralla Mining District, under my charge.

Although the weather upon the whole has been favourable for mining operations the output of ore has fallen off this year. This I attribute chiefly to the fact that the alluvial is pretty well worked out.

I estimate the whole product for the year at about 1,536 tons. Owing, however, to the advanced rates ruling for ore this year, the amount realized exceeds that of last year by some £2,000.

There has been a steady decline in the output of tin ore for the last six years, as shown by sub-joined table:—

Year.	Ore raised.	Value.
	Tons.	£
1882	3,500	186,000
1883	3,300	80,000
1884	2,700	60,000
1885	2,000	50,000
1886	18,000 ?	46,000
1887	15,000 ?	48,000

Our alluvial claims are nearly worked out, and although there are numerous reefs on the field, capital is required to develop them. Very few as yet are being worked, and unless holders induce capitalists to join them many claims must be abandoned, as capitalists hesitate to invest on values placed by lessees on undeveloped ground.

An attempt was recently made to form a private prospecting company, with a capital of £10,000, which I regret to say was unsuccessful, only some £7,000 being subscribed. Had it succeeded I believe capitalists would have operated with more confidence. The result would have been that a large mining population would be established, farmers and storekeepers would have found a cash market for their goods, and we would be independent of the long looked for railway.

The diamond industry is taking a breather, very little being done at present on that part of the field. The absurdly high expectations of holders of land of this nature prevent capitalists meeting them.

A reported discovery of gold and bismuth has been made in the north-east portion of the field. The assays are said to be good, but experienced miners suspect that the samples sent for treatment were concentrated, consequently the discovery has not caused much excitement. The prospectors, however, are very confident, and intend sinking to a depth of 100 feet to further prove the reef.

## PEEL AND URALLA DISTRICT.—TINGHA DIVISION.

(Wm. Norton, Mining Registrar.)

I HAVE to report a falling off of 389 tons of tin during 1887; the value of tin won during that year was £78,138, being £11,802 less than the value of tin during 1886.

The falling-off of the yield of tin has been caused by the working out of the shallow ground. Attention has, however, been turned to the deep ground and reefs, with every prospect of future success, if the present indications continue.

With respect to the diamond field I cannot speak, as that part of the division transacts its business through the Inverell office.

## PEEL AND URALLA DISTRICT.—BENDEMEER DIVISION.

(J. H. Stumbles, Mining Registrar.)

I HAVE the honor to report, for your information, that during the year ending the 31st December, 1887, there has been four applications for mineral leases received at this office—three for the purpose of mining for tin, and 1 for manganese. There has been 13 mineral licenses issued at this office, and 2 miners' rights. None of the company's are at present working their ground. Murray & party have raised 3 tons of tin, which was disposed of at £65 per ton. Northy and party have raised 2½ tons of tin, which was disposed of at £60 per ton; Hetherington and party raised 2 tons 3 cwt., which was disposed of at £60 per ton. These are the only parties at present working in the creek.

PEEL.

## PEEL AND URALLA DISTRICT.—URALLA DIVISION.

(James Watt, Mining Registrar.)

I do myself the honor to submit, for the information of the Minister for Mines, the following report on mining matters in the Uralla Division of the Peel and Uralla Mining District for the year 1887.

I regret to say that there has been a falling-off in the gold yield generally as compared with that of 1886, which may, in a measure, be accounted for by the fact that copious and continuous rains fell within the latter period, enabling miners to sluice off large quantities of wash dirt which had been stored up, in some cases, for years.

At Doherty's Hill, about 3 miles west of Uralla, a considerable amount of work has been done during the year. It will be remembered that Mr. Surveyor David, when sinking the district at the latter end of 1886, pointed out this locality as one likely to bear rich deposits. Every available piece of land in the vicinity has been secured, either by lease application or under the Mining Board regulations. I am informed by old residents that the ground was tried many years ago, but the water proved an insuperable obstacle, which frustrated all the efforts of the early miners to reach the bed rock and test the ground.

Rice and party, however, have bottomed at a depth of 120 feet, obtaining (with great difficulty, on account of the rising water) prospects of about 3 oz. to the load. In January last pumping gear and machinery were erected at this claim, but proved of so unsatisfactory a character that it had to be removed. A new engine of 12-horse power is now on the ground and ready for work, which will, effectually combat the water, and the party are confident of success in the near future.

The old Rocky River Company, Jubilee Company, Tug of War, and other parties, have also done good work in sinking shafts and putting up machinery at Doherty's Hill, but no gold has, as yet, been obtained, owing to the difficulty before referred to. The work of sinking here is exceedingly laborious,—mostly through basalt of the very hardest description.

A rush took place in the beginning of last August to a spot near the Wallaby Rocks, about 2 miles south-west of Uralla. The ground is new, and the sinking soft and comparatively shallow (about 20 feet.) Brown and Bonors, Crotly, Russ, Scanlon, and others, have taken up claims here; the first-mentioned party being the most successful, realizing at first from 1 to 2 oz. to the load. The average present yield is from 11 to 23 dwt. This locality is, I fear, patchy, and not likely to become a permanently rich field.

Sluicing operations at Dodger's Rush, Cabbage Tree Creek, and Tolly's Gully, appear to be of such a payable nature as to warrant several parties continuously working them, but I am unable to obtain reliable information as to the yields and prospects of these places.

I am sorry to have to report that the Maitland Point Company have for a time suspended work. This company was formed for the purpose of thoroughly working on a large scale, by hydraulic dredging, the bed of the Rocky River, previously "fossilized" by Chinamen, and abandoned. Powerful machinery has been erected, at a cost of some £3,000, and about 5,000 tons of alluvial tailings worked, realizing about 25 oz. Owing to some part of the machinery not being of the character required to cope with the spongy, clayey soil underlying the loose sand and gravel, work was suspended, and arrangements made for rectifying the error. The company expect this year to put a very large quantity of stuff through the process.

The Long Tunnel Company (Messrs. Anderson and Young) have steadily and continuously worked their holding throughout the year, and the returns appear satisfactory.

The local branch of the Bank of New South Wales purchased 900 oz. of gold, at the rate of £3 15s. per oz.; but no idea can be formed from this of the mining resources of this district, as large quantities of gold are conveyed away by private hand.

The number of licenses issued was as follows:—

Miners' rights .....	266
Business licenses .....	5
Mineral licenses .....	2

as against—

Miners' rights .....	141
Business licenses .....	4
Mineral licenses .....	Nil.

sold in 1886.

Seven applications to lease land, amounting in the aggregate to 51 acres, have been received by me during the year; also, sixteen applications for extended claims in old and abandoned ground, representing 81 acres, and the following:—9 water-race and water-right applications; 3 dam and reservoir applications; 7 block alluvial claim applications; 2 creek claim applications; and 1 prospecting (quartz) claim application.

## PEEL AND URALLA DISTRICT.—WALCHA DIVISION.

(E. Marriott, Mining Registrar.)

HEREWITH I have the honor to submit my annual report for the Walcha Division of the Peel and Uralla Mining District for the year 1887.

## 1. Glen Morrison.

The Glen Morrison Prospecting Company, after expending £1,000, have reopened work, for the purpose of reforming the company and raising fresh capital.

James Kean and party, working under a special permit, granted by the Minister for Mines, report having discovered a "leader" containing gold, and they intend to raise about 10 tons, for the purpose of testing.

Other local companies have been formed for the purpose of testing the reefs in this locality, which it is to be hoped will lead to fresh discoveries.

## 2. Tia River Reefs.

Matheson & McIntyre, the proprietors of the principal claim in this locality, have sold out to a new company, with a view to more extensive works being carried out.

Mr. J. N. Watts, on behalf of the new company, reports as follows:—The Tia Gold-mining Company have purchased the Tia Gold-mine, held under a lease by Matheson & McIntyre, consisting of two

two 6-acre leases, together with the battery of five head of stampers driven by water wheel, and all appliances. They have an experienced manager to superintend the working of the mine, and it is their intention to sink a main shaft 220 feet, so as to cut the reef through at that level; this will leave them 110 feet of a reef, averaging from 4 to 5 feet in thickness and yielding 13 dwt. to the ton; but, under improved appliances for saving gold, it is estimated that a far greater yield will result. The foundation is soft slate and sandstone, and no explosives of any kind have been used in the working, the ground being very easily worked. A tunnel at the 105-foot level will be used as a water channel.

Several claims were registered in this locality during the past year, but have not as yet proved payable.

### 3. *Novendoc.*

*Mount Carrington Claim.*—Mr. Henry Whittam reports having extended his tunnel to 400 feet, with a width of 4 feet and 6 feet high, clear of the timber. He has of late been occupied in making an "air-shaft," present depth 60 feet, to be continued 40 feet further, in order to reach the level of the tunnel.

A considerable amount of prospecting has been going on in this district, more particularly at Glen Morrison and Tia River. No new discoveries of importance have as yet been reported, but some local companies having taken over some of the old workings in the localities named, better results are looked forward to.

Miners' rights issued during the year 1887, 70; mineral and business licenses, nil. No gold or mineral leases were applied for.

About 59 oz. of gold was purchased locally, chiefly "machine gold," value, (average) £3 12s. per oz.

### PEEL AND URALLA DISTRICT—BARRABA DIVISION.

(*P. Sinclair, Mining Registrar.*)

IN submitting to you my report on the Barraba Division of Peel and Uralla Gold-mining District for the year 1887, I have the honor to inform you that there has been 184 miners' rights, 6 business licenses and 1 mineral license issued. There are at present about 60 miners working and prospecting at Wooderuf Crow Mountain and Tea-tree Creek. There are many of these miners shareholders in leases. There has been in all 53 applications for leases this year (1887.) For the last three months mining business has been very slack; but, I think, now we have entered into another year there will be a reaction.

One thing we are much in want of here is proper machinery for saving the gold. A great deal of the gold found is very fine, and floats away with the mud.

There are three batteries, one at Tea-tree (the Pioneer Gold-mining Company's), which has not been at work this last twelve months, and Fletcher's, old battery, Crow Mountain and the Timour, &c., Company's at Wooderuf.

I find it difficult to furnish you with a satisfactory report, owing to the scattered position of the miners, who are some of them selectors. There has been a great decrease in the population this last three months; but some of the miners are of an opinion that there are better times coming for the district with the new year.

I cannot form an estimate of the yield of gold, according to the scattered population and the small lots that have been crushed for different parties.

I have only held the office of Mining Registrar for the last six months, and am not able to give the information that I could do if I had been longer in the position.

### PEEL AND URALLA DISTRICT—BINGERA DIVISION.

(*Thos. Connolly, Mining Registrar.*)

I do myself the honor to submit to you my annual report for the year 1887, and although not as good as anticipated, on the whole it is very satisfactory. I have sold 162 miners' rights and twenty-three mineral licenses, and received sixteen applications for gold-mining leases and fifteen mineral leases. And as far as I can ascertain there has been 1,050 oz. of gold obtained during the year; which is much in advance of 1886. The gold is firm alluvial workings, and got in small quantities. Very few of the leases are worked.

### PEEL AND URALLA DISTRICT—GLEN INNES DIVISION.

(*V. D. H. Besnard, Mining Registrar.*)

IN submitting my report for the year 1887 I have the honor to state that the following areas have been applied for at this office, to lease for mining purposes:—

	No.	a.	r.	p.
Gold (ordinary) .....	4	29	0	0
Do (special).....	1	27	2	7
Mineral .....	8	236	0	0

There were sold during the same period:—

Mineral licenses .....	103
Miners' rights .....	139
Business licenses .....	5

In 1886, seventy-six, seventy-five, and four respectively were issued at Glen Innes.

At date of writing this and for some months previously, prospecting here would seem to indicate very cheering prospects for this division.

HUNTER

## HUNTER AND MACLEAY DISTRICT—COPELAND DIVISION.

*(Mr. Warden M'Shane, P.M., Copeland.)*

DURING the past twelve months mining has in this district been at a very low ebb, crushings have been few, and the results generally poor. The obstacles, however, have been many and great, so that poor returns are by no means to be wondered at.

A long wet season at the early part of the year flooded shafts, rendering work almost impracticable, and when hopes were revived and work once more commenced, it was again impeded by heavy rain.

Gold there must be in these parts, but work has not been carried sufficiently deep. I have had some very rich specimens shown to me, coming from nearly every part of the field, showing that the metal is not only confined to one or two localities.

Capital is greatly needed, also more improved labour and gold saving appliances.

The Centennial Gold-mining Company (Limited) having already driven at a great depth a tunnel 800 feet in length, measuring about 7 feet high by 7 feet wide, intend to commence operations at once, and extend their work, hoping to cut a rich reef at this depth, and run a tramway through the tunnel, which is sufficiently wide for a double set of lines.

Should this company succeed, a great impetus will be given to deep sinking and tunnelling, and Copeland will once more assume a more lively aspect.

A five-head of Stumper's battery, worked by water-power, has during the past year been erected at Boranel, and a battery having fifteen head (ten working) of Stampers has been erected at the Bowman, this latter being the property and worked by the Bowman River Quartz Crushing Company (Limited).

Three things are, as I have said, much needed here, capital judiciously expended, improved machinery, and experienced workers.

## HUNTER AND MACLEAY DISTRICT—BULLADELDAH DIVISION.

*(Mr. Warden Hawcett, P.M., Bulladelah.)*

I DO myself the honor to report as follows, with respect to the Bulladelah portion of the Hunter and Macleay Mining District:—

I regret to be obliged to state that the sanguine anticipations entertained by me last year have not borne fruit, and that but little work, generally speaking, is carried out on this field.

I visited Coolongolook on the 12th and 13th of this month and found only two parties working and one just about to commence.

Conway and party and Paulson and party both expecting machinery; in fact, the greater part of that belonging to the former had arrived but unfortunately a portion was lost by wreck on the voyage to Forster. On both those claims a large quantity of stone is ready for crushing.

Conway's claim of 5 acres is close to the Mountain Widow and Paulson's 20 acres on the Suttor Reef. No leases as yet granted in either case. I found at Mount Springfield (Stuart and party's claim) machinery erected and a large dam, now full of water, constructed, and ready for work in a few days, but the plant is not powerful enough to work more than the proprietors can bring to grass. This claim is held on lease, and its prospects are very good.

I did not visit Paddy's Creek, distant about 7 miles, as there was no one working there.

In order to prevent the ground lying idle I beg to suggest that leases of the claims at present applied for be granted, and after they have been executed a reasonable time that the Mining Registrar be directed to report on all such claims, as also upon all others held under lease, and that in all those cases where work is not carried out the lessees should be called upon to show cause why their leases should not be cancelled.

Such a proceeding would either cause the then holders to work their claims or give way to those who would, as I have still reason to suppose that abundance of payable stone is to be obtained, and that all that is required to render the Coolongolook Gold-field a success are industry, capital, and economy.

As regards any mineral I should recommend a similar course to be pursued.

On the claims of the Alum Company at Bulladelah Mountain a great amount of work has been performed, and consequent on the number of men employed and the large weekly expenditure a complete transformation of the appearance of the village is taking place.

## HUNTER AND MACLEAY DISTRICT—KEMPSEY DIVISION.

*(Mr. Warden Ducat, P.M., Kempsey.)*

IN submitting my annual report on the mining interest in my division for the year 1887, I have the honor to state that mining throughout the year has been almost nominal, such mineral leases as are in force having been granted suspension of work with the renewals, thus extending over the entire year, with only one exception—Baker's lease, at Port Macquarie. The increased demand for minerals and the advance in value I trust will be an inducement to the proprietors to rework their leases with systematic energy.

*Gold.*

There have been two or three prospecting parties on the creeks around the locality of Mount Sea View and the upper part of the Hastings and Ellenborough rivers with varied success. Prospects have been found in various creeks, but up to date nothing payable.

A mineral lease was applied for by Buckman and Marshall at county Raleigh, parish Newry. The lessees had some stone from the lease tested in Sydney, the test giving from 2½ to 3 oz. gold rate per ton. The lessees have now applied to have their lease converted into a gold lease. This has caused considerable excitement, and a rush has been made to the field, and prospecting was done on all the surrounding country with the result of a large area of ground being pegged out, and a further discovery of two more well defined reefs. As in all such rushes there is a great deal of exaggeration as to the extent and richness of the field. I expect after a time when it is more settled to be able to give a clear and reliable report on the field. There is very little doubt of its being a very extensive field. However, quite impossible to say yet how far the same quality of gold-bearing quartz may run and keep up its value.

*Cobalt.*

The cobalt mines at Port Macquarie are still being worked, but as works have to be erected, and are now in course of erection, not much work is actually being done at the shaft. A few tons of ore are at grass awaiting the completion of the works.

Eighty miners' rights have been sold this month to parties for the Deep Creek field, and doubtless many more will be applied for if the field proves a payable one.

HUNTER

## HUNTER AND MACLEAY DISTRICT—DUNGOG DIVISION.

*(Mr. Warden C. G. Smith, P.M., Dungog.)*

I HAVE the honor to report that the gold workings at Wangat do not appear to have made much progress during the past year, only ten miners being now in that locality.

There are two registered claims, one at Upper and the other at Lower Wangat; the former styled the Marsh Creek Company, the latter the Golden Spur Company.

The Marsh Creek Company employ four men, and work by a tunnel about 200 feet long, the depth from surface being about 160 feet. The underlay is 1 in 4, north, reef bearing east and west; 70 tons crushed for 53 oz. 6 dwt., value £187.

The Golden Spur Company have driven into the hill for about 400 feet, and have a shaft sunk about 50 feet at end of tunnel. Perpendicular depth from surface about 180 feet; average width of lode, 9 inches; underlay to north 1 in 4, bearing east and west; 50 tons crushed for 109 oz., value £325. Good working country (sandstone and slate), walls well defined, gold carries about 8 per cent. of silver. With capital and energetic management, and extension east and west, this claim ought to be a good property, although the yield may not, on the whole, average nearly so much as 2 oz. to the ton.

## HUNTER AND MACLEAY DISTRICT—BULLADELAH DIVISION.

*(Robert Quayle, Mining Registrar.)*

I DO myself the honor to report as follows respecting the Bulladelah portion of the Hunter and Macleay Mining District for the year ending 31st December, 1887. Thirteen claims have been taken up for quartz mining, 90 acres in all, and five mineral leases, containing 290 acres.

Suspension of work has been granted to Curruki and Bulli claims.

The great drawback to the gold-field has been the want of machinery. Mr. James Stuart has erected a battery on the Macleay River, and will start to crush next week. Messrs. Conway and party have a twelve-head battery on the ground for erection, and when these batteries get in full work, Cooloolook will get a fair trial.

The Curruki is down 125 feet, very wet. Four tons of stone was crushed in Sydney, which yielded 4½ oz. to the ton, from the 125-foot level, and 4 tons from the 80-foot level yielded 3½ oz. to the ton. The reef is 10 inches thick, and well defined.

Mount Springfield (late Bunker's Hill) is down 55 feet, on a reef 18 inches thick, showing gold. About 40 tons to grass. Eight men at work. Start to crush next week; a good result is expected.

The Mountain Widow claim has five shafts sunk on a well-defined reef about 1 foot thick, shows gold. The deepest shaft is 111 feet. About 50 tons to grass; nine men working.

The Suttic is down 20 feet, on a well-defined reef, 3 feet thick, and gold can be seen in the stone. Three men working; about 6 tons to grass.

The above-mentioned claims are situated at Colongolook, 20 miles from Bulladelah, and is a great reefing country.

The mineral leases are situated in the vicinity of Bulladelah. No work has been done on them except prospecting.

The Australian Alum Company, at Bulladelah, are making great headway, under the supervision of H. D. Abbott, Esq. Sheds, kilns, and tramways are being erected; about thirty men employed, and miners are being put on to get out the rock.

## HUNTER AND MACLEAY DISTRICT—MAITLAND DIVISION.

*(F. F. Isaac, Warden's Clerk.)*

COAL is the only mineral worked in my division during the past year (being the first in which a Warden's Clerk has been appointed). There has been a decided increase in the quantity of coal won. The exact amount or value I have been unable to obtain, in consequence of there being no response from two of the collieries to my circular asking for particulars of same.

I understand, however, that particulars have been forwarded direct to your Department. I will now mention briefly the several collieries which have been at work during the past year. The Bloomfield, near East Maitland; Fitzpatrick, proprietor; yielded 1,800 tons, value, £400 10s. 6d.; from four to six men employed. Homeville, near West Maitland, recently opened, has returned 6,000 tons, value £2,100. I enclose the manager's report herewith. Rathluke; R. J. Taylor, proprietor; and Thornley; Henry Marshall, manager; have forwarded reports direct to you. A new company is now being floated to work the Thornley colliery and surrounding country, a full report of which I can forward if necessary. Four leases, covering an area of 1,496 acres, have been granted during the past year; these are situated in parish of Stanford. No works have yet been erected. Application will probably be made for amalgamation, and a company formed.

A 20-acre lease has been granted to Matthew Talip, near East Maitland. The result of the two months' working are as follows:—1,600 tons, value, £380; eight men employed.

I have issued during 1887, twenty-five miners' rights and eight mineral licenses. I have nothing further to report.

## NEW ENGLAND DISTRICT—NORTHERN DIVISION.

*(J. B. Graham, Warden.)*

I DO myself the honor to submit my report on the Northern Division of the New England Mining District for the year 1887.

During the past year an impetus has been given to mining in this district, to a great extent in consequence of the discovery of rich silver ores; and although there have been some failures and disappointments in the gold-mines at Fairfield, which have not turned out so rich as they were supposed to be, I am pleased to be able to report that the mining industry is now in a healthier state, and more likely to be of permanent value than at any previous period. Large companies have been floated, and there is every prospect that some of the rich mineral deposits in this portion of the New England District will be developed by capital.

Disappointments

Disappointments invariably occur in new fields, especially in cases where the first finds are of great richness, such as at Fairfield, when the first 10 tons of stone obtained produced over 128 oz. of gold; but there can be little doubt that the Fairfield Mines will soon rank among the best payable and most extensive gold-mine in the Colony. As yet, great difficulty has been experienced in the treatment of the stone for the extraction of the gold. In some cases the gold is so fine that the ordinary process of crushing and amalgamating does not succeed in saving half, and in many cases iron and copper pyrites, zinc blende, &c., being associated with the gold, renders a process of extraction necessary, for which no provision has yet been made. Now that attention has been directed to the necessities of the field, no doubt capital will be obtained to successfully work the mines.

The silver-mining industry is yet in its infancy, but it promises to be of great value and importance. For convenience I will divide my report, and deal with each industry separately.

#### Gold.

Boonoo Boonoo Gold-field, situated about 13 miles north of Tenterfield, was many years ago an alluvial field of some importance. The alluvial was worked out, and the field virtually abandoned. Since then several attempts have been made to work the reefs; all of which have failed from want of capital or enterprise. The field has now revived, and there is every chance of its being successfully worked. The country is granite at an altitude of about 3,500 feet above the level of the sea, the reefs are large and well defined; water is very troublesome, as the locality is wet and swampy. The water greatly obstructs prospecting and working. It is impossible to sink to any depth without powerful pumping machinery. This has been one of the great drawbacks to this field. If it had not been for that, the reefs would have probably been worked years ago, as it was known many of them contained good gold. Capital will now overcome that difficulty, and the reefs will be fairly tried.

On the Golden Crown Reef a Queensland syndicate or company is represented by Mr. Benjamin. They hold about 24 acres of land under gold lease, and are now sinking on a reef about 6 feet wide. The present depth of the shaft is about 70 feet, and it is intended to drive at 90 feet. A 5-foot Huntington roller mill will be erected in connection with this mine. There are several other parties working in this locality in various reefs. There is no crushing plant yet on the field, so that it is impossible, except from assay and trial crushing, to tell what the result will be. The owners appear to be confident that the reefs are payable. The principal reefs are the McIntyre and the Golden Crown. Some alluvial working is also going on near the reefs, in a swamp known as Dismal Swamp. About twenty-six men are engaged on alluvial.

About 3½ miles from the McIntyre there is another good reef known as the Lady Mary. A company has been formed to work this reef, and preparations are being made to work it on an extensive scale. The company have 20 acres of land under gold lease. The present depth of the main shaft is about 74 feet; the reef at that depth is 6 feet wide, and estimated to go over ½ oz. of gold to the ton. A trial crushing was made of 1 ton 4 cwt. of stone, which gave a result of 1 oz. to the ton. At the 60 feet level a drive has been put in, to drain the water, leaving 14 feet of water in the shaft. To deal with this water a Tonkin pump has been erected, capable of throwing 4,000 gallons an hour. Crushing machinery is now on the way from Sydney,—it consists of a 5-foot mill "Huntington roller;" a 10-horse power engine is already on the ground. The reefs in this field are all well defined, with soft granite walls.

Fairfield gold-field, situated about 37 miles east of Tenterfield, was discovered about 18 months ago, when a rush took place, and a great number of gold leases were applied for. Possession of land was taken in many cases without sufficient prospecting, merely on the chance of striking gold, consequently a number of leases have been abandoned even after considerable labour has been expended, under the regulations relating to the employment of labour on leases on new gold-fields; but although there have been many "duffers" real mining has now made a fair start. The first mine at work was the Adeline; this was on private land. A rich find had been made on the gossion rock, on the surface, on which a company was formed and works erected before the ground had been properly prospected. The surface rock, containing the free gold, now appears to be exhausted; or, at any rate, it cannot be traced, and it has been found that at a few feet under the surface, the stone changed into a strong copper and iron pyrites reef; the machinery erected could not treat the stone, and the mine is now, consequently, idle. It was the failure of this mine that, to a great extent, shook the confidence of the public in the Fairfield mines generally.

The Shaus Gold-mining Company are working land held under gold-mining leases, at the back of Mount Carrington. The reduction plant consists of a 25-horse power engine, at present driving a 15 stamper battery, but capable of being extended to 40 head of stamps. The battery has been at work only a few weeks. 750 tons of stone has been treated, yielding 476½ oz. of standard gold. There are several reefs through the land; the principal one is 10 feet wide: the stone is easily obtained, and close to the battery. The value of the plant, &c., is about £7,000, and 27 men are employed.

The Mount Carrington Company's mine, situated in Mount Carrington, comprises an area of 21 acres, held under gold-mining leases; the reduction works are situated at the foot of the mountain; the battery has 15 head of stamps, driven by a 25-horse power engine. The gold-saving appliances are superior to any other on the field. In addition to the ordinary process of amalgamation there are six oscillating, concentrating tables, on a principle invented by Mr. John Rossiter, the manager of the mine; the mill is now ready for work; crushing will commence about the end of January. The stone is obtained from large reefs on the top of the mountain, and will be delivered at the mill by a self-acting tramway, 1,760 feet long. The works on the mine are very extensive and complete, the battery is a self-feeder, and the stone is not handled after it leaves the mine. The manager estimates, that in consequence of the labour saving appliances, less than 4 dwt. of gold will pay all expenses of getting and treating the ore.

The Kelly Gold-mining Company's mine is adjoining the Adeline mine, the stone is something of the same character, some crushings have been made, but I am not in a position to say what the result has been, the battery consists of five head of stamps.

There are many other mines working on this field, but as yet they have no machinery for the treatment of the stone, satisfactory trial crushings have been made, and many of them have proved very rich.

The Red Rock Gold-field is situated 8 miles north-westerly from Fairfield, it extends over a large area of country, and a great many gold leases have been applied for; the gold is found in a gossion stone with

with quartz, it does not appear to run in reefs or veins, but occurs in great masses; the average yield would probably be from 5 to 15 dwt. to the ton; in some instances more than an ounce has been obtained; several companies have started work in the locality; the principal and most advanced is the great Red Rock Gold-mining Company; the mine comprises 30 acres of land held under gold leases. A battery of twenty head of stamp has been erected in Crooked Creek; it is intended to increase this battery and erect another one on the Cataract River, consisting of at least 100 head. The stone now being treated is obtained from an open cut or quarry into the mountain; it is 110 feet in, the face is 25 or 30 feet wide, and the depth of the cut at the face is about 20 feet; there is no appearance of reef or walls; the mountain appears to be a mass of auriferous rock; the stone is getting richer as it goes in; the last crushing yielded from 8 to 10 dwt. per ton; the gold is very fine and difficult to save; it much resembles the Mount Morgan gold (except in value), about half of the gold is supposed to be lost by the present system of working; the gold contains a percentage of silver which reduces its value to about £3 per oz. This Company intend to greatly extend their operations; I am informed that they have made arrangements with neighbouring holders, and secured about 30 acres more land; when the additions are made to the machine at Crooked Creek and the machinery is erected on the river, this will be one of the largest gold-mines in the Colony; from prospects made, the auriferous rock appears to be practicably inexhaustible, and from the facility by which it can be quarried out and carried to the mill it is estimated that less than 3 dwt. to the ton will pay all expenses in raising and treating. This Company at present employ sixty-seven men.

The Central Red Rock Gold-mining Company's mine adjoins the Great Red Rock Company, and the stone and formation is somewhat similar; the Company intend to erect machinery on the Cataract River, and are now employing men constructing a wire tramway. Forty men are engaged by this Company.

The Mines Company of London mine also adjoins the Great Red Rock Company; the stone is similar and the formation the same as the two previously described mines. The trials and assays have been very satisfactory. The mine is well opened up by a quarry similar to that on the Great Red Rock mine. A wire tramway to the river is in course of construction; the machinery is to be erected on the Cataract River, and will consist of at least 40 head of stamps driven by a combination power of steam and water; the water-power will be obtained by a Turbin, and it will be worked when there is sufficient water; the steam-power will be reserved as an auxiliary.

There are various other mines in this locality which will in all probability be formed into companies to work. This is not a poor man's diggings, it requires capital to develop and work the mines. As soon as the success of the Great Red Rock Gold-mine is assured no doubt plenty of capital will be obtained to work a great extent of this auriferous country. From the vast quantity of auriferous stone, and the facilities to put up machinery on the Cataract River, where there is an inexhaustible supply of wood and water, this field must become of great importance.

Lunatic and Perseverance Gold-field, situated 6 miles north of Fairfield, has been known and worked for many years, at first with great success. It is now again beginning to attract attention. Two or three companies have been formed to work the reefs. A crushing of 25 tons from the Victoria reef yielded 31 oz. of gold, value £118. A tunnel has been driven into the hill which strikes the reef at the 120 feet level. This and all the reefs in the locality are small, but they are true fissure lodes, and likely to continue to a depth. A small battery is in course of erection.

In the vicinity of Pretty Gully a number of miners are prospecting, and several gold leases have been applied for.

At Tooloom prospecting is being done by a Sydney Company, under the management of Mr. Haagar, for alluvial under the basalt formation, between Pretty Gully and Tooloom. This is really a field where some assistance should be given to prospecting. There are all the indications of a large alluvial deposit existing under the basalt ranges. This deposit, if it exists, would almost certainly contain gold, as all the surrounding country is more or less auriferous, and in former years a large population worked all the creeks and gullies in the locality.

At Poverty Point the Surface Hill Gold-crushing Company are still at work, but the machinery is quite insufficient for the treatment of this vast mass of auriferous granite; at least 50 or 60 head of stamps should be working, instead of the 10-head battery at present in use; during the last year constant work has been carried on in ground-sluicing, crushing, and prospecting; the prospecting has satisfactorily proved that the extent of the auriferous grants is very great; payable gold has been found in a sort of sandstone formation, also on a large porphyritic lode, about 8 feet wide, and apparently widening; crushings from it have yielded from 5 dwt. to 8 dwt. per ton. In the ground sluicing works of the Company some delay has occurred in consequence of the collapse of a tunnel; this tunnel is the main channel for the water; it is about  $\frac{1}{2}$  a mile in length.

The stone is conveyed to the mill by a self-acting tramway over very rough and difficult country. Many labour-saving appliances have been erected by the present Managing Director, Mr. Kenneth Hutchison; with machinery capable of treating a large quantity of stone this mine would pay well, and be almost inexhaustible.

In the other parts of my district little or no change has taken place in mining; there is a slight revival at Dalmorton, and I understand a Park & Lacy's roller-mill is in course of erection on that field, from which good results are expected.

At Lionville and Solferino there is very little doing.

#### *Silver.*

The late silver discoveries in this district have caused much excitement, especially that one known as the "White Rock," near Fairfield. I have fully reported on this discovery by my letter to you, dated the 18th instant, a copy of which is attached hereto (Appendix A), which can be read as part of this Appendix A. Another discovery has been made on a range of granite mountains, about 8 miles north of Tenterfield; a gold prospecting area was taken up by a miner named Bernard Rodgers; he struck a very nice-looking quartz-reef, and on getting an assay made, it was found to be exceedingly rich in silver; the reef in the prospectors shaft is 1 ft. wide, apparently widening as it goes down; it runs N.N.E., and S.S.W., with little or no underlay; it is a well-defined reef, with perfect walls of soft granite; this reef has been traced and taken up for 1 mile each side of the prospectors. Assays have been made of this stone, showing

showing as much as 795 oz. silver and 6 oz. 12 dwt. gold to the ton; the lowest assay yet made shows 13 oz. silver, and 2 oz. 14 dwt. gold. Very little work has yet been done, as the reef was only found in December last. The country is granite of a rotten decomposed nature; the stone is easily obtained, and the silver is in chlorides and sulphides. I am sending specimens down to the Department of Mines for assay; perhaps its results can be attached to this report as an Appendix.

*Tin.*

The tin-mining industry during the past year has not shown signs of improvement, although the price has so greatly increased; the fact is that all the shallow stream tin workings are now exhausted; the lodes and deep leads have not been prospected for from want of capital; a few Chinamen only are working on the field. During last year only 93 Mineral Licenses were issued at Wilson's Downfall, and 2 applications for Mineral Licenses received. The estimated quantity of tin won during the last year is about 270 tons.

NEW ENGLAND DISTRICT—WILSON'S DOWNFALL DIVISION.

(*J. G. Draper, Mining Registrar.*)

I HAVE the honor to forward my annual report for the year 1887, concerning the mining industry at Wilson's Downfall.

It is simply going on in the same old quiet strain; at one time there was inclination shown by a party to do a little in the shape of prospecting for leads, but their means being limited, and not meeting with encouragement, have for the present abandoned the idea, but notwithstanding this, they are still of opinion that lodes exist in the locality. Perhaps when all the stream tin is worked out and capitalists can be induced to speculate, their attention may again be turned in that direction.

The mining population in this district at present is about 300, principally Chinese, and the quantity of tin-ore won during 1887, being 270 tons, valued at £16,200.

During the year ending December 31st, 1887, I issued 93 mineral licenses, 17 miners rights, 5 business licenses, and received two applications for mineral leases.

NEW ENGLAND DISTRICT—FAIRFIELD DIVISION.

(*J. P. Curran, Mining Registrar.*)

I HAVE the honor to transmit my annual report of the mining industry in this division for the year ending December 31st, 1887.

I stated in my last annual report that a great deal of land taken up for gold-mining purposes would be found valueless, a prediction that is now verified, as a number of the leases have been allowed to be returned to the Mines Department for cancellation.

There is, however, a great deal of activity displayed in mining still, and I feel confident that when the mining land falls into the hands of wealthy companies, with suitable gold-saving appliances, that a healthy change will set in, and the permanency of this as a gold producing district will be established. It is only by working on a very large scale, and with the most approved machinery, that this ore can be treated profitably. The gold is very fine, and requires careful manipulation to prevent loss. The appliances on this field at present are very unsuitable for saving such fine gold, and the result of trial crushings of small parcels of ore from claims from which good returns were expected have been very unsatisfactory.

A number of claims on the north side of Mount Pleasant, notably Smith and Scotts, Boylands, Langs, and Bruce's, promise to be highly remunerative. The great drawback to these claims is the want of machinery to treat the ore. A public mill on this part of the field would be a great boon to the miners located here. The only battery available for treating small parcels for the public is Kelly Bros' small mill at Fairfield, which is distant more than 2½ miles from these claims, and the cost of carriage and treatment so high, that almost the whole of the gold obtained has been absorbed in expenses.

The Strauss Gold-mining Company at Sawpit Gully, on the north side of Mount Pleasant, have erected very extensive gold-saving works in close proximity to their mines, consisting of a fifteen stamp battery with three percussion tables, three wheelers pans, and three Berdons, driven by a stationary engine capable of working up to 40-horse power, to which is attached the largest boiler in the northern districts. This Company has also constructed two large dams of an area of 2 acres each for the conserving of water for mining purposes, estimated to hold a supply of water for six months in ordinary dry seasons. As about eight months of the year has been occupied in the construction of these works, they have been but a short time in a position to win gold. The result of the past four months operations is as follows:—750 tons of ore has been raised and treated for a yield of 476 ounces of gold, worth £3 17s. 6d. per ounce. The total value of machinery in connection with this company's works is £7,000, and they employ twenty-seven men, and their mining area is about 13 acres of land.

The Mount Carrington Gold-mining Company is the next of importance on this field. This Company have erected on the south side of Mount Pleasant a self-feeding fifteen stamp battery with six oscillating concentrating tables attached, which is driven by a 25 horse-power stationary engine. A self-acting wire tramway extends from the mine to the battery, a distance of 1,760 feet, the full truck in its descent drawing up the empty one. The trucks, which are self-emptying, discharge the ore into a large hopper from which the ore, by the means of slides regulated by a disc attached to the centre stamper of each box is conveyed to the stampers, thus a great deal of manual labour is dispensed with. The out offices of these works consist of laboratory and assay office, blacksmith's and carpenter's shops, and the manager's residence.

A large dam has also been constructed for the conservation of water for these works, the breast-work or embankment of which is 8 chains in length, and contains 8,000,000 gallons of water. The water is conveyed by the means of underground pipes to a shaft inside the works, from which it is pumped for use of the battery and amalgamating purposes. To keep up the supply of water in the dam a race has been brought in from Fairfield Creek, a distance of three-fourths of a mile, so that a permanent supply of water may be insured. The construction of these works reflects very great credit on the engineering skill of Mr. John Rossiter, under whose supervision the whole of the work has been carried out. The mining area of this Company's works comprise about 21 acres, and is situated on the crown of Mount Pleasant

Pleasant. There are about twenty-eight men regularly employed in the mine and works. As no crushing has yet taken place, the returns are nil. The cost of construction of mining and crushing plant is estimated at £6,500.

*Kelly's Gold-mining Company.*—This Company has been working a block of land, the area of which is 10 acres. The deepest shaft in the mine is 70 feet, and from that level they have been stopping up to the surface. The lode is about 4 feet wide, and the dip or underlay is to the west. About 218 tons of ore has been treated, from which they have obtained 150 oz. of gold. In connection with this mine the Company have erected a five-stamp battery, with the ordinary gold-saving appliances, on Plumlago Creek, distant about a quarter of a mile from the mine, the value of which is £1,300. The ore in this Company's mine is found to contain a large quantity of copper pyrites and zinc blend, with gold associated. The tailings are carefully stowed away with a view to subjecting them to future treatment to extract the gold therefrom.

*The Mascotte Gold and Silver Mining Co.*—The land held by this Company is situated at Violet Creek, about 2 miles south-east of Fairfield, and contains an area of 10 acres of land. The lode in this mine is quartz of a greenish and bluish colour, containing both gold and silver. The silver is found in a sulphide, and is somewhat difficult to treat. Experiments made here point to smelting or chlorination as the method for extracting the premier metals. The mineral so far has been proved highly payable, and the lode is 6 feet wide. The deepest shaft is 80 feet. From this level 400 tons of ore have been raised, and about 25 tons of this has been treated. The average value of bullion per ton as obtained by battery treatment, £7 7s. 7d. per ton.

At Red Rock, which is distant about 8 miles north-west of Fairfield, a great deal of work has been carried on during the past year. A number of small blocks have been bought up and converted into one large mining area. The principal works are carried on by the "Great Red Rock Gold-mining Company," of which R. W. Stuart, Esq., is the general manager. The gold here is found in a similar formation to that at Fairfield. The Red Rock Company have erected an extensive crushing plant on Crooked Creek, distant about 1 mile from their mines, consisting of a twenty-head stamper battery with the ordinary gold-saving mercury tables and chillian mills for the purpose of grinding the blankings. Thirty-two men are constantly employed, and 1,211 tons of stone has been crushed for a yield of 386 oz. of gold. From the present appearance this mine seems to be a great belt of auriferous and argentiferous quartzite. The gold is of a very fine quality, and requires very careful treatment to prevent loss. The cutting from which this Company are obtaining their crushing stuff is about 94 feet in width, and they are not yet outside of the gold-bearing stone. With such an immense body of crushing stuff a small quantity of gold per ton should pay by working on a scale by which a large quantity could be put through the mill.

Another Company has been formed (the Mines Company, of London) to work a large area of land at Red Rock, which has been acquired by the purchase of several small holdings. This Company purpose erecting a forty-head battery on the Cataract River to be driven by water power. They have already commenced operations, and are busily engaged making roads and preparing to erect tramways to their battery site from the mine. They have about 300 tons of ore ready for treatment, and an unlimited supply of stone in sight. A small parcel has been treated, which gave 13 dwt. per ton; value, £3 17s. 6d. per oz.

At Lunatic Reefs, distant about 7 miles north-east of Fairfield, a revival has taken place in mining, and a number of the old claims have been retaken up. One Company, styled the "Mount Horton Co.," are carrying on some extensive works at that place, on the old Victoria line, from which some very rich patches of gold were obtained some years ago. The present Company have driven a tunnel into the hill below the shaft from which the gold was first obtained. They are now in about 176 feet, and are at a level of 120 feet below the outcrop on the surface. Twenty-five tons have been crushed for a yield of 31 oz.; value, £118. The lode in this mine is very narrow, being only 10 inches wide, but appears to be a true fissure lode.

Other miners in the locality are actively employed in raising stone from other claims on the same line. A battery is in course of erection in close proximity to them, and is expected to be completed early in January.

An attempt has also been made during the year to resuscitate mining in the neighbourhood of Pretty Gully, distant 6 miles north of Lunatic Reefs. A small company of working miners have taken up the old Lincolnshire Reef, and have erected an eight-stamper mill on Pretty Gully. A crushing of 30 tons, some time ago, yielded 45 oz. of gold. The mill being driven by water, and its running short, they were obliged to suspend operations for a time. There are several parties working here, who have for a number of years past been making a living by working the reefs, as rich patches are occasionally met with, from which they extract the gold by hand-crushing. The reefs here are found in a slate formation, and from 1 to 5 oz. per ton has been obtained from small crushings of picked stone.

There are a few men here also engaged in alluvial digging. Mr. Farley, the local storekeeper, informs me that he has purchased, during the year, about 250 oz. of gold, of the value of £776. About twenty men are employed in this class of mining.

A prospecting party have been searching for alluvial during the past year in the basaltic formation, under the direction of Mr. C. Haager, a gentleman of great mining experience.

The basaltic formation extends over a very large area of country, and may be traced from Pretty Gully to Tooloom. Mr. Haager has not as yet met with very encouraging results, though shafts have been sunk in various likely looking places.

I have, in several of my former reports, called the attention of the Department of Mines to this particular locality, and also stated that it was my opinion that a rich deposit of gold existed beneath the basaltic rock, between Pretty Gully and the Clarence River. In this opinion many experienced miners agree with me. The undertaking is too great for a small party of miners to prospect such a vast area, unless they received Government aid.

Tooloom and Pretty Gully diggings were worked about the year 1859, and the creek claims being shallow and rich were quickly worked out; but no attempt was made to search for gold in deeper ground. Early in 1860 gold was discovered at Kiandra, which caused an exodus of all the miners from here to the south;

south; the rush to Lambing Flat and the Lachlan following shortly after, prevented a population from ever again settling down at Tooloom. The few miners who have found their way back to these old diggings have been too poor to undertake any expensive prospecting work. In conclusion, I might state that this portion of the New England Gold-fields is worthy of the inspection of the Prospecting Board. I feel certain that they would recommend that assistance be given from the Prospecting Vote to mining in this district.

Silver-mining has once more come to the front in this division. A few years ago we were entirely dependent on the silver mines of Boorook to maintain the mining population. A short time before the discovery of gold at Fairfield, the Golden Age mine at Boorook, after struggling along for more than six years, during which time it maintained a fair population, suspended work, and the place was deserted.

The discovery by Mr. John Rossiter of silver at a place called White Rock, distant about 2½ miles south-west from Fairfield, has brought silver-mining again into prominence.

The White Rock Silver Mine is covered by two mineral leases of 40 acres each, and from present indications, promises to be a valuable property. The ore is not in a defined lode, but runs in veins through the face of a precipitous rock, running east and west, whilst the veins of silver ore traverse it north and south. For a distance of three chains the veins may be seen along the face of the rock at intervals of a few feet. A cutting has been made along the face for a distance of 66 feet, in which there are twelve veins exposed, varying from 2 inches to 1 foot in width. The veins of ore are composed of galena, sulphide of silver, and zincblende, and assays in bulk up to 400 oz. per ton. A great deal of land has been secured under mineral lease in the neighbourhood of White Rock, and a great deal held as mineral prospecting areas.

During the year the following business has been done in this office:—

149 gold-mining leases applied for.
14 Mineral leases.
154 Mining tenements registered.
1,013 Miners' rights issued.
56 Business licenses.
15 Mineral licenses.

And gold obtained as follows:—

1,107 oz. 16 dwt. gold from quartz, value .....	£3,658	1	6
302 „ 17 „ „ „ alluvial „ .....	1,131	1	6
Total.....	£4,789	3	0

#### NEW ENGLAND DISTRICT.—SOLFERINO DIVISION.

(R. B. Wilkinson, Mining Registrar.)

I HAVE the honor to forward my report on Solferino Division of New England Mining District for year 1887, and regret that I have not much information that would enable me to make a favourable report.

Mining here seems to stand at about one thing for last few years. Several new ventures are spoken of as going to be proceeded with during the forthcoming year, which may enliven the field and bring it to more notice.

The Golden Bar Reef, just discovered previous to close of last year, did not turn out to anticipations, still they have obtained a fair amount of gold for what work has been done, principally about and close to surface. A shaft has been sunk some 45 feet, and good show all through reef as they went, but country became so hard and expensive to work that they were reluctantly compelled to abandon sinking operations in main shaft, and sunk several others upon leaders running through ground, all of which gave fair prospects. The proprietors, Rose and party, are now driving on leaders in main shaft at 40 feet level, and came on to a very good show indeed within last fortnight, and brought to light some excellent specimens, which has induced a couple of capitalists to negotiate for purchase of their prospecting claim at £500 cash. Everything is arranged for transferring as soon as the cost of it is forthcoming, which is expected now every day.

Should these parties fulfil their engagement, it will cause this mine to be fully developed during this next year.

No. 1 East Golden Bar sunk a shaft to a depth of 58 feet, but nothing very promising occurred in that distance, and the ground being extremely hard and expensive to work, they had to leave it, and after driving some 30 feet, and stopping small piece out, they obtained some 6 to 7 oz., mostly loose gold, and then abandoned it.

Field of Mars' Reef, some quarter mile distance from Golden Bar, has lately been retaken up, and two parties are now engaged prospecting in the vicinity of old workings. One of the party (Pyers & Co.) has a very nice sample of loose gold obtained by washing a small leader near surface.

Lion Mine was retaken up by Mr. K. Hutchison, of Timbarra, during year, he having applied for a 12-acre lease. The applicant has lately instructed a couple of men to commence operations by preparing the face of a tunnel to go in on course of reef, therefore, there is now a probability of this long (but famous) neglected mine being opened up again and formed into a large company.

*Garibaldi Prospecting Claim.*—Bassetti Uduesie Company (Limited), have continuously worked their ground with four men during the year. They had a great drawback in doing a considerable amount of dead work, in shape of enlarging main tunnel to allow trucking out rock and *debris* without difficulty, the tunnel having been very badly driven in in former years by then proprietors. This party have not been in a position to realize upon their gold, or rather specimens obtained, having some 5 cwt. on hand, estimated to return 80 to 100 oz.

No. 1 North Garibaldi.—C. Harken still keeps working along single-handed, and does very well by his own report.

*Shellmalia Line*—Thos. Winkley has a mining tenement (previously abandoned), part of No. 5 North. He has put in a tunnel some 40 to 50 feet, and obtained a small dish of 6 oz., mostly loose gold. Air is very bad, and he is about sinking an air shaft to enable him to drive still further.

No. 8 N. Shellmalia.—Tanimi and party, 5-acre lease, have driven a tunnel in some 80 to 90 feet on course of reef, and have a considerable quantity of quartz at grass. The owners sent 5 tons from their heap of quartz to Sydney for treatment, which yielded 13 dwt. 19 gr. of gold per ton, which it is estimated ought to pay handsome, with a reef of from 18 in. to 42 in., with a good battery at hand.

Band

*Band of Hope Line.*—J. F. Adam & Co. spent the year in driving and stoping out, and have obtained a few fair patches; stone being sent to Mint for treatment. They have now on view in Grafton some excellent specimens lately found in their ground, and several gentlemen interested are about forming a syndicate to put in a low level tunnel to prospect the lower depths of the hill.

One or two other parties are prospecting above reefs, but do not settle down to any particular spot.

Nothing particular of note to report in alluvial. Bulldog, Ewingar Creek, Old Scrub, and Cangi have still their old identities at work, and making, as in former years, upon an average of  $\frac{1}{2}$  oz. per week per man.

I have issued 43 miners' rights, received 4 applications for gold-mining leases for an area of 30 acres, and one application for 6-acre lease of alluvial ground, during the year.

It is difficult to get at the full amount of gold won in this division, and give it as far as I have been able to ascertain, as follows:—From alluvial, 209 oz.; from quartz, 120 oz.; valued at £1,100. Price of gold has been from £3 to £3 13s. per oz. Number of miners at work are twelve quartz, and eighteen alluvial; total, thirty.

#### NEW ENGLAND DISTRICT.—TENTERFIELD DIVISION.

(*F. Burne, Mining Registrar.*)

##### Gold.

*Boonoo Boonoo.*—There has been little doing on this field beyond prospecting, as the various proprietors of claims have been prevented from work through excess of water; as yet there is no pumping machinery at work, but one in course of erection. The various reefs cut are all more or less auriferous, especially those on the Lady Mary and Golden Crown Claims, the proprietors of which are now busy with the usual preparations for the arrival of machinery. Work on most of the other claims is at present suspended, awaiting the result of the formation of an English Company. Taking into consideration the quantity of water on this field, I would suggest the advisability of adopting the plan of work now being so successfully carried on at Kiandra, namely, hydraulic sluicing. It would be highly remunerative, as there are more or less alluvial deposits, and less expensive than the ordinary means used to win gold, also the character of the country is in favour of its success.

##### Silver.

At a place about 8 miles to the north of the town of Tenterfield, a man named Rodgers, while prospecting for gold, discovered a very rich vein of silver ore, which he reports as averaging 362 oz. of silver and about 3 oz. of gold, the result of five assays. This reef, which has been traced for some distance, seems to run about N. by E. and S. by W. Several areas have been marked off on the supposed line of reef, and the work of prospecting is being rapidly pushed on.

##### Tin.

About 8 miles to the N.W. of the town of Tenterfield, Kennedy and party are at work on a very rich lode, a large quantity of ore from which they have bagged and sent to Sydney for treatment.

During the past year I have issued 345 miners' rights, 43 mineral licenses, and 6 business licenses. Also received 20 applications for gold leases, and one for a mineral lease.

#### CLARENCE AND RICHMOND DISTRICT—GRAFTON AND NANA CREEK DIVISIONS.

(*Mr. Warden McDougall, P.M., Grafton.*)

I now have the honor to forward you my annual report as Warden for the Clarence and Richmond River Mining Districts, under my supervision for the year ending 31st December, 1887.

I returned yesterday from holding Wardens' Courts of Inquiry at Dalmorton, on the 5th and 6th instants. Evidence taken in the cases duly forwarded by post, *via* Glen Innes.

On my way to and from Dalmorton I passed nine waggons, drawn by 154 bullocks, loaded with machinery for erection of battery, &c., at Mort and Company's (late Taylor's) Dora Reef, in the Nana River, which, if the weather keeps fine, is expected to be in full working order within three weeks from this date, the assays from stone taken from various parts of the reef being highly satisfactory, and I fully anticipate that several other reefs already discovered will prove to be rich and valuable now that there is every probability of a battery being got to the Nana River Reef.

I was informed by the men in charge of the waggons that they had succeeded in getting the boiler, weighing over 4 tons, up to the top of the mountain at Cungelbong, on Saturday last, and that men were now at work making a road 12 miles in length over other bad places between Cungelbong and the Nana River reef.

The number of miners' rights issued from the Grafton office during the year 1887 is 103, mineral licenses 13, and 2 business licenses; 5 applications for gold-mining leases and 4 for mining tenements have been made; at Dalmorton office, 33 miners' rights and 3 business licenses and 21 gold-mining lease applications; at Nana Creek Mining office, 26 miners' rights and 2 business licenses have been issued.

At Nana Creek the stone crushed at the Durgue battery was 132 $\frac{1}{2}$  tons, yielding 138 oz. 8 dwt. 8 grains of gold, and two crushings during the year at Marcolinus battery; result net to hand, nor of what alluvial gold has been obtained during the year.

#### CLARENCE AND RICHMOND DISTRICT—MURWILLUMBAH DIVISION.

(*Mr. Warden Bray, M.P., Murwillumbah.*)

DURING the year 1887 prospectors have been looking through the district for gold, but nothing has been found of any consequence.

In the early part of the year several miners were working on the beach between Brunswick and Point Danger. The gold was, of course, very fine, but the arrangements for saving it (copper plates, rubbed over with quick-silver) did not prove effective.

The men have all, or nearly all, left the beach now.

In December there was some little excitement amongst some prospectors, who have for some months past been working up the south arm of the Tweed River, but nothing was done further than some of them giving notice that they had pegged out a prospecting area.

CLARENCE

## CLARENCE AND RICHMOND DISTRICT—LISMORE DIVISION.

(C. Coghlan, Mining Registrar.)

I do myself the honor to report for your information, that, as far as is known to the general public, mining operations, in this portion of the Richmond River District has ceased.

Fifty-six miners' rights were issued from this office; but, I believe, they were all taken out by miners going to the Fairfield (Drake) Gold-fields.

One mineral license was issued, but no mineral leases or business licenses were applied for.

## CLARENCE AND RICHMOND DISTRICT—DALMORTON DIVISION.

(W. T. Poole, Mining Registrar.)

DURING the past year a little more activity has been displayed in mining, and although the return of gold won is small, the miners appear perfectly satisfied with their prospects.

In alluvial.—Several parties have been engaged working in the bed of the river, and one, Adams and party, have done a considerable amount of dead work, cutting races, &c. It is to be hoped they will be rewarded for their perseverance.

Quartz.—The Union Company's battery has changed, but only two small crushings have been got through during the year. The Sir Hercules and Just in Time Reefs have been taken up again, and new shafts started on each.

A new reef has been discovered about 4 miles south of the Just in Time, and Mr. Orr, the Prospector, states that it will go 2 oz. per ton.

The Old Liberator Reef has been taken up, and tenders called for sinking a shaft.

Two leases have been applied for in Jackass Creek, on the New Bendigo and No Name Reefs.

Prospecting is also being carried on at the Pioneer Reef and one or two others.

At the Mann River 17 leases have been applied for, but as two of these were jumps it will reduce the number of leases to 15.

Taylor's claim, on the Little Dora Reef, is reported to have excellent prospects, and has, I understand, changed hands to a Sydney syndicate, who are going to erect machinery, and as the whole of the plant has left Grafton, it is expected to be ready for crushing early in the year.

The first crushing from this claim is expected to be very good, as the assays have surpassed anything previously found in this district.

I believe the machine will crush for the public, so that the whole of the claims in the vicinity will be able to have their stone tested within a short time.

I have issued during the year 33 miners' rights, 3 business licenses, and received 21 applications for gold-mining leases, comprising an area of 83 acres 2 roods 3 perches.

I have also registered 1 machine site, 1 prospecting claim (quartz); and 1 extended claim (quartz).

## CLARENCE AND RICHMOND DISTRICT—NANA CREEK DIVISION.

(George Geddes, Mining Registrar.)

FOR the information of the Honorable the Minister for Mines I have the honor to transmit my report for the past year upon the Nana Creek Division of the Clarence and Richmond Mining Districts.

*The Jubilee.*—This is a prospecting claim owned by Alexander Nicholson and situated on the Matilda Hill, Nana Creek. The claim was taken up on the 22nd April, 1887, and since that date, to develop the resources of the ground, labour, representing about £300 in value, has been performed. The prospecting shaft is down 34 feet; width of reef, 18 inches, bearing south-west by north-east. There are two other shafts, of no great depth, distant on either side of the aforesaid about 30 feet, both on gold; yield averaging about 15 dwt. to the ton; width of reef about 1 foot, and running parallel with the Jubilee line. To intersect this line a tunnel has been driven 160 feet, at a level of 60 feet from the crown of the hill on the north side; but the owner has had to suspend operations in that direction for want of necessary funds to enable him to continue the work. The tunnel, on completion, will serve the double purpose of a drain and an exit for the quartz. Water arises from soakage from the old workings of the abandoned Matilda line of reef, on the south side of this property, which is situated at an altitude of about 700 feet above the level of Nana Creek. Twenty-six tons of quartz from the original shaft gave 2 oz. 2 dwt. 22 gr. to the ton. I went through the Dargue battery. The amount of stone now at grass about 20 tons.

*No. 1 West, on the Jubilee Line.*—This is an ordinary claim, owned by John Nicholson, and was taken upon the supposed Matilda line of reef. There have been nine shafts sunk, giving a total working of 166 feet; and, in addition thereto, trenching to the extent of 50 feet has been done. The reefs run a mean course of south-west by north-east, averaging 2 feet in width, and have an underlay of about 6 inches to the foot to the south. They are impregnated with galena, iron pyrites, and various kinds of mundic. The greatest depth reached in the workings is 26 feet. In March, a crushing of 11 tons of quartz gave a return of 17 dwt. 2 gr. per ton, and in October 15 tons 10 cwt. gave about 11 dwt. There are some 14 tons of stone now at grass.

*Advance Australia.*—This claim, now the property of James Wilson and party, is situated near Tallewidgen Creek, in the vicinity of Oliver Anderson's claims, and has all along been looked upon as a good property. There are two shafts, each sunk to a depth of 40 feet, and another to a depth of 70 feet, none of which are, at the present time, being worked, although a fair yield of gold can be obtained. There are good reefs and leaders in all of them. Another shaft is now being sunk, and, at a depth of 30 feet, excellent gold is met with. The reef averages fully 18 inches in width. Its bearing is north and south, is in a slate formation, and going down perpendicularly. The quantity of stone now at grass is about 20 tons, and it is looked upon as 4 to 5 oz. stone.

*The New Years Gift and Challenge.*—These claims are the property of Oliver Anderson, and in the months of March and November, of the year 1886, applications for two leases to mine for gold of 4 acres respectively were made by him. The former only has been approved of, and that on the 7th January, 1887, but the lease has not, as yet, been tendered him for execution. The land is situated near Tallewidgen Creek, about a quarter of a mile from the Advance Australia. The original shaft, 54 feet in depth, owing to excessive rainfall in the beginning of the year, caved in, also filling in the tunnel, which pierced the hill  
along

along the line of reef on the north-west side, connecting with the shaft at the 45-foot level to a distance of 86 feet. The following is an outline of the works as they now stand:—No. 1 shaft is down 8 feet, inside timbering 7 feet 6 inches by 3 feet 6 inches. No. 1 tunnel extends 93 feet; length of platform, 66 feet; width, 23 feet; length of roadway, 5 chains 9 feet. No. 2 tunnel extends 41 feet; length of platform, 32 feet; width, 20 feet; length of roadway, 4 chains 9 feet. The reef in No. 1 tunnel ranges from 9 to 20 inches in width on the floor, and its bearing is north-west and south-east. The stone gives an average yield of 1 oz. to the ton. The reef has not been struck in No. 2 tunnel, but it is thought to be not far distant. It is being driven for, and another tunnel is shortly, in connection with it, to be started. Only a few tons of stone are at grass.

*The Waratah.*—This, the property of Eugene Frederick Rudder, is situated at the Nymboi, some 7 miles from Nana Creek township. It is included in an application for a gold-mining lease of 7 acres made on the 24th July, 1886, but not yet granted. It was surveyed on the 7th September, 1886, and plan sent to the Mines Department by Mining Surveyor J. H. McEwan on the 30th *idem*. But very little work has been done upon this property, although a good one, since it came into the hands of its present holder. Claims such as this should not be left in abeyance, it is a positive injury to the field. Were the lease either granted or rejected it would then be compulsory for the ground to be worked, but as I understand the regulations, pending the completion of the application to lease, applicants are exempt from doing any work on the land applied for. Prior to the transfer of this claim to its present owner by the Messrs. McLeod Bros. and James Forbes, 40 tons of stone were on their account put through the Dargue battery, giving a return of 19 oz. 17 dwt. to the ton. The lot was poor compared with former crushings, but it being crushed as refuse stone the return was more favourable than was expected. There have been two other crushings on account of E. F. Rudder, at Marcolino's battery, the precise return of which I have not been able to ascertain. One, I am told, was 21 tons quartz for 11 dwt. per ton, and the value of the gold got from the other amounted to about £16.

*Yankee Doodle.*—This is an old abandoned claim, situated about 2 miles from Nana Creek, and near the main road to Grafton. From it, at a depth of 16 feet, James Forbes and two others took 10 tons of stone, which yielded 4 oz. 17 dwt. 5 gr. The reef, which is narrow, runs east and west. The return of gold not being thought sufficiently remunerative, work was then discontinued.

*The Dargue Battery.*—This has been at work during the year upon several lots of stone, a detailed list of which I give herewith.

*Marcolino's Battery.*—This has crushed on two occasions only, particulars of which I am unable to give fully.

*Nana Creek Quartz-crushing Company's Battery.*—The whole of the plant has been disposed of, and some time since removed to the Fairfield Gold-field.

#### Alluvial Mining.

*Henry Jones.*—On the 1st October, 1887, he applied for a creek claim to be worked by himself and two others. It is situated about 3 miles above the junction of Mole Creek and the Little Nymboi River. Applications were also lodged for a drainage water-race and to construct a dam. About 16 oz. of good quality gold has been obtained by them.

The undermentioned are the crushings in detail which have taken place during the year 1887:—

#### The Dargue Battery.

Date	Name of Claim.	Name of Proprietors.	Quantity crushed.		Yield		
			Tons.	cwt.	oz.	dwt.	gr.
3 March, 1887..	New Year's Gift.....	Oliver Anderson.....	14	0	9	14	16
4 " " "	Waratah .....	Forbes and party .....	40	0	*19	17	0
21 " " "	Lady Matilda .....	John Nicholson .....	11	0	9	7	23
4 April, " "	Yankee Doodle .....	Jas. Forbes and party .....	10	0	4	17	5
12 Sept., " "	The Jubilee .....	Alexr. Nicholson .....	26	5	56	6	12
29 " " "	Advance Australia...	Ernest Adolphus Van .....	15	10	29	5	0
13 Oct., " "	Lady Matilda.....	John Nicholson .....	15	10	9	0	0
Totals .....			132	5	138	8	8

\* Smelted gold from refuse stone.

#### Marcolino's Battery.

1887 ..	Waratah .....	Eugene F. Rudder.....	21	0	11	11	0
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The value of the gold won from another crushing amounted to £16.

#### Recapitulation.

	Tons.	cwt.	oz.	dwt.	g.	
Dargue Battery .....	132	5	138	8	8	
Marcolino's Battery .....	21	0	11	11	0	
		153	5	149	19	8
Alluvial gold.....			16	0	0	
				165	19	8

The average yield of gold from this field has hitherto exceeded 1 oz. to the ton, but on this occasion it is below the ounce, viz., 19 dwt. 13 gr. The refuse parcel of stone, 40 tons, the property of Forbes and party, yielding but 19 oz. 17 dwt., being an average only of 9 dwt. 22½ gr. to the ton, will however account for this.

The following claims have been taken up during the year:—

Quartz.	
Ordinary claims...	3
Prospecting claims .....	1
Alluvial.	
Creek claims .....	1
Drainage water-race.....	1
Dam.....	1
Total .....	
7	

Gold-mining

*Gold-mining Leases.*—None applied for. Eight leases were applied for in the year 1886. Of that number five have been approved of, four of which have been declared void for non-execution of the leases on presentation, thus leaving three still to be dealt with.

During the year I have disposed of—Miners' rights, 26; business licenses, 2; mineral licenses, *nil*.

A great amount of prospecting and mining work in general has been done by the diggers throughout the year, but with all their outlay both of labour and capital, nothing of a permanent character has resulted therefrom. Yet some of the old and experienced miners having a firm faith that success will crown their efforts in the future, still labour on and they deserve to prosper.

Throughout the year rain has fallen hereabout abundantly, and throughout the Christmas holidays it was one continual downpour, causing the Orara River to rise to a considerable height. The country around is now rich with grass, and to both diggers and settlers this most recent and welcome visitation will doubtless be fully appreciated.

ALBERT DISTRICT—SILVERTON DIVISION.

(*Mr. Warden Brown, P.M., Silvertown.*)

I now have the honor to hand you the following report for the information of the Honourable the Minister for Mines on the mining industry of the Silvertown Division of the Albert Mining District for the year 1887.

This has been an exceptionally busy year, the mining revenue received at this office amounting to £13,431 13s. 6d., being more than three times the amount received for the year 1886. The following table will show the number of licenses issued and lease applications received during the past two years:—

	1887.	1886.
Business licenses ... ..	1,037	650
Mineral do. ... ..	525	285
Miners' Rights ... ..	290	103
Mineral lease application ... ..	913	208

In addition to the above, I might here state that in September last Mr. Gibson was appointed Mining Registrar at Broken Hill, and has issued 669 business licenses, 361 miners' rights, and 87 mineral licenses, amounting together to £567 5s., which makes the total amount of mining revenue received in this division for the past year £13,998 18s. 6d.

The very large increase in the number of mineral lease applications received during the past year is in a great measure due to areas applied for at Wankeroo and Poolamacca for tin mining. This industry is employing a large number of miners, and machinery is now being erected on some of the principal mines. The Mount Euriouri Co. are erecting a plant capable of reducing some 400 tons of ore per week. The Company expect to have everything ready for a start in March next, nearly all the machinery being now on the ground. The starting of these operations is being anxiously watched by all persons interested in tin-mining, as it is considered a fair test as to whether the stanniferous lodes of this division are to be remunerative. Very few persons appear to have any doubt about the result, which if satisfactory, will certainly cause employment for a large number of miners for years to come. As yet very little ore has been treated or sent away, and what has left the field can hardly be expected to be fair samples of the bulk. There is no doubt by the end of the present year the problem will be solved as to whether this branch of mining can be profitably worked in this district on a large scale or not.

In silver mining, the Broken Hill Proprietary Co. still hold the place of honor. This mine has fully maintained its reputation by producing for the year just ended silver and lead to the value of £464,190. The dividends paid during the same time amount to £200,000, the last monthly one being 30s. per share, or an increase of 50 per cent. over any previous one. Additional smelters are being erected at this mine, and will shortly be completed.

The Uumberberka mine has also developed into a first class property, and may now be reckoned as a dividend paying property.

It would be almost impossible to give individual reports of every property in this district that is now working, but in a general way the field is being vigorously prospected, more particularly on the Broken Hill lode, Rockwell paddock, Pinnacles, Purnamoota portion of the field, and all over the stanniferous portion of the division.

During the year just closed the galena lodes of Thackaringa have attracted considerable attention; work has been actively resumed, and large quantities of ore are being sent to smelting works in South Australia for treatment, with I understand, very satisfactory results.

The Silvertown tramway is now completed to Broken Hill, and will be open for general traffic on the 12th instant. It is not yet handed over by the contractors to the Company, although for the last month goods of all descriptions have been conveyed direct from the sea coast to Broken Hill, an immense boon to the different mining Companies, also to the whole district, as instanced by the revival of mining in the Thackaringa portion of this division.

Perhaps the most exciting event that occurred during the past year was the settlement of the vexed question *re* Broken Hill town and suburban lands, which had been exempted from occupation as residence or business areas since November, 1885, but in face of this exemption, some 4,000 persons had settled on these lands. The exemption was removed on 23rd September last, and I am pleased to say that the great confusion and disorder that was anticipated on this land being thrown open for occupation was averted, and the population now estimated at from 5,000 to 6,000 persons settled on the land without any disturbance, and comparatively little litigation. The settlement of this matter has already led to a decided improvement in the style of architecture displayed in the various buildings now being erected. A few weeks ago a water famine seemed probable at this town, but the late rains have dissipated any fears on that score, as the new tank just completed is full, also the soakage in the different creeks. These supplies should last over the summer months.

During the past year another township named Euriourie has been formed. It is situated about 55 miles north-east from Silvertown, and in the centre of the most promising tin mining properties. The present population is estimated at 500, there being a Police Station, two banks, six hotels, and numerous stores and other business places. I am not aware if any steps have yet been taken to provide a water supply for this locality, if not, no time should be lost in doing so.

During

During the year, little alteration has taken place in the town of Silverton. All business people appear to be quite satisfied with its future prospects.

From returns kindly given me by the local Customs officer, I find the declared value of mineral exports from this Division during the year 1887 to be £522,455. These figures do not include any ores sent from the Thackaringa mines, so that I think it is clearly within the estimate to say that ore was exported from this Division during the past year to the amount of fully £600,000.

I estimate the number of men actually employed in the mining industry on this field at about 3,000. This number I think within the mark, as from the few returns from managers that accompany this, there are more than half that number employed on some thirty mines.

Although the requisite forms were sent to all managers of the leading tin-mines, no returns have been received. Large numbers of men are employed there, and ore of considerable value has been raised during the year.

In conclusion, I may state that notwithstanding the rapid progress the mining industry has developed in this Division during the past year, everything points to far greater developments being made during the present one.

As the Mining Registrar at Silverton and Broken Hill can give no further information than contained in this report, and their time being fully occupied, I would ask that they be not required to furnish separate reports.

The following figures were quoted by Mr. McGregor, in replying to the toast, "Success to Broken Hill Proprietary Company":—"The mine has turned out 3,189,921 oz. of silver, 12,391 tons of lead, gross value of £761,000, and £272,000 has been paid in dividends."

#### ALBERT DISTRICT.—WILCANNIA DIVISION.

(*Mr. Warden Gower, P.M., Wilcannia.*)

I do myself the honor to inform you that no mining operations of any note have occurred during the past year in my district. A report was circulated that payable gold had been found at Mount Darwick, on Manfred Run, in September last, distant about 220 miles from Wilcannia, and 50 miles from Ivanhoe. I inspected the locality, and found the report was false, the land not being auriferous.

#### ALBERT DISTRICT.—MILPARINKA DIVISION.

(*Mr. Warden De Boos, P.M., Milparinka.*)

THE report upon the district under my charge must necessarily be a brief one, because of the sameness of work throughout the district. This work, with but very few exceptions, consists of surfacing.

At Tibooburra, in which general name I include the localities connected with it, namely the Granite, the Two-mile, Easter Monday, Ungetty, and the Six-mile,—an area fully 10 miles long by varying widths, the work is exclusively confined to surfacing. The same may be said of Good Friday.

In order to render the labour of the miner remunerative, dams, for the storage of water, and puddling-machines, for treating the auriferous earth, have to be constructed. Of the dams, those hitherto made have been, with very few exceptions, of the most primitive construction, and have consisted merely of earth thrown up to hold back and store the water, with very little excavation of the nature of a tank or reservoir. Three or four of the more intelligent miners have, however, excavated considerably, and have been well repaid for their labour by the additional quantity of water they have been enabled to store allowing them to work and wash when the other reservoirs have been exhausted. Besides this, the ground has been so much worked and rooted about that every rain brings down with the water large quantities of silt, which soon fill up the areas of water conservation, and which require constant attention and removal, in order to preserve anything like a reasonable amount of water. This is a work which, I am sorry to say, is very much neglected; but even where it is not, and where the silt is taken out, it is thrown up so carelessly that the next shower softens it and brings down a large proportion of it back into the dam. There is also very little attention paid to the sludge. It is run out from the puddling-machines in the most hap-hazard way, is allowed to take its own course, and consequently goes to swell the amount of silt that finds its way into the catch area of dams lower down. I have repeatedly called attention to this, and have pointed out that the foundation was being laid for a great difficulty at no very distant future date. The men, however, have such hard work for so comparatively poor and precarious a return, that it would almost seem like oppression to compel them to dig sledge-pits, especially as they argue that the ground being all surfacing, that which has been already worked has become valueless, is never likely to be worked again, and is not, therefore, injured by the sludge run upon it.

In all but a few instances there is a puddling-machine connected with each dam, as it has been found that the most economical way of treating the dirt in so far as water is concerned, is by the puddling-machine. These are of the usual construction, working two harrows, and the water being fed in from a Californian pump, worked by a Jenny-wheel. A puddling-machine will hold, say, in round numbers, 20 loads of dirt, and, on an average, one machine-full can be worked off in a day, the waste being light and friable, and easily disposed of. A yield of 3 dwt. to the load is said to pay well, though many get a living from a less yield than this. The 20 loads, at 3 dwt. to the load, would give 3 oz. per diem, or 18 oz. per week, which, at 80s. per oz. (for the gold is of very superior quality), would return £72 per week. Against this there is the cost of breaking out the dirt, of loading, and carting it to the machine, and of working the puddling-machine and Jenny-wheel. Supposing a miner to carry out all this work off his own land, he would require to employ some six men, to keep about eight horses, and to have at least two tip-carts,—at an expense of some £30 a week, leaving a very fair margin of profit for the miner.

But there are many miners who cannot work after this manner but who have to pay for carting, &c., and their profit is, consequently, very considerably diminished. Then, unfortunately, work cannot go on continuously. First, there is the failure of the water, followed possibly by a long spell of drought, in which nothing can be done; then, in moist or drooping weather, dirt cannot be drawn to the puddling-machine over the heavy soil. Then again, horses are lost, machinery gets broken or out of gear, or other preventives to work occur; so that, on the whole, the income of the successful miners is not to be reckoned on the basis of the yield of a few steady working weeks. I have been informed, however, that one miner in particular has been known, for some seven or eight weeks in succession, to send away some £50 worth of gold weekly.

Owing

Owing to the scarcity of timber, a puddling-machine is rather an expensive structure. All the parts of it must fit compactly at the edges, consequently, if the wood be not sawn, it has to be carefully dressed with the adze, in order as much as possible to prevent the gold getting into the interstices. Then the heavy timber for the arms, spindle, &c., is costly because difficult to obtain, and with the ironwork at back-block prices, a good puddling-machine represents from £120 to £150. Thus, a miner wants to be a small capitalist to enter even upon surfacing with a fair prospect of success. One man recently sold out at Tibooburra—dam, puddling-machine, horses, carts, in fact all his plant—for £350 cash, and the purchase was considered to be a bargain.

Many who are unable to meet the expense of constructing a puddling-machine work with the old-fashioned long-tom, and some even with the primitive cradle. Of course these are much longer processes, and yet, by persevering work, many miners obtain a fair living so long as water lasts and herein, after all, lies the great secret. With a regular continuous supply, you will see by the figures I have quoted, that a yield representing a fortune is obtainable, so long as the wash remains within a reasonable distance of the machine, and has not to be carted too far; but, with the water supply intermittent and precarious at the best of times, and at the worst altogether failing, the miners' work is but intermittent also, and for long periods at a dead stand-still, when he has to lie by and look at his plant lying idle, and his wash-dirt lying heaped ready for moving, without a chance of making either available. Then again, when at work, as the wash-dirt is carted away, the distance it has to be drawn to the machine becomes day by day longer and longer, until it reaches a point when carting don't pay. Thus, though the return would seem to be good, the miners have no mean difficulties to contend with.

These remarks apply principally to Tibooburra, where, as yet, no deep ground has been struck, and no underground water discovered. At Mount Browne there is comparatively but little surfacing doing; but within the last few months, seeing the good yields that have resulted from the construction of dams at Tibooburra, many of the miners here have gone in for erecting dams and puddling-machines, and there is every likelihood that the close of 1888 will see a largely increased production of gold from this source. At present the great bulk of the gold comes from the deep ground at the One-mile. Here there are four or five claims at work at depths ranging from 120 feet to nearly 200 feet. They have a lead or gutter of about 40 feet and from 12 to 30 inches deep. The average yield is given at about 16 dwt., and the greater part of the wash is puddled at the Golden Lake Water-shaft on the flat at the foot of Billy-goat Hill. Here a very good supply of water was met with at a depth of 220 feet, and though it has been constantly used for puddling purposes it shows no signs of diminution. It has struck me that two or three iron puddling-machines, worked by steam-power, and similar to those which were worked at Temora in the early days, would, in connection with a water-shaft on this flat, not only be a good speculation to the owners, but would be a great benefit to the miners, as puddling could then be done cheaply, expeditiously, and continuously, and they would not have to sit for weeks watching heaps of dirt which they know to contain gold without having the means of extracting it.

On this flat a frontage lead was proclaimed some two years ago, a base line was laid down, and some six or eight claims were taken upon it. None of them, however, did any good in so far as the production of gold was concerned, but there is reason to believe that the great expense of sinking and driving was the great drawback. The Golden Lake was one of these, and it has never been bottomed owing to the quantity of water; but though the claims on the line did no good, a block claim (the All Nations) to the north-west of the line, has been at work on and off ever since. They have had some very good yields of from  $\frac{1}{2}$  oz. up to 16 dwt. to the load. The party struck the water at 180 feet, and found the ground dipping south towards the flat, and as they followed along the bottom they found it impossible with the windlass to keep the water down sufficiently to enable them to fairly work the ground. They have now commenced the erection of a whim, by means of which they calculate to be able to keep the workings clear of water. It is on this flat, some distance south of the Golden Lake, and, as is anticipated, in deeper ground, that the Mount Browne Prospecting Company, subsidised by the Government, intend putting down their shaft for testing the deep ground.

At Good Friday, which is about 2 miles north-west from Mount Poole, and at the foot of the southern face of the Whittabreena Range, there are some five-and-twenty miners at work. These cart their dirt to a soakage on the main Good Friday Creek, where it is washed in cradles. These soakages are a peculiar feature of the creeks in this part of the country. Long after all signs of surface-water have disappeared there are spots in the bed of the creek where, by reason of heavy bars of slate or bed rock, the underground water which has percolated through the surface soil—always of a sandy nature—is retained as in a reservoir, the superposed soil to a great extent preventing evaporation. These bars sometimes back the water up a long way on the bottom, and a very considerable store is obtained when this is the case. The main soakage at Good Friday will keep the miners' cradles at work a couple of months after a good fall of rain has set the creek running.

The Whittabreena Range runs away north, and joins the Warratta Range, about 10 miles south-west of Tibooburra, where the two then sweep round westerly, and join the hills that border the granite on the west and north. Several of the gulleys in the Whittabreena and Warratta Ranges are being worked for surfacing, but only scanty provision is made for storing water, and I am afraid that some of the miners lay the squatters' water under contribution for washing purposes. In the former of these ranges is the gold-mining lease of the Whittabreena Quartz-mining Company. Here there is erected a crushing plant of fifteen stampers, working with a 12-horse power engine, which engines also work a pump for drawing water from the mine. The plant has not been at work for the last twelve months; but the plant and property having been purchased by some of the Milparinka residents, the co-partnership has been remodelled, and steps are being taken for making another trial of the reef. A competent engineer has been employed for some weeks past in putting the machinery in order, and as soon as this is done the shaft, which is now full of water, will be pumped dry, a crushing will be taken out from the lower level, and, after crushing, the tailings will be reduced and sent down to Sydney for treatment. The assays of the stone from this mine have always gone very high—as high as 15 oz. to the ton; but on crushing only some 10 or 12 dwts. have been realised. It is therefore a certainty that gold was lost in the crushing, and the idea is that the water from the shaft being used for the tables, and that water being highly charged with minerals, the larger portion of the gold, and very much of the silver, has gone away in the tailings owing to the thickening of the silver by the sulphates of the mine water.

Towards the end of the year, Thomas Howo, who has been working on and off as he could procure funds from other work, at a reef known as the Elizabeth, about 2 miles north-west from the Whittabreena lease,

lease, came across a very nice shoot of gold in a leader on this line, and the stone he showed from the vein was so satisfactory that he had no difficulty in obtaining men of means to join him in taking up an extended claim on the line; and he has since been at work baling out the old shaft and getting the claim in working order. Besides this, the show of stone was so good that several other parties took up claims on the line, whilst two 5-acre leases have been applied for, and others are in contemplation. Sufficient has not yet been done on the ground to permit of any accurate opinion being formed; but I have no hesitation in saying that, with proper machinery and treatment, a large proportion of the quartz in this district would give a fair return to the miner.

The number of miners' rights issued during the year was 364, being a falling off of 39 from the preceding year, when the number was 403. There are no Chinese miners working on the field. The business licenses numbered 63, of which 23 were for six months. The same number (63) was issued in 1886, of which 37 were for six months.

There are about forty puddling-machines erected in this Division, of which three-fourths are at Tibooburra and the diggings connected with it.

With regard to the yield of gold, I have had very great difficulty in coming to a fair approximation of the quantity, owing to the fact that there is no escort, and that gold is sent away in all manner of ways. As a dependable starting point, I have ascertained that there were actually purchased at Tibooburra 2,265 oz. 9 dwts. 6 gr. during the year 1887. Three of the principal puddlers there are known to send away all their gold, and to sell none of it in the town. The amount won by these is estimated at 525 oz.; and if we put down 100 oz. (a very moderate estimate) for gold taken from the field by parties leaving, we have in round numbers a total yield for Tibooburra during 1887 of 2,890 oz. At Milparinka, during the past year, there have been actually purchased 1,669 oz. 1 dwt. 6 gr., and about 150 oz. have been taken away by parties leaving, making a total for Milparinka of 1,819, and for the whole Division of 4,709 oz.

I believe this will be found to be as near an approach to the actual yield as it is possible to get.

#### COBAR DISTRICT—HILLSTON DIVISION.

(*Mr. Warden O'Neill, P.M., Hillston.*)

DURING the past twelve months mining pursuits in this district have been at a standstill. At Cudgellico, no attempt whatever has been made to prospect for gold, although there is no doubt that this ore exists in that locality.

At Condobolin, as I am informed by the Registrar there, nothing has been done to speak of in the way of mining, excepting that leases have been applied for to mine for copper at Melrose.

At Mount Hope some prospecting for gold has been prosecuted, and I am told that fair evidences of gold have been discovered. Owing, however, to a conflict as to the ownership of the land upon which the gold is said to have been found, work is now suspended; but so soon as the matter in dispute has been determined, renewed efforts will be made with the view of ascertaining beyond doubt whether the ore can be got in payable quantities. In connection with this discovery several leases have been applied for, and, should success attend the labours of the prospectors, these leases will doubtless be worked with energy; otherwise, I expect that they will be abandoned. I was promised full information on this subject; but, having awaited the same for some weeks, I must now send in my report without it.

The Great Central Copper-mine has resumed work this year, and steps are being taken to re-open the mine of the New Mount Hope Copper Company, so that these two mines are likely to afford employment to a large number of men, provided the price of copper is maintained; for, without a good price for this ore, the companies cannot be expected to continue work, in consequence, mainly, of the high cost of carriage, as resulting from the remoteness of the locality of the mines from Whitton and Carrathool, the nearest points of railway communication by practicable roads.

It appears to be generally believed that the mountain ranges both on the north and south sides of the Lachlan River, in this district, contain minerals of all kinds; and I have every hope that the returning prosperity of the country, by inducing a spirit of enterprise, will cause capital to be invested in the endeavour to discover payable mines in this as yet little known part of the Colony.

I am pleased to be able to report that settlement for grazing and agricultural purposes is steadily progressing in the district. This is important as affecting a mining community; and, in the event of Mount Hope and other parts being successfully worked in the near future, the residents will have close at hand cheap flour, obtainable from the Hillston mill, as also butter, eggs, meat, poultry, hay, chaff, and cereals produced by the industry of neighbouring farmers. One thing, however, is absolutely needed, in order at once to aid the farmer, the squatter, and the mining speculator, and that is a light line of railway between Darlington Point and Hillston. This would be an immense boon to the district, and, at the same time, by diverting the Lachlan trade from Hay, would be the means of effectually silencing those persons who, in order to serve their own interests in the neighbourhood of that much overrated place—Hay—seek to draw through that town the produce of this portion of Riverina to the markets of Victoria, by railway communication between the Murray and the Murrumbidgee, *i.e.*, by the proposed line from Hay to Deniliquin.

#### COBAR DISTRICT—COBAR DIVISION.

(*Mr. Warden M'Kell, P.M., Cobar.*)

I HAVE the honor to forward herewith my annual report of the Cobar Mining Division for the year 1887.

#### Gold.

This industry being in a languishing condition for the last two or three years, it affords me very great pleasure to be able to report that during the last six months a decided improvement has taken place, in consequence of gold being discovered within 3 miles of the town, as fully notified in my previous reports. Thirty-nine applications for leases of 258 acres were received, and five applications for prospecting areas. There are about forty men working on the United and Fort Bourke Hills, the same line of reef running through both hills for a distance of about 3 miles. Some of the shafts are sunk from 20 to 50 feet, showing fine gold in most of them. Two tons of stone, taken at a depth of about 3 feet, from a 3-foot reef in the Chesney claim, were treated at the Sydney Mint, realizing 4½ oz. per ton, valued at £4 2s. 2d. per oz.

A prospecting party discovered a good reef, showing fine gold, at the Peak, about 2 miles further south, but unfortunately the land is private property.

The reefs have not been sufficiently developed to enable me to report satisfactorily; but judging from the sample of quartz procured, and the apparently well-defined character of the reefs, there is every probability of this field, if properly worked, becoming an important one.

*Mount*

*Mount Billago.*—This reef is situated at the Billago Mountain, 30 miles north-west of Cobar, on the Tindary Run. Messrs. Henderson and party hold a prospecting area, and have since floated it into a company, called the Mount Billago Prospecting Company. A shaft is sunk 100 feet, and a drive of about 40 feet put in. Some nice samples of quartz-bearing gold have lately been taken from the claim, and there is every prospect of good results being obtained shortly. I am informed that some stone tested realized over 5 oz. of gold and 90 oz. of silver per ton.

*Silver.*

Three applications were received for silver leases, one for 20 acres and two for 40 acres each, and other portions of land are held under mineral licenses.

*Copper.*

*The Great Cobar Mine.*—The work in this mine has not been so extensive this year as the previous one, the output of copper being 523 tons less, showing a decrease of £12,506. It was rumoured that this mine intended to close, for what reasons I am unable to ascertain. All the miners and woodcarters, with the exception of the men in the smelting sheds, were paid off; but now that copper has risen in value, I am informed there is every possibility of work being resumed at an early date on a more extensive scale.

*C. S. A.*—This mine is about 7 miles north of Cobar, and was taken up by Captain Williams, of the Great Cobar Company. Several men are exploring the land, but as yet have not been successful in finding anything payable, although the indications are of an encouraging nature.

*Nymagee Mine* appears to be still in full swing, employing fifty men more than last year. The output of copper was 433 tons less than last return, showing a decrease of £12,860 10s.

*Hermitage Plains.*—Very little work has been done by Messrs. Frost and O'Maboney since my last report. This mine has, since the lease was signed, been sold at a satisfactory figure to a Cobar syndicate, who intend to commence operations without delay. Three fresh applications of 40 acres each have been made for land in this locality.

The whole of the year's business was confined to the last half of it, when the following business was done:—

Miners' rights .....	139
Mineral licenses.....	31
Business licenses ..	1
Gold lease applications .....	39
Mineral lease applications ..	8
Prospecting applications.....	5
Water rights.....	2

Being the largest amount of business done since the office was established here, and now that an impetus has been given to prospectors, there is every reason to believe that discoveries of a very important nature will be made in this district, and before long Cobar will become the centre of a large and prosperous mining district.

COBAR DISTRICT—NYMAGEE DIVISION.

(H. Theo. Garland, Mining Registrar.)

I HAVE the honor to submit my annual report for the Nymagee portion of the Cobar Mining District, for the year 1887.

There have been nine miners' rights and one mineral license issued through the year.

*Gold.*

There have been a few prospecting for gold during the past year; but, up to the latter end of the year, they have not been successful in finding any.

*Copper.*

The only company in the Nymagee Division, is the Nymagee Copper-mining Company (Limited). There are 350 men and boys employed by the company. The plant at the mine consists of one 35-horse power and one 40-horse-power horizontal winding engine, two Tangyo pumps, one 11-horse power Root's blower, stone-breakers, crushers, &c.

The whole of the plant at the mine is valued at £81,000.

During the year 9,860 tons of ore have been raised, all having been smelted at the mine, and yielding 1,045 tons copper, the value of which was £48,107.

The depth of the shaft is 628 feet; the deepest level being 618 feet. width of lode from 10 feet to 25 feet, dip or underlay 10 feet in 100 feet, and bearing a strike north-north-west and south-south-east.

COBAR DISTRICT—HILLSTON DIVISION.

(D. G. M. Dougall, Mining Registrar.)

WITH reference to mining industries in this district, it is with regret that I have to announce no progress has been made during the past twelve months.

Gold-mining at Lake Cudgellico is at a complete standstill, the machinery erected some time since having been sold to a company at Forbes.

During last year, three applications for mining tenements at Cudgellico were received, all with a view to purchase the allotments as improvement purchases under the Crown Lands Act of 1884.

There were issued from this office fifty-three miners' rights, and eight business licenses, and during the same period, applications were received for six gold leases at Dromedary Hill, near Mount Hope, total area applied for being 44 acres, and one mineral lease of 25 acres at the same place.

COBAR DISTRICT—MOUNT HOPE DIVISION.

(M. Eilan, Mining Registrar.)

GENERAL Report upon the state and progress of the mines in the District or Division:—The copper mines in this district are now idle about two years, but are likely to be worked again very soon. There are no gold mines working in this district as yet. There are a few men prospecting close to here who have found a little gold in an ironstone lode, but they cannot say it is payable. A few gold-mining leases have been applied for, and the place is likely to get a fair trial within a few months.

## INSPECTOR OF MINES' REPORT.

In submitting my annual report for the year 1887, I have the honor to inform you that the following is a list of accidents reported on by the Wardens, Coroners, or Mining Registrars as having occurred during the year, in the Metallic Mines of New South Wales.

No. of Accidents.	Date	Name of Mine or Company.	Locality.	Persons killed.	Persons seriously injured.	Occupation	Cause of death or injury.	Total.					Non-fatal.			
								Fall of earth.	Inhaling foul air.	Exploded shot.	Falling down shaft.	Falling of ladder.	Exploded shot.	Fall of earth.		
1	10 Jan.	No name	Meroo, Mud-gee	M. G. Grasso.	.....	Miner	Killed by fall of earth	1	..	..	..	..	..	..	..	..
2	20 "	Ironclad Mine	Cargo	J. Hamilton	.....	Manager	Killed by inhaling foul air	..	1	..	..	..	..	..	..	..
3	29 "	.....	.....	W. Snell	.....	.....	Killed by explosion of shot	..	..	1	..	..	..	..	..	..
4	29 "	.....	.....	.....	.....	.....	Injured by explosion of shot	..	..	..	..	..	..	..	..	..
5	29 Mar.	Wobb's Silver Mine.	Emmaville	J. C. Hall	.....	Miner	Killed by falling down a shaft	..	..	..	1	..	..	..	..	..
6	15 Apr.	No name	Hill End	G. Clothier	.....	.....	Killed by fall of earth	1	..	..	..	..	..	..	..	..
7	15 "	.....	.....	.....	J. Williams	.....	Injured by fall of earth	..	..	..	..	..	..	..	..	1
8	27 "	Adeline Mine.	Tenterfield	C. M'Carthy	.....	.....	Killed by fall of earth	1	..	..	..	..	..	..	..	..
9	27 "	.....	.....	.....	J. M'Donald	.....	Injured by fall of earth	..	..	..	..	..	..	..	..	1
10	29 "	Red Hill Mine	Tamboraora	Thomas Cox	.....	.....	Killed falling down shaft	..	..	..	1	..	..	..	..	..
11	30 "	South Broken Hill.	Broken Hill.	S. Spears	.....	.....	Killed by falling down ladder	..	..	..	..	1	..	..	..	..
12	2 May	No name	Kiandra	C. Stephen	.....	.....	Killed by fall of earth	1	..	..	..	..	..	..	..	..
13	11 July	Pinnacle	Nowra	H. Underwood	.....	.....	.....	1	..	..	..	..	..	..	..	..
14	9 Aug.	Gorden Mine.	Buckinbah	J. Snow	.....	.....	Killed through fall of earth	1	..	..	..	..	..	..	..	..
								6	1	1	2	1	1	1	2	

A few other accidents of a minor nature may have occurred, but none other than those above-mentioned have been reported to this office. During the year, I have visited and inspected mines in the Southern, Northern, and Western Districts.

## GOLD.

While the alluvial yield of gold, and the alluvial miners are decreasing, quartz-mining is taking a stand as a permanent industry.

## Young.

In this district several attempts have been made during the year to work systematically the auriferous deposits on the lower part of Lambing Flat, about 3 miles below the town of Young; but, so far, the heavy water-soaked drifts have baffled the companies engaged in this enterprise; but, nevertheless, it is without a doubt that rich gold exist in the valley, and that, wherever the companies' managers were able to get in a set or two of timber, the yield of gold amply repaid them. This being the case, I have no doubt but means will be found and adopted, by which all difficulties of working these heavy water-soaked drifts will be overcome.

## Temora.

A few new patches in the alluvial and the quartz reefs have been discovered during the year, but nothing of any great importance. This district is now drifting from mining into an important agricultural district.

## Barmedman.

Several good patches of gold have been discovered; the numerous quartz-reefs during the year; and there are very good indications that alluvial leads may be discovered when once extensive prospecting operations are carried on, with that object in view.

## Adelong.

This, for many years a famous gold-field, has of late become very dull, many of the miners having left for other fields; nevertheless, capital and enterprise may yet step in, for which there is ample opportunity and encouragement, and so bring Adelong again to the front of our gold-producing districts.

## Grenfell.

Very little mining is now being carried on, either in the alluvial or numerous quartz veins of the district. There is, however, a large field open for the investment of capital, as few of the quartz veins which proved so very rich and remunerative to original shareholders, have been tested below the depth of 200 to 300 feet. Four companies were formed in 1872 to work the Consols, Homeward Bound, Lucknow, and O'Brien's Reefs, but none had sufficient capital to go to work in a systematical manner. At the Lucknow Reefs, which had yielded thousands of pounds sterling to the original shareholders, a main shaft was commenced by the company; but before they reached their object in view, *i.e.*, to sink their shaft to the proposed depth, their capital was spent, and the company dissolved, which proved nothing whatever as to the permanency of the reef, and it would have been better for the district if the said company had never been formed.

## Forbes.

Mining matter are looking up in this district. At the Pinnacles a 10-stamp battery is fully employed crushing from a quartz vein (owned by Messrs. Nicholas & Co., of Forbes), which has given payable results. The weekly output of their mine is 90 tons, and the yield averaged about 12 dwt. of gold

gold per ton, with thickness of reef from 2 to 3 feet. There are several other reefs in this neighbourhood well worthy being further prospected, as payable crushings have been obtained in former years; but the reefs were abandoned in 1866, when greater attractions presented themselves at the opening of the Emu Creek (Grenfell) Gold-field, and in consequence of which the only crushing machine at that time at the Pinnacle was removed to Grenfell.

Some prospecting has been carried on in the alluvial, but so far without success, although the geological features of the Pinnacle country point to the belief that alluvial auriferous deposits are very likely to exist, and that it will only require the prospectors' energy and perseverance to thoroughly search for and discover them. Should my expectations be realized, then a large tract of country between Forbes and Grenfell, which has every favourable indication of being auriferous, will receive the attention of both gold prospector and capitalist; and the lands which now principally are mere sheep walks, will become settled on by an industrious mining population, by which more industries than one would be benefited. Two parties of prospectors, aided by Government out of the Prospecting Vote, are at work. They have bottomed several shafts, but so far without payable results.

#### *Parkes.*

This district has of late years merged from an alluvial gold-field into a quartz-mining district, and is now employing a large number of miners. The principal line of reef now being worked, is that known as Hazelhurst and Quail's (formerly the Buchanan's). A large number of mines have of late been opened on this line, but so far Hazelhurst and Quail's have been the richest. Thousands of oz. have been obtained by them during the last three years, and the claims are not as yet worked out. Other mines, both north and south, are also obtaining quartz in payable quantities. Nearly all the payable claims on this reef were formerly the property of a public company, who abandoned the land, which is now being so successfully worked by the individual miner. Before the said company failed, and the land was re-occupied by the miners, it was thought by some of the inhabitants of Parkes that it would be best for the interests of the district to have all the lands surrounding the town sold in allotments, to which the Department of Mines objected. The result has proven that the latter took the soundest view, or else the land would have been held in the hands of one or two speculators, whereas at present it profitably employs a large number of men. I have for years past advocated that, if miners in the Parkes District would pay more attention to quartz-mining, they and the whole district would be greatly benefited thereby.

#### *Orange District.*

The mining operations at Lucknow, under the able management of Mr. H. W. Newman, are still in full work. Extensive machinery has been erected, and everything in connection with the mines and machinery is in first class order; but as I have frequently reported in detail upon these mines, I think it superfluous to do so in this report.

At the Torrent Reef prospecting parties are now sinking in the deep basaltic country (one of these parties has received aid from Government for prospecting). Should they succeed a large tract of auriferous country is likely to be opened, stretching from the Forest to Lucknow. At King's Plains prospecting for alluvial and reefs is also being carried on, which may lead to some new discoveries.

#### *Brown's Creek.*

This mine is still progressing under the able management of Mr. John Smith, and has yielded payable return during the year.

#### *Hill End and Tambaroora.*

A few parties of miners are still at work on the various quartz veins of this district, but nothing new has been discovered during the year. The English Company at Hawkins' Hill, who took up the land formerly held by the Star of Peace, was stopped once or twice during the year for want of funds, and has really done nothing to develop their land or to discover fresh auriferous deposits.

At the Red Hill, Tambaroora, Mr. Charlton, the manager of the Red Hill Gold-mining Co., is vigorously prosecuting his operations for the purpose of striking a known rich vein at a greater depth. This Company have really done some very hard and expensive work, and deserve every justifiable encouragement; because should they be successful in striking the reef in their main shaft, as anticipated by their manager, it would be the means of the employment of a large number of persons.

#### *Mudgee and Gulgong.*

Parties of miners are at work in various parts of these extensive gold-fields, but very few new discoveries have been made of late. It is, however, thought that the encouragement given by aid from the Prospecting Vote may lead to new gold discoveries being made, and the employment of a large number of persons. I have also visited and inspected other gold-fields in different parts of this Colony, but as no new discoveries were made on them during the year, with the exception of the Mount Browne Gold-fields, I will not unnecessarily lengthen my report.

#### *Mount Browne.*

At Mount Browne proper, at the One-mile and Four-mile, there were during the time of my inspection about eighty miners at work—seemingly making a living. Payable gold has been obtained during the year at the One-mile, sinking of 100 feet to 130 feet in depth, the bottom dipping into the cretaceous formation at the rate of about 15 feet in 100 feet; width of lead, 30 feet; thickness of wash, 12 inches. The latter is very cemented, and has to be blasted with explosives. The All Nations Claim, at Mount Browne proper, is 200 feet in depth, and dipping south-westerly into the cretaceous formation. Width of auriferous wash, from 14 to 20 feet; thickness, about 18 inches, and very much cemented. As the bottom (bed rock) in this claim dips very rapidly into the cretaceous formation, the flow of water increases, and I was informed by the claimholders, that the last two leads obtained from the deepest ground in the All Nations claim, was obtained by the men standing up to their waist in water; the yield of those two leads being 29 dwt. 22 gr. of gold. The gold is coarse, and it is probable that several branches or tributaries will be discovered,

discovered, and worked with payable results, not only near Billy Goat Hill, but on the outskirts of other parts of the cretaceous formation. If machinery is brought on this part of the gold-field to cope with the heavy flow of underground water, Mount Browne may again become prosperous, and a large number of persons may find profitable employment.

Several small rushes have taken place on the field, and although gold in payable quantities have been obtained, they have not been of any great extent or of a permanent nature.

At the Granite (Tibooburra) all the shallow auriferous country is being rapidly taken up for puddling machine purposes. There are twenty-five machines at work, and several still under construction. Some of the owners of these machines are making small fortunes, others good wages, and all seemed well satisfied with the result obtained from their labour and outlay.

The favourable season and large falls of rain have greatly facilitated the prosperity of the granite diggings, the population of which is about 250.

#### QUARTZ VEINS.

Very little real prospecting and systematically working has been done on any part of the Mount Browne Gold-field for the discovery of payable auriferous quartz veins with the exception of one part of the field, known as the Quartz Reefs, which are in the silurian slate formation, notwithstanding that surface indications point to the great probability that narrow but rich quartz veins will be discovered along the tract of auriferous country, *i.e.*, from Milparinka, the Two-mile, Four-mile, Good Friday, Depot Glen, Baster Monday, and the Granite. Intending prospectors should not waste their time on the large quartz blows visible on the surface in all directions of this extensive auriferous tract of country, but they should use their energy and perseverance in searching for narrow quartz veins, some of which may be covered over by alluvium, and may be discovered in the alluvial working. Quartz-mining is very likely to become the principal gold-producing industry of the Mount Browne district.

At the place known as the Quartz Reefs nothing has been done during the year, the machinery being idle, and is going to ruin.

The local price of gold is £3 19s. per oz.

#### SILVER.

In June last the Back Creek silver deposits were inspected by me. These deposits are situated about 6 miles from Rockley, midway between George's Plains and the Newbridge Railway Station on the Western line. At the time of my inspection the works consisted of an open cutting, in which the gold and silver was first discovered, and a drive 60 feet in length to connect said open cutting with No. 1 and No. 2 shafts, the latter of which was 40 feet in depth.

The silver deposits occur in irregular bunches and lenticular quartz veins, varying in thickness from 4 to 18 inches. Some of these veins contain a high percentage of silver and gold. Although the quartz veins are thin, the fissure in which they occur is fully 5 feet in thickness, and the matrix between said quartz veins is said to contain a small percentage of silver. Strike of veins No. 25 W. with a westerly underlay towards a limestone formation. The general geological formation of the district consists of silurian sandstone, shales, limestone, and talcose chloritic micaceous schist.

I forwarded four samples of ore to the Department of Mines for assay; the result, which I left in blank, were filled in after assay by Mr. C. S. Wilkinson, Government Geologist.

No. 1 sample was taken a few feet south of No. 2 shaft and yielded: Fine silver at the rate of 285 oz. 6 dwt. 18 gr. per ton; fine gold at the rate of 1 oz. 4 dwt. 11 gr. per ton.

No. 2 sample from No. 2 vein, the latter being 6 inches in thickness, yielded: Fine silver at the rate of 134 oz. 6 dwt. 19 gr. per ton; fine gold at the rate of 5 dwt. per ton.

No. 3 sample from top vein, about 16 inches in thickness, yielded: Fine silver at the rate of 223 oz. 15 dwt. 8 gr. per ton; fine gold at the rate of 3 oz. 5 dwt. 8 gr. per ton.

No. 4 sample from open cutting, near surface, yielded: Fine silver at the rate of 211 oz. 18 dwt. 11 gr. per ton; fine gold at the rate of 2 oz. 9 dwt. per ton.

Back Creek is an old gold-diggings, on which for years past both alluvial and quartz were worked with payable results. Owing to the large percentage of silver, the gold realized a low price, which caused the abandonment of the quartz veins in that district, but on the discovery of the Sunny Corner Silver Mines, the Back Creek quartz veins were retaken for the purpose of testing for payable silver deposits.

36 tons 18 cwt. 1 qr. of ore was forwarded for treatment to the International Smelting-works, which yielded 3,406 oz. of silver and 15 dwt. of gold per ton, which proves that by careful dressing the ore and economically working the mine highly payable return may be anticipated. So far no galena or carbonate of lead have been discovered; but as the mine has not been extensively opened, it may still be found to contain galena, also carbonate of lead. At present it is impossible to estimate the full extent of the value of these deposits.

I also reported in June last on the Lewis Ponds Gold and Silver Mines, which were very little known at the time of my report, but have since that report was published come into prominence. The Lewis Ponds Mines are situated on the eastern slope of one of the high hills of the Lewis Pond, about 15 miles by road east of Orange, 4 miles south-east of the Old Icely Copper Mine, and 10 miles north of Ophir. The geological formation consist of altered sandstone, micaceous talcose slates, porphyry, and limestone. As far as the lode has been opened, it consists of gossan ore, containing chlorides of silver and carbonates of lead, with a fair percentage of gold. Very little, if any, galena has so far been met with. The lode occurs in bunches from narrow veins to 16 feet in thickness, and its strike is north-west 10 degrees north, with a westerly underlay. About seventy different assays have been made, and I was informed with an average yield of 60 oz. of silver, and 1 oz. of gold per ton, and five assays made by the Mines Department gave the following results:—

	oz.	dwt.	gr.		oz.	dwt.	gr.
Silver.....	90	12	0	Gold.....	0	16	12 per ton.
" .....	46	2	12	" .....	1	7	0 "
" .....	227	6	0	" .....	1	6	0 "
" .....	213	19	0	" .....	0	4	0 "

At

At the time of my inspection three shafts had been sunk, viz., the working shaft 87 feet in depth, with a winze in the north level 29 ft. 6 in. making a total on the lode of 116 feet in depth, and the length opened on the course of the lode was 110 feet. An air shaft and a main shaft were also being sunk, the latter was 8 ft. x 4 ft. in the clear, was 50 feet in depth, and intended to strike the underlay of the lode at a greater depth. The ore out of the Lewis Ponds Mine could be raised at a comparatively low cost, owing to the gossan ore, and the walls of the lode being soft and require very little blasting. Fully 500 tons of ore were at grass, and several hundred tons of ore were exposed to view in the mine.

About 200 yards westerly of this lode, also in the company's land, is a large outcrop of limestone, and about 100 yards westerly of this is another outcrop containing minerals on which an old shaft had been sunk many years ago, and in which a lode can be seen from 6 to 8 inches in thickness, likely to contain both gold and silver.

No. 1, south of the above, is Spicer's Mine, on which a shaft 50 feet in depth had been sunk through a gossan lode containing gold and silver, but as to what percentage I could not ascertain, as there was no one at work at the time of my inspection.

No. 2 South (Lane and Company). Here the gossan lode partly disappears and a large quartz reef crops up. I was informed that 10 tons of quartz from this reef, and crushed at the Ophir Crushing Machine had yielded 9 oz. of gold.

No. 3 South, or the Lily Gold-mining (Prospecting Company), Upper Lewis Ponds, two shafts had been sunk, 33 feet and 76 feet respectively. This is a gossan lode, and I was informed that payable results had been obtained. I however think that nothing payable will be obtained in this mine on the shallow levels, as there is no regular lode, but strata and lode is mixed together. If a shaft from 150 feet to 200 feet in depth was sunk, the lode and walls may become better defined, and payable results might be the consequence, but at the time of my inspection, the shareholders only wasted their capital by scratching and fossicking on the higher levels.

There is plenty of timber in the vicinity of these mines, for fuel and mining purposes, and there are certainly indications which point to the great probability that these mines will by the aid of scientific and practical knowledge in working and treating these ores be made to give profitable returns for the capital invested.

About 5 miles from Orange are the Bulga Hills, on which several leases have been taken up for gold and silver mining; but very little work had been done at the time of my inspection; although by general appearances the Bulgas should contain extensive and payable auriferous and argentiferous deposits.

In my report on the Orange district in June last I also wrote that the whole country from Orange to Lewis Ponds had the appearance of being highly auriferous, argentiferous, and cupriferous, and it seemed strange that while labour was plentiful, and capital laid dormant for investment, that this part of the Orange district should be so little prospected; but I was sure that by force of circumstances this part of New South Wales would demand the attention of enterprising men, by whose action a large mining population would be settled between Orange and the Ophir, along the Bulga and Lewis Ponds Ranges.

The Silverton district, including Broken Hill. This rich and extensive district was also inspected by me during the year.

The Broken Hill Proprietary Mine, which is the premier mine of the district (and at present of New South Wales) still continues to yield large quantities of chloride ores, and is likely to do so for years to come. Their mine works and machinery is very extensive, and has been fully reported on by me on previous occasions.

Active operations in sinking and erection of machinery were carried on in the Central (formerly Nutts) mine, in which a large lode containing iron, manganese, galena, and small percentage of silver had been struck, and which on further development may prove payable and rich.

At the South Broken Hill a main shaft was being sunk and extensive machinery erected; which is an improvement in the right direction. In my last annual report I stated that if a main shaft was sunk instead of so many shallow shafts, the main lode would be more easily reached. Mineral leases have been taken up south, east, and west, but very little work had been done on any of them up to the end of the year, with the exception of the Rising Sun, about 3 miles south-westerly of Broken Hill where active mining operations are carried on, and it is thought with payable results.

North of the Broken Hill Proprietary is the Junction Mine. As stated in my annual report of last year, it has excellent prospects, and were likely to come to the front. At the time of my last inspection winding machinery were being erected, and some very good ore was raised out of the main shaft.

At the Broken Hill North a main shaft has been sunk during the year, and at the time of my inspection the underground workings had been temporarily stopped while machinery was being erected.

At the Victoria Cross only prospecting was carried on, and the prospects of this mine are likely to improve greatly as developments are carried on.

To the north of these mines are also the Consolidated, Round Hill, Cosgrove's and others; which can only be considered more or less as prospecting companies, and which by striking the lode may come to the front at any time.

#### *Rookwell Paddock*

Was fully reported on by me during 1885, since that time a great deal of progressive work has been carried on, several silver lodes have been discovered, and are now been developed, but as far as proven they do not come up to the value of the Broken Hill mines.

#### *The Pinnacles.*

These mines have been fully reported on by me on former occasions. The mines are rich in silver, but so far, the company have been baffled in successfully treating their ore. During the year extensive crushing and concentrating machinery has been erected, which also became a partial failure; nevertheless, there is a likelihood of these mines returning payable results for the capital invested.

The silver deposits are distributed over such extensive country, and the mines at work and taken up are so numerous, that space in this report will not allow me to write separately or extensively on all the mines of the district; suffice it to say, as stated in my last report, the Silverton and Broken Hill district is the richest and most extensive in New South Wales.

Sunny

Sunny Corner, in the Bathurst district was, also inspected by me. Considering the dangerous nature in working these mines, everything is done to secure the safety of the persons employed therein, and so far the mine has been singularly fortunate in the absence of accidents. Although great many improvements have been made in roasting, treating, and smelting the refractory ores the Company have been able to work their mine during the year with payable results, which is principally due to the ability, practical knowledge, and energy of Mr. Thomas Eyre, the Company's manager.

The Silver King, the Silver Queen, the Nevada, Tomkins, and other silver mines in this district, from whom such great results were expected, have had very few men employed during the year. Some have only sufficient men to comply with the labour conditions; others seem quite abandoned.

#### *Emmaville.*

The machinery for treating the ore at Webb's silver mine, near Emmaville or Vegetable Creek in the north, is rapidly approaching completion; after which, large returns of silver from this mine may be looked forward to.

#### TIN.

The shallow workings at the Vegetable Creek Tin-field are being turned over and over again with payable results, principally by Chinese tributors. The increased price of tin has materially helped it, and it seems surprising where the yield comes from out of the old apparently worked out ground.

#### *The Deep Lead.*

Wesley's Company have a few parties of tributors on which all seem to make good wages.

Bayley's mine has yielded well during the year. The whole of the main bottom level has nearly been worked out, with the exception of a few feeders which are now being worked. A great deal of work during the year has been done in their shallow levels, and to all appearance they have another year or two in this level which will pay to work out, should the price of tin keep up. They are shifting their plant to facilitate the working.

*Cunneen, Reid, & Co.*—This claim has yielded well during the year, but is now probably worked out. To give an idea of the outlay on this lease—I was informed that the mine showed at one time £6,000 on the wrong side of the ledger, but has since paid handsomely. The same company have the ground adjoining on tribute from Mr. John Lennen, and have followed the lead into tin ground. The lead is narrow here, but is highly payable; the progress of the works in this mine is a matter of interest, as it will determine the course of the lead. Mr. Cadell & Co. have prospected by boring to the boundary of the above-mentioned land, but seem not to have struck the main lead, although fair prospects have been obtained.

At the Two-mile Allen & Co. have started to work the Old Chance Lead. Messrs. Warrin & Co. have worked out their land.

Some prospecting has been done by Wesley & Co. at Mount Doubtful, but with unsatisfactory results. Prospecting operations have been resumed at Emu Flat.

*Hall Bros., Kangaroo Flat.*—Workings are still carried on with payable results in the land they have worked so many years, under the able management of Mr. Thomas Chandler, but it is now nearly worked out. When this is done they will have to face the wet portion of the lead known to exist in their land. This is well worth the attention of capitalists, as it is evident that the ground worked by Hall Brothers so far is but a branch of the main lead. The tin obtained by them has been on a dry, shallow bar which separates the deep, wet ground. Shafts have been sunk, but whenever the level of the bar has been reached the water became too great, notwithstanding constant baling. If a level was brought up through Hall's old workings from the creek below, and the bar pierced through, good results would be obtained, and the surrounding stanniferous country would be drained thereby.

*Stormer and party*, about 2 miles west of Hall's, have been working during the year with payable results.

Some prospecting is also carried on on the deep main lead, but no shaft has so far been bottomed.

For the purpose of opening up this district for tin-mining the local residents formed themselves into a company, with a capital of £5,000, to open the lead at one of the outcrops, and have started work sinking a trial shaft to obtain the depth preparatory to starting their tunnel, which when completed will be the means of draining that part of the country by gravitation, and if a similar level or tunnel was taken through Hall's property, and the bar pierced, it would no doubt prove very beneficial to the whole district.

#### *Lodes.*

The Ottery Lode at Tent Hill has given good payable results during the year, which has caused other lodes in the vicinity being prospected with fair results, but nothing systematically has been done. Want of capital is the great drawback in the development of the tin lode industry in the Tent Hill neighbourhood.

The Butler's Lode has been idle nearly all the year, excepting since it has come into possession of its new owner, who is prosecuting his work as well as he can.

The Torrington Mine, which seems patchy, has raised a fair amount of tin during the year.

At the Dutchman's Lode some prospecting has been done during the year.

Lodes have also been opened by working miners, but who generally only work that part of the ore stuff which is easily obtained, but who have not sufficient capital to develop their lodes when difficulties come in the way.

At the Silent Grove a great deal of work has been done by the Glen Smelting Company, but so far with not very encouraging results. The same may be said of Madman's Gully.

The great drawback to this district is the want of capital, and capitalists do not care to prospect the deep leads as most of the land is the freehold of (squatters) pastoralists.

The Poolamara, Euriwie, and Wankaroo tin deposit in the Silverton district were also inspected by me during the year. These deposits embrace a large tract of country, and at the present price of tin many of them should give payable returns. The ore occurs in granite dykes which traverse the schist formation. The dykes vary in thickness from 1 to several feet, with a general strike of E. 35 N. Although in most of these dykes the tin ore is found in patches; there are some in which the ore is more evenly distributed, and where work can be carried on in a more extensive and systematic manner. Most of these deposits are, however, likely to be worked by small parties, who will follow the bunches of ore until they become too expensive to work. A system similar to that adopted in the Vegetable and Cope's Creek Tin-fields of buying the tin ore direct from the miners at the mine would prove beneficial both to buyer and producer. A large quantity of tin would then be raised by the individual miner as well as by companies, numbers of men could be profitably employed, and the prosperity of that part of the district ensured. Garnets in large quantities have also been found in the Polonnaca district.

The high price of tin has also given a great impetus to prospecting in the Cope's Creek district, and a large number of persons are now profitably employed on land which two years ago was considered valueless. The several tin lodes near Tinga and Inverell ought now to receive a thorough trial.

## COPPER.

The low price of copper has had a depressing effect on our industry, and with the exception of the Burraga mine in the south and the Nymagee mine in the west, very little work has been done during the year in the copper mines of New South Wales, but latterly the Cobar, Mount Hope, Great Central, and other copper mines are making preparations for active mining operations.

I have, &c.,  
W. H. J. SLEE,  
Inspector of Mines.

## COAL AND SHALE.

TABLE compiled from Reports furnished by Owners of Collieries, showing the quantity and value of Coal and Shale won during the year 1887, and the number of Men employed in the Collieries.

Company.	Locality.	Men Employed.			Quantity.	Value.	
		Above ground.	Under ground.	Total.		Tons cwt. qr.	£ s. d.
COAL.							
Australian Agricultural Co. ....	Newcastle .....	123	796	919	374,254 0 0	177,517 13 0	
Wallsend .....	" .....	202	1,010	1,212	491,498 0 0	247,595 3 0	
Newcastle Coal Co. ....	" .....	95	430	525	181,166 0 0	90,652 5 3	
Lambton .....	" .....	40	300	400	167,355 0 0	83,677 10 0	
Co-operative .....	" .....	62	434	496	224,225 0 0	106,496 4 6	
Pride of Ferndale .....	" .....	3	9	12	5,613 0 0	1,533 10 6	
Tighe's Hill .....	" .....	4	14	18	10,000 0 0	5,000 0 0	
New Lambton .....	" .....	11	60	71	28,405 0 0	13,847 10 0	
New Lambton C. ....	" .....	55	130	185	33,424 0 0	16,630 4 0	
Greta B .....	Maitland .....	50	298	348	92,733 0 0	46,391 10 0	
Greta C .....							
Duckenfield .....	Newcastle .....	58	203	261	68,737 0 0	37,790 10 0	
Brown's .....	" .....	70	273	343	86,032 0 0	46,795 2 0	
Waratah .....	" .....	53	58	111	5,451 0 0	2,406 0 0	
Dunkirk .....	" .....	11	92	103	38,219 0 0	18,161 9 6	
Brickfield Hill .....	" .....	2	7	9	5,600 0 0	1,180 0 0	
Goose .....	" .....	2	5	7	4,800 0 0	2,400 0 0	
New Park .....	Singleton .....	13	15	28	6,122 0 0	3,198 18 0	
Ellesmere .....	" .....	3	25	28	10,181 0 0	5,022 0 0	
Quarry Tunnel .....	" .....	1	3	4	1,800 0 0	520 0 0	
Bloomfield .....	Maitland .....	2	2	4	1,800 0 0	400 10 6	
Hetton .....	Newcastle .....	31	21	52	1,100 0 0	414 10 0	
Sunderland .....	Four-mile Creek .....	1	2	3	1,600 0 0	380 0 0	
Brookstown .....	Newcastle .....	4	15	19	14,410 0 0	6,344 13 6	
Clay Cross .....	" .....	2	16	18	7,508 0 0	1,811 16 0	
Hill End .....	" .....	3	7	10	3,573 0 0	1,067 2 0	
Rix's Creek .....	Singleton .....	1	3	4	836 0 0	501 0 0	
Wickham and Bullock Island .....	Newcastle .....	18	176	194	59,533 0 0	27,954 10 3	
Morriset .....	Lake Macquarie .....	...	2	2	616 0 0	277 4 0	
Lamb, Parbury and Saddington .....	" .....	1	1	2	40 0 0	24 0 0	
Rosedale .....	Newcastle .....	2	3	5	1,421 0 0	623 5 0	
Burwood .....	" .....	56	322	378	111,782 0 0	66,480 3 1	
Thornley Colliery .....	Four-mile Creek .....	2	8	10	6,931 0 0	2,048 2 0	
Great Northern .....	Newcastle .....	2	9	11	5,347 0 0	2,818 17 0	
Hillside .....	" .....	2	10	12	5,037 0 0	1,500 0 0	
Maryville .....	" .....	7	48	55	9,660 0 0	4,500 0 0	
Stockton .....	" .....	60	285	345	150,000 0 0	62,000 0 0	
Homeville .....	Maitland .....	5	17	22	6,000 0 0	2,000 0 0	
Rathluba .....	" .....	1	4	5	11,389 0 0	4,478 17 6	
Ferndale .....	Newcastle .....	12	44	56	9,494 0 0	4,280 0 0	
		1,070	5,217	6,287	2,243,792 0 0	1,096,720 0 7	

COAL AND SHALE—*continued.*

Company.	Locality.	Men Employed.			Quantity.	Value.	
		Above ground.	Under ground.	Total.		£	s. d.
<i>COAL—continued.</i>					Tons cwt. qr.	£	s. d.
Bulli A .....	Wollongong .....	58	119	177	31,161 0 0	10,980	8 0
Osborne Wallsend .....	" .....	50	160	210	73,673 0 0	27,629	0 0
Coal Cliff .....	" .....	25	81	106	36,773 0 0	20,750	0 0
Mittagong .....	Mittagong .....	4	6	10	1,000 0 0	500	0 0
Mount Kambla .....	Wollongong .....	50	250	300	99,790 0 0	54,864	0 0
North Illawarra .....	" .....	34	185	219	57,119 0 0	26,171	12 0
Mount Pleasant .....	" .....	50	146	196	63,935 0 0	23,258	14 0
Australian Kerosene Oil and Mineral Co. ....	Joadja Creek .....	46	20	66	8,732 0 0	4,366	0 0
Berrima .....	Berrima .....	5	9	14	3,941 0 0	1,922	15 0
Broker's Nose .....	Wollongong .....	9	6	15	439 0 0	241	12 10
		331	982	1,313	376,568 0 0	170,684	1 10
Vale of Clwydd .....	Lithgow Valley .....	10	60	70	64,040 0 0	18,095	7 6
Lithgow Valley .....	" .....	4	69	73	58,532 0 0	14,682	12 6
Eskbank .....	" .....	9	68	77	60,533 0 0	15,162	0 0
Eskbank Old Tunnel .....	" .....	2	9	11	5,000 0 0	1,003	5 9
Hermitage .....	" .....	1	9	10	6,563 0 0	1,421	1 5
Zig Zag .....	" .....	9	60	69	64,991 0 0	16,247	15 0
Coerwull .....	" .....	1	1	1	500 0 0	125	0 0
Retort .....	Hartley .....	1	5	6	4,200 0 0	1,160	0 0
Katoomba .....	" .....	18	45	63	29,208 0 0	9,242	0 0
Carlo's Gap .....	Capertee .....	1	2	3	400 0 0	84	18 0
N.S.W. Shale and Oil Co. ....	Hartley .....	3	12	15	8,170 0 0	1,812	0 0
		58	340	398	302,137 0 0	79,036	0 2
<i>SHALE.</i>							
Australian Kerosene Oil and Mineral Co. ....	Joadja Creek .....	See Coal.	40	40	31,406 0 0	70,633	0 0
N.S.W. Shale and Oil Co. ....	Hartley .....	15	60	75	8,384 0 0	16,678	0 0
Northern Shale .....	" .....	2	3	5	220 0 0	330	0 0
		17	103	120	40,010 0 0	87,641	0 0

## REPORT of the Examiner of Coal-fields for the Colony of New South Wales, for the year 1887.

In accordance with the provisions contained in the 26th section of the Coal Mines Regulation Act, 39 Vic. No. 31, I have the honor to submit reports from the Inspectors of Collieries, with this my general report, for the year ending 31st December, 1887.

The information I have the honor to submit in respect to the condition and progress, &c., of the various coal and boghead mineral mines during the year, 1887 is as follows:—

*Number of accidents in 1886 and 1887.*

The number of lives lost is, I regret to say, owing to the Bulli disaster, more than those of the previous year by sixty-five, and the non-fatal accidents exceed those of last year by two. In the year ending 31st December, 1886, there were twenty-nine fatal and forty-three non-fatal accidents.

Three of the fatal accidents happened through falling down shafts; the fourth by being drowned in a shaft; the fifth to fourteenth inclusive by "falls of coal;" fifteenth by an explosion of loose powder; sixteenth, seventeenth, and eighteenth, by loaded skips; nineteenth to twenty-sixth inclusive by inhalation of carbonic acid, &c., gases; twenty-seventh through the Ferndale Colliery being flooded by tidal waters; twenty-eighth by a blow from a falling prop; and twenty-ninth by a fall of roof.

The first of the non-fatal accidents occurred through an explosion of loose powder; the second to sixteenth inclusive through "falls of coal;" seventeenth by empty skips; eighteenth, nineteenth, and twentieth by explosions of fire-damp; twenty-first to twenty-sixth inclusive by loaded skips; twenty-seventh and twenty-eighth by falling props; twenty-ninth and thirty-third inclusive through falls of stone; thirty-fourth through falling off a stage; thirty-fifth by a screen bar handle; thirty-sixth head crushed between a cage and bunting in shaft; thirty-seventh and thirty-eighth by falls of roof; thirty-ninth by the explosion of a shot; fortieth by a loaded truck; forty-first through a fall of jerry; forty-second by a loaded timber trolley; and forty-third by a fall of morgan.

In the year under review (1887) fifty-nine notices of accidents were received, ninety-four of the accidents (eighty-one of which were caused by the Bulli disaster) being fatal; and forty-five non-fatal; all of which have been inquired into, the scene of the accidents inspected, inquests attended and reports made thereon and forwarded for your information.

The names and occupations of the persons who died from injuries received and those who have been seriously injured, as well as the names of the collieries where the accidents occurred, are given in the following summary:

SUMMARY

SUMMARY showing the number of fatal and non-fatal accidents in 1887, the names and the occupations of the persons

Number of accidents.	Date.	Colliery.	Where situated.	Persons killed.	Persons seriously injured.	Occupation.
1	Jan. 7	Mount Kembla	Wollongong		John Williams	Miner
2	" 10	Burwood	Burwood	William Young		"
3	" 10	Newcastle Co.'s A Pit	"	John Bowden		"
4	" 11	Stockton	Stockton		William Ward	"
5	" 11	"	"		Moses Bannister	"
6	" 11	South Cumberland	Camp Creek, near Illawarra.	R. W. Davis		Sinker
7	" 17	Greta	Greta		Robert Geddes	Miner
8	" 28	Newcastle Co.'s A Pit	Burwood		Fredk. Stallard	"
9	" 30	Osborne Wallsend	Wollongong	Thomas Danby		Wheeler
10	Feb. 1	A. A. Co's No. 2 Pit	Newcastle		James Stuart	Miner
11	" 3	New Lambton C Pit	Near Adamstown		Walter Greig	"
12	" 4	East Waratah	New Lambton		Richd. Bounty	Wheeler
13	Mar. 4	Co-operative	Plattsburgh		John M'Luskie	Miner
14	" 17	New Lambton Tunnel C Pit.	Near Adamstown		George Limb	"
14a	" 23	Bulli	Bulli			Miners
15	April 12	Brown's	Minmi		Walter Burns	Trapper
16	" 13	Bullock Island	Carrington		William Aitkin	Wheeler
17	" 21	Wallsend	Wallsend		Cyril Shute	Miner
18	May 13	North Illawarra	Illawarra	William Moon		Labourer
19	" 23	Wallsend	Wallsend		John Walker	Miner
20	" 25	Mount Kembla	Wollongong	William Freestone		"
21	" 28	Mount Pleasant	"		Geo. Steeny	Wheeler
22	" 28	North Illawarra	Illawarra		Michl. Swccny	"
23	" 28	Mount Pleasant	Wollongong	W. Ring		Horse-driver
24	" 30	Bullock Island	Carrington		John Valentine Thompson.	Miner
25	June 28	Wallsend	Wallsend		John Wallace	"
26	" 29	Mount Pleasant	Wollongong		William Nelson	"
27	" 29	Osborne Wallsend	"		Wm. Macdonnell	Blacksmith
28	July 5	Stockton	Stockton	Geo. Carter		Miner
29	" 12	Co-operative	Plattsburgh		John Pogo	"
30	" 26	Northumberland	Awaba		Robert Kyle	Labourer
31	Aug. 3	Brown's	Minmi		Geo. Lonsdale	Driver
32	" 4	Co-operative	Plattsburgh	Abraham Griffiths		Miner
33	" 9	Wallsend	Wallsend		Thos. Gregory	"
34	" 16	North Illawarra	Illawarra		Wm. Davidson	"
35	" 17	Wallsend	Wallsend		George Hall	"
36	" 31	A. A. Company's	Newcastle		William Reid	"
37	Sept. 2	"	"		John Oswald	"
38	" 3	Mount Kembla	Wollongong	Allan M'Intyre		"
39	" 5	Australian Kerosene Oil and Mineral Co., Joadja.	Joadja, near Berrima		James Charles	"
40	" 22	North Illawarra	Illawarra		Geo. Pinch	Carpenter
41	" 28	A. A. Company's	Newcastle	Enoch Smith		Miner
42	" 30	Burwood	Burwood		John Morris	"
43	Oct. 1	Greta	Greta		John Poole	"
44	" 3	Wallsend	Wallsend		John Cooke	"
45	" 4	"	"		Wm. Bradley	"
46	" 4	"	"		Nathanl. Rowbottom	"
47	" 28	Co-operative	Plattsburgh		James Oate	Labourer
48	Nov. 7	Burwood	Burwood	John Wilson		Miner
49	" 18	"	"		John Jones	"
50	" 22	A. A. Company's	Newcastle		Joseph Frazer	"
51	" 23	"	"		Wm. Thomas	Shiftnan
52	" 23	South Waratah	Charlestown		Wm. Jeffrey	Wheeler
53	" 26	A. A. Company's	Newcastle		James Overton	Miner
54	" 29	"	"		Thomas Evans	"
55	" 30	Greta	Greta		Enos Bateman	"
56	Dec. 12	Duckenfield	Minmi		Thomas Hammond	"
57	" 13	Co-operative	Plattsburgh		Andrew M'Lauchlan	"
58	" 19	Burwood	Burwood	Thomas Morgan		"

who died or were injured, cause of death or serious injury, and the names of the collieries where they occurred.

Cause of death or serious injury.	Lives lost.										Non-fatal.															
	By an explosion.	Fall of coal.	Stone falling down shaft.	Empty skip.	Empty waggon.	Fall of coal and stone.	Loaded skip.	Blow from a prop.	Fall of stone.	Fall of coal and stone.	Fall of coal.	Fall of stone.	Loaded skip.	Kicked by a pony.	By a skip.	Empty skip.	Empty waggon.	Fall of clay.	Fell from a horse.	Fire-damp.	Shot explosion.	Fell from morgan.	Fell from Jetty.	Falling from a catch.	Blow from a prop.	By a chain.
Leg fracture by fall of coal and stone .....										1																
Killed by fall of coal .....	1																									
Severe scalp wound by a fall of coal .....		1																								
Severe internal and other injuries by fall of coal .....										1																
Killed by stone scaling of side and falling down shaft .....			1																							
Severe internal injuries by fall of coal .....										1																
Fractured right fore-arm, amputated, fall of coal .....										1																
Killed whilst riding in empty skip .....			1																							
Fractured ribs and other injuries by fall of coal .....										1																
Thigh fracture and injuries to head by fall of stone .....											1															
Injuries to head and right leg crushed by loaded skip .....												1														
Leg and knee crushed by fall of coal .....										1																
Right leg and left hip fractured by fall of coal .....										1																
By an explosion.....	81																									
Jawbone fractured, killed by a pony .....													1													
Leg fracture, caught between the timbers and a loaded skip .....												1														
Fractured ankle by fall of coal .....										1																
Killed on incline whilst greasing rollers by empty waggon.....				1																						
Right leg fractured and other injuries by fall of coal .....											1															
Killed by fall of coal and stone .....					1																					
Bruised about back, crushed by a skip .....															1											
Collar-bone fractured by a skip .....															1											
Killed by a loaded skip on engine road .....						1																				
Fracture of both legs by fall of coal .....										1																
Left collar-bone fractured by fall of coal .....										1																
Leg broken by empty skip .....															1											
Bruised about the head by empty waggon .....																1										
Fatal injuries by a blow from a prop .....								1																		
Leg fracture by fall of coal .....										1																
Leg fracture by fall of clay .....																	1									
Leg fracture by a fall from a horse .....																		1								
Fatal injuries by a fall of coal .....		1																								
Internal injuries by a fall of coal .....										1																
Burned on shoulder by fire-damp .....																			1							
Severe burns by a shot explosion .....																					1					
Severe injuries to head by a fall of morgan .....																						1				
Compound fracture of leg by fall of coal .....										1																
Fatal injuries by stone falling from roof .....									1																	
Injuries to back by fall of stone from roof .....											1															
Leg and arm broken by falling from jetty .....																							1			
Fatal injuries by a fall of coal .....		1																								
Fracture of arm and injuries to hip by fall of coal.....											1															
Severe internal injuries by fall of coal .....										1																
Fracture of ribs by a fall from a catch.....																								1		
Severe injuries to head by fall of coal .....										1																
Arm fracture and other injuries by blow from a prop .....																									1	
Internal and other injuries, squeezed by a chain .....																									1	1
Fatal injuries by a fall of coal .....		1																								
Severe injuries by a fall of roof stone .....											1															
Thigh fracture by fall of coal.....											1															
Thigh fracture and deep wound by a loaded skip .....												1														
Thigh fracture by a loaded skip .....												1														
Thigh fractured by a fall of coal .....											1															
Fracture of hip-bone by a fall of coal .....												1														
Severe injuries to head by a shot explosion .....																					1					
Severe fracture of thigh-bone by a fall of coal .....											1															
Leg fracture by a fall of coal .....											1															
Fatal injuries by a blow from a prop .....										1																
Total fatalities, 94. Total non-fatal, 45.	81	5	1	1	1	1	1	2	1	1	22	3	4	1	2	1	1	1	1	1	2	1	1	1	1	

The returns which have been collected and forwarded to me by the Mining Department show the following figures for the year 1887:—

## COAL RETURN.

	Northern District.	Southern District.	Western District.	Total.
Tons of round and small coal raised .....	2,243,792	376,568	302,137	2,922,497
Value of round and small coal raised.....	£1,096,720 Os. 7d.	£170,684 ls. 10d.	£79,036 Os. 2d.	£1,346,440
Persons employed above ground.....	1,070	331	58	1,459
Persons employed under ground.....	5,217	982	340	6,539

## PETROLEUM OIL CANNEL COAL OR BOGHEAD MINERAL RETURNS.

*Western and Southern Districts.*

Tons of boghead mineral or petroleum oil cannel coal.....	40,010
Value of boghead mineral or petroleum oil cannel coal raised .....	£87,641
Persons employed above ground .....	103
Persons employed under ground .....	17*

\* See coal for Joadja.

5,421 tons of this mineral, valued at £17,943, went to intercolonial ports, and 15,997 tons, valued at £44,377, was shipped to other ports; 18,592 tons, valued at £25,321, having been used in the manufacture of oils, paraffine, grease, and gas, &c.

## Comparative statement of Returns for 1886-7.

	Men above ground.	Men under ground.	Tons of round and small coal.		Value.		
			Tons	cwt. qr.	£	s.	d.
NORTHERN DISTRICT.							
Australian Agricultural, Newcastle Wallsend, Newcastle Coal Company, Lambton, Co-operative, Brown's, Duckenfield, New Lambton, New Duckenfield, Waratah, South Waratah, East Waratah, Hetton, Ferndale, Goose, Pride of Ferndale, Tighe's Hill, Wickham and Bullock Island, Stockton, Burwood, Clay Cross, Dunkirk, Maryville, Brickfield Hill, Hillside, Hill End, Quarry Tunnel, Brookstown, Morrisett, Lake Macquarie, Sunderland, Thornley, Rathluba, Homeville and Greta, Greta C, Rix's Creek, Ellemere, Singleton, New Park, Rosedale, and Bloomfield .....	1,070	5,217	2,243,792	0 0	1,096,720	0 7	
Total in 1887.....	1,070	5,217	2,243,792	0 0	1,096,720	0 7	
„ 1886.....	1,089	5,044	2,178,116	0 0	1,084,554	17 1	
Increase in 1887 .....	.....	173	65,676	0 0	12,165	3 6	
Decrease in 1887 .....	19	.....	.....	.....	.....	.....	
SOUTHERN DISTRICT.							
Mount Kembla, Bulli, Illawarra Coal Co., Osborne Wallsend, Coal Cliff, North Illawarra, Australian Kerosene Oil and Mineral C. Company, Brooker's Nose, and Berrima.....	331	982	376,568	0 0	170,684	1 10	
Total in 1887.....	331	982	376,568	0 0	170,684	1 10	
„ 1886.....	351	947	370,830	0 0	149,993	12 0	
Decrease in 1887 .....	20	.....	.....	.....	.....	.....	
Increase in 1887 .....	.....	35	5,738	0 0	20,690	9 10	
WESTERN DISTRICT.							
Vale of Clwydd, Lithgow Valley, Eskbank, Eskbank Old Tunnel, Hermitage, Coerwull, Hartley Vale, Carlo's Gap, Katoomba, Zig-Zag, and New South Wales Shale Oil Co. ....	58	340	302,137	0 0	79,036	0 2	
Total in 1887.....	58	340	302,137	0 0	79,036	0 2	
„ 1886.....	61	355	281,229	0 0	68,615	15 0	
Increase in 1887 .....	.....	.....	21,908	0 0	10,420	5 2	
Decrease in 1887 .....	3	15	.....	.....	.....	.....	

From these returns we find that in the Northern District, in the year under notice, there has been an increase of 65,676 tons in the quantity of coal raised, and an increase of £12,165 3s. 6d. in the value of it; whilst in the previous year (1886) there was an increase of 64,743 tons, and in the value of the coal raised £51,650.

In the Southern District there has been an increase of 5,738 tons, and in the value of £20,690; whilst in the previous year (1886) there was a decrease of 82,898 tons, and £80,478 in the value, which was caused by a four months' strike at most of the collieries, and if we deduct 5,738 tons, this year's (1887) increase from last year's (1886) decrease of 82,898, it gives 77,160 tons as the yearly decrease which

which has taken place since the year 1885 and prior to the 1886 four months' strike, and by deducting £20,690, this year's (1887) increase in value from last year's (1886) decrease of £80,478, we find that £59,788 represents the yearly decrease in value which has taken place since the strike, thus showing the injury done to the district thereby.

In the Western District there has been an increase of 21,908 tons, and in the value of £10,420; whilst in the previous year there was a decrease of 30,534 tons, and a decrease of £8,221 in the value, which was caused by a general depression in trade, the railway traffic being less, and brickworks not taking as much coal as in the previous year.

The following table shows comparisons between the year under notice and two preceding years, as regards the exports of coal to foreign and intercolonial ports; the quantity used for home consumption; total output and value; tons of round and small coal raised for each person employed in and about the collieries; value of round and small coal raised for each person so employed; and the quantity of coal raised for each life lost.

Years.	Exports to Intercolonial Ports.			Exports to Foreign Ports.			Total Exports.			Home consumption.
	Quantity.	Average per ton.	Value.	Quantity.	Average per ton.	Value.	Quantity.	Average per ton.	Value.	
1885.....	Tons. 991,924	£ s. d. 0 10 7-13	£ 625,443	Tons. 764,432	£ s. d. 0 11 6-50	£ 441,220	Tons. 1,756,356	£ s. d. 0 11 0-09	£ 968,663	Tons. 1,122,507
1886.....	1,027,775	0 10 7-22	544,824	708,000	0 11 4-31	402,178	1,735,865	0 10 10-93	947,002	1,094,310
1887.....	1,077,270	0 10 5-89	565,034	713,172	0 11 1-05	395,455	1,700,442	0 10 8-70	960,539	1,132,055
	3,096,969	0 10 6-73	1,635,351	2,185,604	0 11 4-03	1,238,563	5,282,063	0 10 10-58	2,874,204	3,848,872

Years.	Total Output and Value.			Coal raised per each person employed in and about the Mines.			Value of Coal raised per each person employed in and about the Mines.			Tons of Coal raised per each life lost.		
	Quantity.	Average per ton.	Value.	Quantity.	Average tons per each person employed.	Persons employed.	Value.	Average value per each person employed.	Persons employed.	Quantity.	Average tons per each life lost.	Lives lost.
1885.....	Tons. 2,878,363	£ s. d. 0 9 3-72	£ 1,340,212	Tons. 2,878,363	Tons. 405	Number. 7,097	£ 1,340,212	£ s. d. 138 18 10	Number. 7,097	Tons. 2,878,363	Tons. 261,714	Number. 11
1886.....	2,830,175	0 9 2-53	1,303,164	2,830,175	364	7,847	1,303,164	109 17 10	7,847	2,830,175	97,692	29
1887.....	2,922,497	0 9 2-57	1,346,440	2,922,497	365	7,998	1,346,440	108 6 1	7,998	2,922,497	31,090	94
	8,631,535	0 9 2-93	3,989,816	8,631,535	370	22,942	3,989,816	173 18 2	22,942	8,631,535	64,414	134

NORTHERN DISTRICT.

Numbers of persons employed in and about the mines .....	6,287
Number of persons employed underground .....	5,217
Quantity of coal raised in tons.....	2,243,792
Number of non-fatal accidents .....	37
Number of lives lost by accidents .....	7
Persons employed per each non-fatal accident.....	169
Persons employed per each life lost .....	898
Tons of round and small coal raised per each non-fatal accident.....	60,632
Tons of round and small coal raised per each life lost .....	320,541
Tons of coal raised per each person employed in and about the mines .....	356
Tons of coal raised per each person employed underground .....	430
Value of coal raised .....	£1,096,720 0 0
Value of coal raised per each person employed in and about the mines.....	£174 8 10
Value of coal raised per each person employed underground .....	£210 4 4

SOUTHERN DISTRICT.

Number of persons employed in and about the mines .....	1,313
Number of persons employed underground .....	982
Quantity of coal raised in tons.....	376,658
Number of non-fatal accidents.....	8
Number of lives lost by accidents .....	87
Persons employed per each non-fatal accident.....	164
Persons employed per each life lost .....	15
Tons of round and small coal raised per each non-fatal accident.....	47,082
Tons of round and small coal raised per each life lost .....	4,329
Tons of coal raised per each person employed in and about the mines .....	287
Tons of coal raised per each person employed underground .....	383
Value of coal raised .....	£170,684 0 0
Value of coal raised per each person employed in and about the mines.....	£129 19 10
Value of coal raised per each person employed underground .....	£173 15 3

WESTERN DISTRICT.

Number of persons employed in and about the mines.....	398
Number of persons employed underground .....	340
Quantity of coal raised in tons.....	302,137
Number of non-fatal accidents.....	nil.
Number of lives lost by accidents .....	nil.
Persons employed per each non-fatal accident .....	No non-fatal accident.
Persons employed per each life lost .....	No life lost.
Tons of round and small coal raised per each non-fatal accident .....	No non-fatal accident.
Tons of round and small coal raised per each life lost.....	No life lost.
Tons of coal raised per each person employed in and about the mines .....	759
Tons of coal raised per each person employed underground .....	888
Value of coal raised .....	£79,036 0 0
Value of coal raised per each person employed in and about the mines .....	£198 11 7
Value of coal raised per each person employed underground .....	£232 9 2

The

The following table shows comparisons between the year under notice and the preceding year, as regards the proportion the accidents and deaths bear to the persons employed, the quantity and value of the coal for each person employed in and about the mines and underground, in the Northern, Southern, and Western Districts.

	Northern District.		Southern District.		Western District.	
	1886.	1887.	1886.	1887.	1886.	1887.
Number of persons employed in and about the mines	6,133	6,287	1,293	1,313	410	393
Number of persons employed underground	5,044	5,217	947	982	355	340
Quantity of coal raised in tons	2,178,116	2,243,792	370,830	376,658	231,229	302,137
Number of non-fatal accidents	36	37	7	8	Nil.	Nil.
Number of lives lost by accident	19	7	2	37	8	Nil.
Persons employed per each non-fatal accident	170	169	185	164	No non-fatal accident.	No non-fatal accident.
Persons employed per each life lost	323	898	649	15	52	No life lost.
Tons of round and small coal raised per each non-fatal accident	60,503	60,632	52,975	47,082	No non-fatal accident.	No non-fatal accident.
Tons of round and small coal raised per each life lost	114,637	320,541	185,415	329	35,153	No life lost
Tons of coal raised per each person employed in and about the mines.	355	356	286	287	576	759
Tons of coal raised per each person employed underground.	432	430	390	383	792	883
Value of coal raised	£ s. d. 1,034,554 17 1	£ s. d. 1,096,729 0 0	£ s. d. 149,993 12 0	£ s. d. 170,684 0 6	£ s. d. 63,615 15 0	£ s. d. 79,000 0 0
Value of coal raised per each person employed in and about the mines	176 16 9	274 5 10	115 11 1	129 19 10	167 6 1	198 11 7
Value of coal raised per each person employed underground.	215 0 4	210 4 4	158 7 9	173 15 3	193 0 0	232 9 2

The following statistical return, furnished me by Mr. W. R. Logan, the Collector of Customs at Newcastle, shows that the greatest increase in the export of coal from that port has been:—To United States, 248,325; Victoria, 80,418; Chili, 47,153; Phillipine Islands, 36,256; Singapore, 25,388; Java, 17,665; New Caledonia, 3,336; Mauritius, 2,993; Western Australia, 2,210; and Sandwich Islands, 11,252. And the greatest decrease to San Francisco, 154,332; South America, 38,953; Manila, 34,521; Honolulu, 22,037; India, 19,594; South Australia, 15,958; New Zealand, 14,345; Wilmington, 13,886; Hong Kong, 13,576; Tasmania, 7,295; Portland O., 6,771; Mexico, 5,761; Queensland, 4,749; Iqui Iqui, 2,271; Petropaulovski, 1,760 tons.

NEWCASTLE.—New South Wales export of Coal during the years 1886 and 1887.

Countries.	1886.	1887.	Increase.	Decrease.
	Tons.	Tons.	Tons.	Tons.
Victoria	628,141	708,559	80,418	
New Zealand	164,453	150,108		14,345
South Australia	139,476	123,518		15,958
Western Australia	11,576	13,786	2,210	
Queensland	20,417	15,668		4,749
Tasmania	46,269	38,974		7,295
Fiji	20,719	21,081	362	
New Caledonia	8,957	12,293	3,336	
Honolulu	22,037			22,037
Manilla	34,521			34,521
Mauritius	5,853	8,846	2,993	
Hongkong	96,931	83,355		13,576
China	2,475	1,366		1,109
Japan				
San Francisco	154,332			154,332
Portland O.	6,771			6,771
South America	46,079	7,126	17,665	38,953
Java	23,448	46,113		
India	67,809	48,215		19,594
Mexico	8,071	2,310		5,761
Guiana	1,795			1,795
South Sea Islands		249	249	
New Guinea	600			600
Wilmington	13,886			13,886
Astoria	500			500
Iqui Iqui	2,271			2,271
Pugent Sound	500			500
Humboldt Bay	500			500
Cape of Good Hope	318	433	115	
Ilo Ilo	1,120	1,292	172	
Petropaulovski	1,760			1,760
Singapore	5,565	30,953	25,388	
San Jose De Quatemala	816			816
Sandwich Island	848	12,100	11,252	
Mahuona (Havanah Island)	880			880
Chili		47,153	47,153	
United States		248,325	248,325	
Phillipine Islands		36,256	36,256	
Solomon Islands		307	307	
Total	1,658,386 tons.	1,658,386	476,201	362,509
Total increase for 1887 is			113,692 tons.	

## DECENNIAL RETURN.—Port of Newcastle.—Foreign and Intercolonial Ports.

Year.	Vessels cleared outwards for Foreign and Intercolonial Ports.		Total value of Imports from Foreign and Intercolonial Ports.	Quantity and value of Coal exported to Foreign and Intercolonial Ports.		Total value of Exports (inclusive of Coal) to Foreign and Intercolonial Ports.	Total amount of Revenue collected.
	No. of Vessels.	Tonnage.		Tons.	Value.		
			£ s. d.		£ s. d.	£ s. d.	£ s. d.
1878	1,407	655,885	444,760 18 9	871,985	602,557 0 0	699,252 13 0	60,511 14 0
1879	1,330	651,501	340,501 0 0	860,375	591,090 0 0	648,427 0 0	57,477 18 9
1880	1,023	516,480	527,905 0 0	673,393	372,378 0 0	477,486 0 0	57,883 4 6
1881	1,121	654,543	482,845 0 0	899,369	343,931 0 0	407,212 0 0	77,543 10 7
1882	1,143	737,772	632,073 0 0	1,080,446	527,575 0 0	618,586 0 0	76,799 12 7
1883	1,305	926,956	658,601 0 0	1,359,505	722,428 0 0	1,440,752 0 0	87,844 12 0
1884	1,433	1,066,462	788,653 0 0	1,505,395	835,070 0 0	1,699,047 0 0	108,720 0 0
1885	1,388	1,076,346	930,200 0 0	1,552,136	832,495 0 0	1,927,626 0 0	108,834 18 6
1886	1,335	1,097,382	843,474 0 0	1,544,694	828,189 0 0	1,398,728 0 0	119,131 15 0
1887	1,334	1,154,439	781,796 0 0	1,658,388	886,921 0 0	1,788,664 0 0	117,543 7 10

RETURN showing the quantity raised, price per ton, and value of the boghead mineral or petroleum oil (cannel coal), commonly called kerosene shale, from 1865 to 1887 inclusive.

Year.	Tons.	Average price per ton.	Value.	Year.	Tons.	Average price per ton.	Value.
		£ s. d.	£ s. d.			£ s. d.	£ s. d.
1865	570	4 2 5·47	2,350 0 0	1877	18,963	2 9 0·82	46,524 10 0
1866	2,770	2 18 10·48	8,154 0 0	1878	24,371	2 6 11·49	57,211 0 0
1867	4,079	3 14 9·21	15,249 0 0	1879	32,519	2 1 10·96	66,930 10 0
1868	16,952	2 17 7·11	48,816 0 0	1880	19,201	2 6 7·03	44,724 15 0
1869	7,500	2 10 0·00	18,750 0 0	1881	27,894	1 9 2·59	40,748 0 0
1870	8,580	3 4 3·18	27,570 0 0	1882	48,065	1 15 0·00	84,114 0 0
1871	14,700	2 6 3·91	34,050 0 0	1883	49,250	1 16 10·77	90,861 10 0
1872	11,040	2 11 11·91	28,700 0 0	1884	31,618	2 5 7·85	72,176 0 0
1873	17,850	2 16 6·55	50,475 0 0	1885	27,462	2 8 11·62	67,239 0 0
1874	12,100	2 5 1·48	27,300 0 0	1886	43,563	2 5 10·79	99,976 0 0
1875	6,197	2 10 2·22	15,500 0 0	1887	40,010	2 3 10·43	87,761 0 0
1876	15,998	3 0 0·00	47,994 0 0				

*Complaints made of deficient ventilation, &c.*—I have, as usual, inquired into sundry complaints made with respect to deficient ventilation and non-compliance with the requirements of the provisions of the Coal-mines Regulation Act, 1876. Proceedings, where necessary, have been taken to enforce the provisions of the Act, and reports furnished thereon.

## NEW MINES OPENED OUT OR IN COURSE OF DEVELOPMENT DURING THE YEAR 1887.

*Northumberland Colliery.*

On February 7th Messrs. Blomfield and Dixon gave notice that the sinking of a shaft for coal-mining purposes had been commenced at Fassiferns, county of Northumberland, parish of Awaba. This is now the property of the Northumberland Coal and Land Company.

*Bulli Mountain, Wollongong.*

On June 13th Mr. Arthur Robinson notified of having commenced sinking a shaft for coal on his mineral conditionally purchased land at top of Bulli Mountain, parish of Woonona.

*Singleton Coal and Coke Company.*

On July 12th Mr. W. Longworth gave notice of having commenced to sink a trial shaft on a mineral lease situated in the parish of Auckland, county of Northumberland, adjoining Messrs. Nowlands' mine.

*Lahiff & Ahern's Tunnel, Mount Kembla, Wollongong.*

On August 2nd Mr. Lahiff notified having commenced opening out a tunnel for permanent service in the coal measures. This is in excess of work done on the same selection—seeking for kerosene shale—formerly situated at Mount Kembla, Wollongong.

*Ryhope Colliery, Redhead.*

On August 31st Mr. Thos. Croudace notified that he expected to commence to sink at Redhead latter end of the week.

*Ferndale Colliery, Wickham.*

On September 15th Mr. John Powell, colliery manager, notified having opened out a new colliery at Wickham, near Newcastle.

*Oakley Park, Zig Zag, Lithgow.*

On September 15th Mr. Richard Fryer, on behalf of the Oakley Park Coal-mining Company, Lithgow, gave notice of having commenced sinking on their property near the Railway Zig Zag, Lithgow.

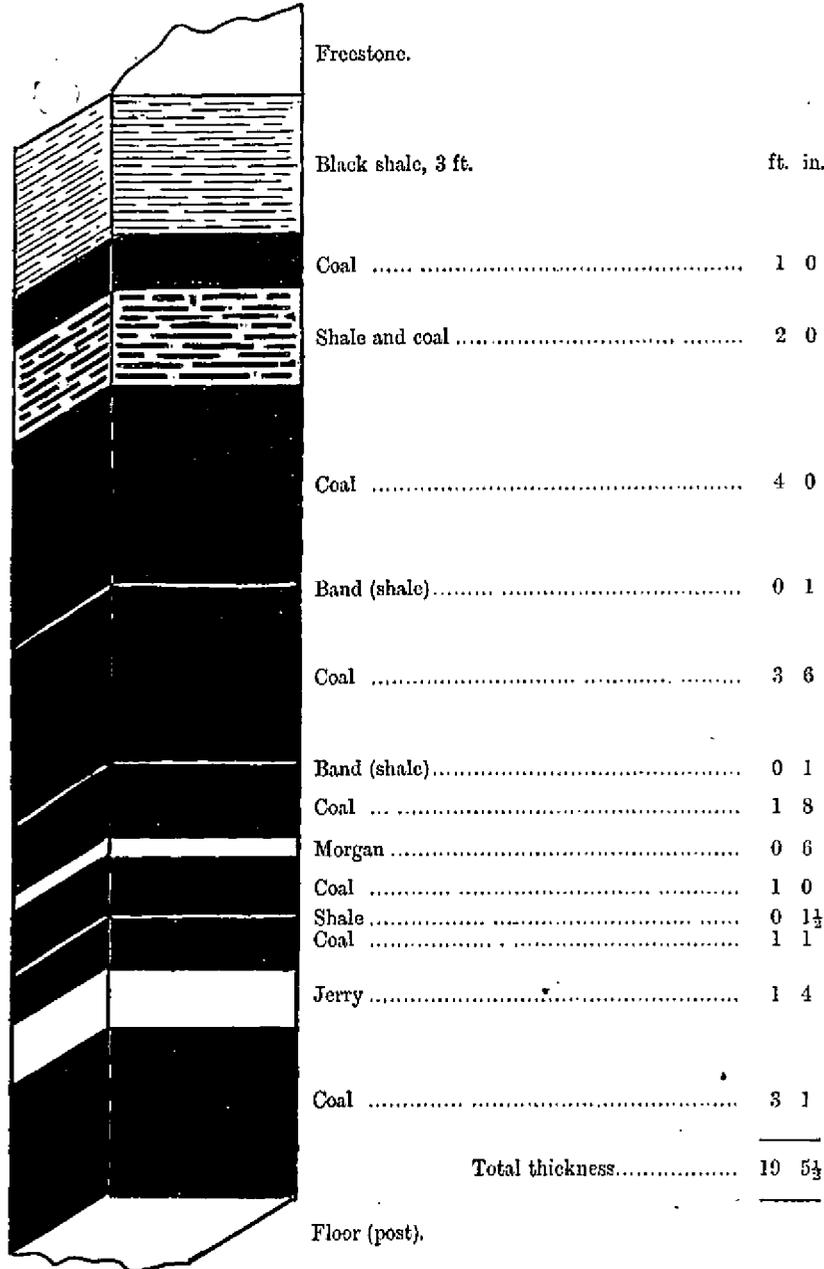
*Sunderland Colliery, East Maitland.*

On October 11th Mr. Matthew Tulip notified having commenced a colliery on the 20-acre lease at Four-mile Creek.

COAL-MINES ABANDONED OR OPERATIONS SUSPENDED DURING THE YEAR 1887.

*Broughall's Tighe's Hill Colliery, Tighe's Hill.*

On September 24th, Mr. Jno. Jackson gave notice that the Tighe's Hill Colliery, recently worked by Broughall and partners, was finally closed on the 22nd, in consequence of all the payable coal having been worked therefrom.

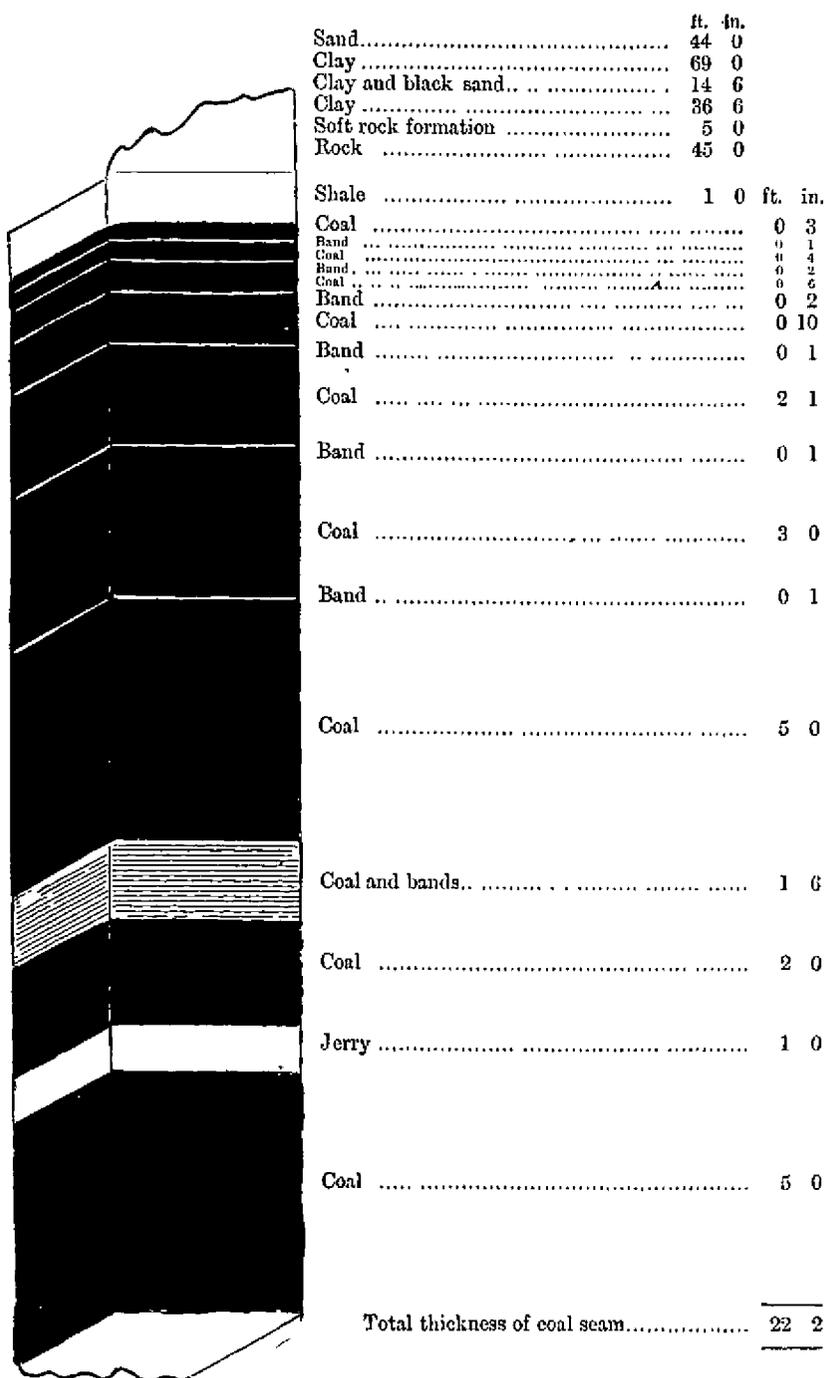


This is a section of the Borehole coal-seam, suitable for house-fire, steam, gas, blacksmith, and coking purposes, recently opened out by the Australian Agricultural Company, at their Sea Pit new winning, from whence they anticipate raising large quantities of coal from the yard, 2 feet, and Borehole coal-seams in 1889 and subsequent years. A shaft, called the Sea Pit, 15 feet in diameter, adjacent to the old F Pit and Darby-street, Newcastle, has been sunk through the last-mentioned coal. The depth from the floor of the heapstead to the top of the Borehole seam is 266 feet 6 inches, and the thickness of the seam is 16 feet 6 inches. Below this seam in the shaft a 30-foot sump has been sunk, thus making the total depth of the shaft 313 feet. The depth of the brick walling from the floor of heapstead is 48 feet 7 inches, and it is 2 feet in thickness and built in cement. The shaft is fitted up with iron slides, and steel shoes are placed on the outer side of each cage to work on those slides. A winding engine has been fitted up on the surface of 158 indicated horse-power. It is also fitted with over-winding gear and a powerful steam-brake. There is also an automatic gearing placed at the top of the shaft for working the steam-brake, should the cages be lifted above their normal working point. This automatic contrivance not only puts on the steam-brake, but it also shuts off the steam from the cylinders of the engine, and relieves them at the same time of all internal pressure. The above three objects—viz., putting on steam-brake, shutting off steam from cylinders, and relieving cylinders of internal pressure—are accomplished in one simultaneous movement. A good substantial brick building has been erected over this engine. There have been seven egg-end boilers, 30 feet x 6 feet, fitted up, and they have been roofed over in a substantial manner.

The

The old F Pit has been opened out to 15 feet diameter, and it has been sunk to the floor of the seam mentioned in the above-named shaft; and 49 feet of brick and cement walling, 18 inches thick, has been built in this shaft. A "Schiele" patent ventilating fan, 13 feet 6 inches in diameter, will be erected at this F Pit. The Company have the plans in hand for the foundations, and the work will be proceeded with at an early date. After the fan and connections have been fitted up they will commence to erect an engine of 150 horse-power for hauling coal to the bottom of the main shaft. It is also their intention to put in a slope drift from the surface, near to Darby-street, to the underground workings, at a gradient of 6 inches to the yard; and this will be used as a travelling road for the men to enter and leave their work.

SECTION of Hetton Seam, and description of Mine.

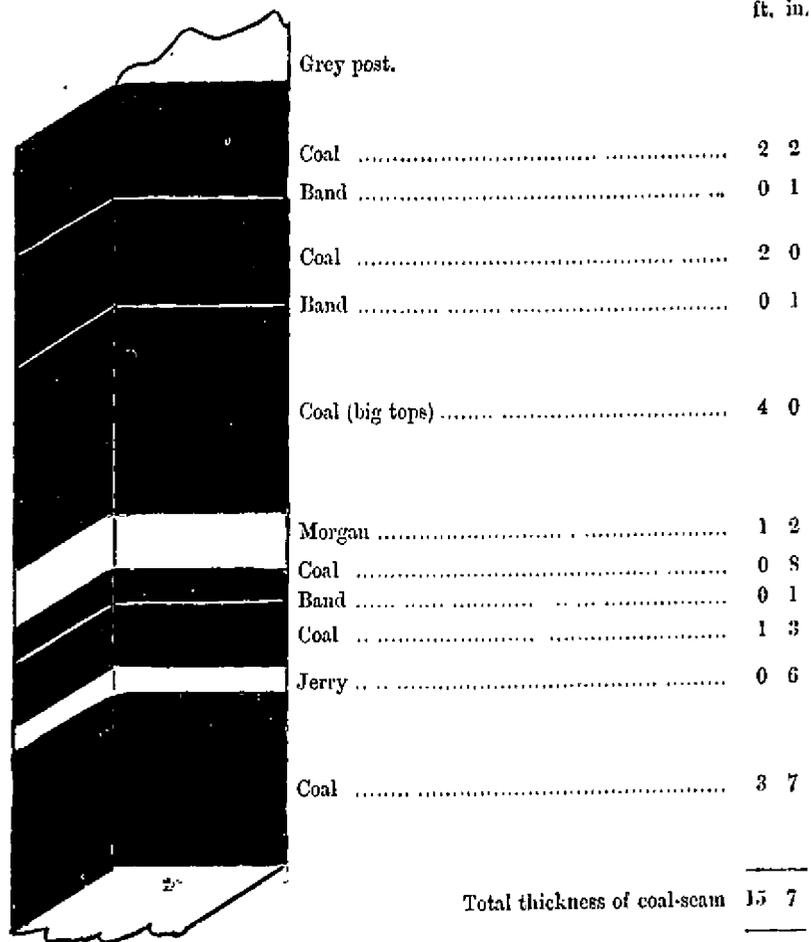


The above is an account of the strata and Borehole coal-seam sunk through by the Hetton Coal Company, at Bullock Island, adjacent to the wharf and steamer cranes fronting the Newcastle Harbour. The Borehole coal-seam was sunk through at a depth of 237 feet from the surface, by a shaft 15 ft. 10 in. in diameter, which is lined with cast-iron tubing for a depth of 180 ft. from the surface. The sinking commenced 27 November, 1885, and was completed 19 March, 1887.

The coal is of excellent quality, suitable for house-fire, steam, gas, blacksmith, and coking purposes.

A compound winding engine with two 26-inch cylinders and a 54-inch stroke, three boilers 6 ft. in diameter and 34 ft. long, Tangye pumps with an air compressor to work them, instead of steam, a substantial head-gear, and three screens, &c., have been erected, and the Company anticipate raising large quantities of coal next year (1888).

SECTION of Ferndale Coal-seam, and description of Mine.



This is a section of the Borehole coal-seam sunk through by the Ferndale Coal Company, at Wickham, adjacent to the Bullock Island Government Railway, and distant about 1 mile from the wharf and steam cranes fronting the Newcastle Harbour.

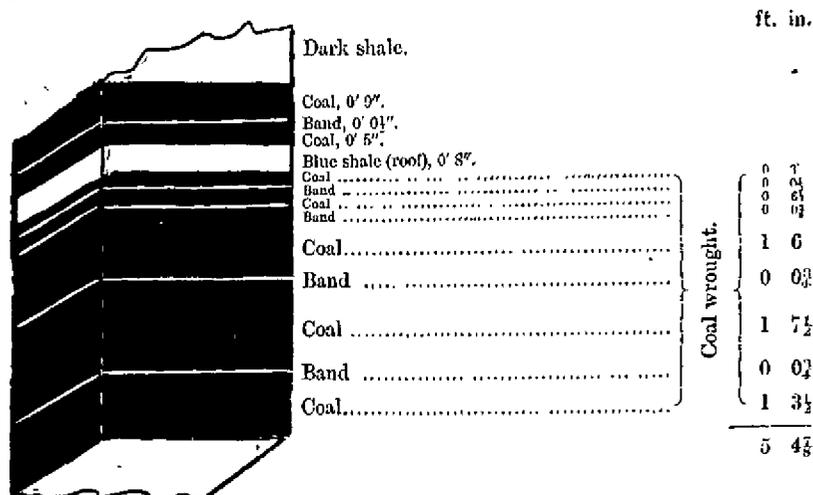
The Borehole coal-seam has been sunk through at a depth of 162 feet from the surface by a winding shaft 12 feet and an air-shaft 9 feet in diameter, lined with cast-iron tubing. The coal is of excellent quality—suitable for house-fire, steam, gas, blacksmith, and coking purposes.

A compound winding engine with two 20-inch cylinders, a 20-inch cylinder haulage engine, substantial head-gears and screens, &c., have been erected, and the Company anticipate raising large quantities of coal next year (1888).

*Young Wallsend Colliery.*

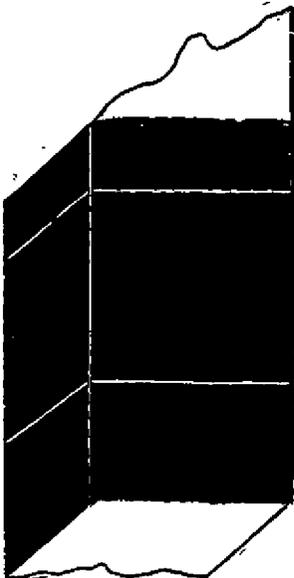
This is a new Company which has been formed and is being opened out by Messrs. Bonarius and others to work the Borehole coal-seam, from under land in the parish of Teralba, county of Northumberland, which colliery, when connected by about 2½ miles of railway to near the Cockle Creek Railway Station, will be between 9 and 10 miles distant from the Newcastle Harbour.

In December last a shaft 10 feet in diameter was in course of sinking to the Borehole coal-seam, and a pair of coupled winding engines, boiler, &c., had been erected, and material was being drawn from the shaft thereby.



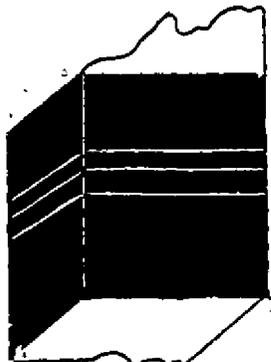
This is a section of the Borehole coal-seam—suitable for house-fire, steam, gas, blacksmith, and coking purposes—taken by Mr. Inspector Dixon, which the West Wallsend Coal Company have sunk through by a winding shaft 15 ft. in diameter and 492 ft. in depth, and by a furnace shaft 10 ft. in diameter

diameter and 492 ft. deep, situated in the parish of Teralba, county of Northumberland. The colliery will be 14 miles from the Newcastle Harbour when their branch line of about 5 miles in length has been constructed to the Government Railway, near the Teralba Station. Two coupled 25-inch cylinder winding engines, a conical drum 10 to 12 feet in diameter, four boilers 5 ft. 6 in. by 33 ft., and an iron head-gear, &c., have been erected, and when the railway line now in course of construction is completed it is intended to ship coal at Newcastle.

GREAT NORTHERN.		ft. in.
	Coarse conglomerate and pudding-stone.....	96 0
	Coal and bands .....	12 0
	Coal .....	1 3
	Band .....	0 0½
	Coal .....	3 10
	Band .....	0 0½
	Coal .....	2 6
	Chitter.	
	Thickness of coal worked.....	7 8

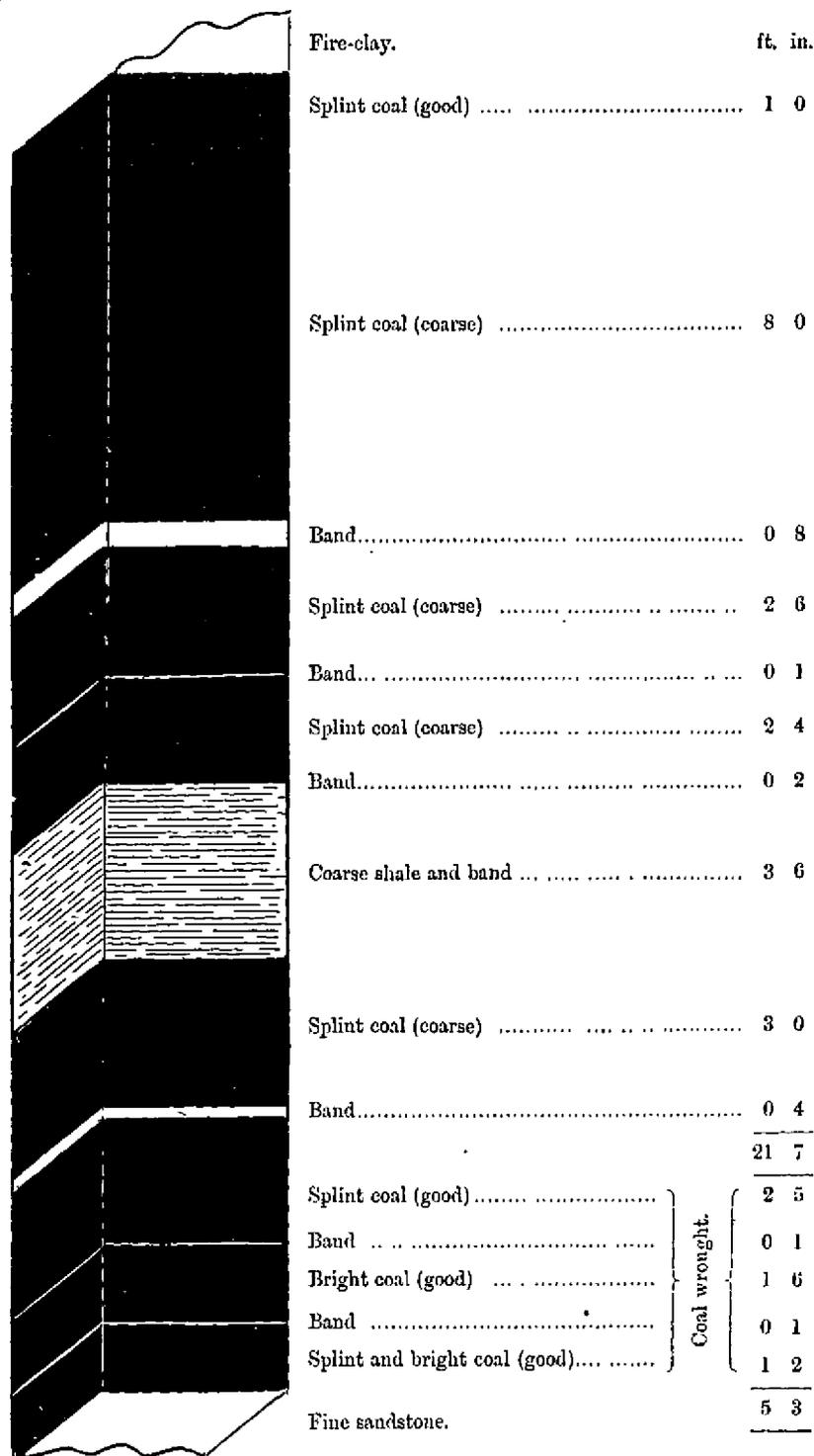
The above is an account of the strata and uppermost or No. 1 coal-seam (suitable for house-fire, steam, blacksmith, and coking purposes) sunk through by the Great Northern Coal Company in an air-shaft 9 feet in diameter and 130 feet deep, which is connected with an adit 10 feet wide, 7 feet high, and 450 yards in length. The mine is situated at Teralba, distant 12 miles from the Newcastle Harbour, where a branch line 30 chains in length connects it with the Homebush and Waratah Railway. A temporary haulage engine, with two 9-inch cylinders, is placed near the tunnel mouth, and is supplied with steam from a 15 horse-power vertical boiler and a Tangye pump. Three screens, engine-bank, &c., have been erected, and a "small coal-hopper," to hold 1,000 tons, is in course of construction. Also ten coke-ovens, patented by Coppee, Evence, & Co., each 15 ft. long, 7 ft. high, and 2 ft. wide, are in course of erection. They are fired from underneath the heated gases, and flame through flues on each side of oven, over the crown, and from thence into main flue. There are apertures left in sides of ovens to allow of the coal-gases getting away, and becoming ignited they assist the furnaces. The main principle is that the coal is not fired, but retorted similar to a gas works retort. The charge is supposed not to take longer than fifty hours. If the ten ovens turn out a payable percentage of coke, it is intended to erect forty additional ones.

#### NORTHUMBERLAND Coal and Land Co.'s Section and description of Mine.

NORTHUMBERLAND Coal and Land Co.'s Section and description of Mine.		ft. in.
	Black shale.	
	Hard splint coal.....	0 8½
	Coal .....	0 10½
	Band .....	0 0½
	Coal .....	0 3
	Band .....	0 1½
	Coal .....	0 4
	Band .....	0 0½
	Coal .....	2 1
	Total thickness of coal worked .....	4 6¼

The above section represents a coal-seam identical with the No. 2 opened out and abandoned at the Great Northern Coal Company's, which the Northumberland Coal Company have driven an adit into and are working for the supply of fuel to their engine-fires, the blacksmith, and others. Two shafts, 17 feet in diameter, called the Bryant and Trummer Pits, are in course of sinking to the Borehole coal-seam (as yet unproved), and the pits and pit-top are lighted by the electric light, the appliances for which have cost the Company about £400. This is the first colliery in New South Wales that has used the electric light for sinking and other purposes.

A Schiele blowing-pan, 5 feet 6 inches in diameter, with canvas pipes attached thereto, is the means used for ventilating the sinking shafts; a pair of 30-inch cylinder winding engines, four boilers, and iron head-gears, manufactured in Great Britain, are at the mine ready for erection, and half a mile of railway is in course of construction from the pits to the Government railway line. Mr. Crawford, the colliery manager, is making rapid progress with the sinking of the shafts, and anticipates winning the Borehole coal-seam about the middle of next year (1888). This new colliery is situated in the parish of Awaba, county of Northumberland, and is about 11½ miles from the Newcastle Harbour.



The above is a section, taken by Mr. Inspector Rowan, of the coal-seam recently opened out by Messrs. Cox, adjacent to the Mudgee and Sydney Railway, and about 7 miles north of Rylstone, in the county of Phillip. The lower portion, over 5 feet in thickness, is the workable part of the coal-seam, which Mr. Rowan says is a good marketable coal. On my next visit to the Western District I purpose going over this new mine.

Copy of letter sent to the Inspectors of Collieries re stoppings referred to in Royal Commission's Report.

Sir,  
 As I wish to be informed of the present state and kind of all stoppings on intake air-ways and travelling roads, and especially of those adjacent to old workings, or goaves likely to contain dangerous accumulation of gases, I beg to request that you will furnish such information in your next report on the state and condition of the different mines.

Department of Mines, 9 August, 1887.

I have, &c.,  
**JOHN MACKENZIE,**  
 Examiner of Coal-fields.

## EXTRACTS from Mr. Inspector Dixon's Reports.

*Newcastle Coal Company's Mine.*—The stoppings in this colliery are built of jerry-stone, and with two walls. The outside wall is set in mortar, and the inside wall is dry. The total thickness of each stopping is about 4 feet in the bottom and about 2 feet 6 inches at the top. The stone is very strong, and the stoppings appear to be most substantial.

*Stockton Colliery, September 7th.*—There are no permanent brick stoppings in this colliery yet. The present stoppings are refuse stone and dirt. The manager informed me that he intended to have the stoppings built of brick, set in mortar.

*Co-operative Colliery, September 9th.*—There are very few brick stoppings in this colliery, and for the most part the stoppings are built with props and slabs, pointed with loam on the outside, and packed with dirt several feet in thickness on the inside, except in stenton, where both sides are pointed and kept clear of dirt.

*Bullock Island, September 9th.*—The stoppings in this colliery are faced with morgan stone, and packed up with dirt to the thickness of about 4 feet.

*A.A. Company's Mine, September 10th.*—The ordinary stoppings in this colliery are of single brick, set in mortar, and packed behind with dirt; others of 9-inch brickwork, set in mortar, with dirt behind; others of stone-work, set in mortar, and packed behind with about 6 feet of dirt.

*Burwood Colliery, September 24th.*—The stoppings in this colliery are of 9-inch brickwork, set in mortar, and backed up with about 6 feet of dirt.

## EXTRACTS from Mr. Inspector Bates' Reports, 1887.

*Wallsend Colliery.*—The air-stoppings in the main intake roads are built of 9-inch brickwork; other stoppings of 4½-inch brickwork, and a few of timber, backed up with debris; the latter are 6 feet in thickness.

*Greta Colliery.*—The air-stoppings are built of debris, usually 6 feet thick; some of the cut-throughs are stowed from end to end.

*Hillside Colliery.*—The air-stoppings are built of debris, and are about 4 feet in thickness.

*East Waratah.*—The air-stoppings are built of debris, 3 to 4 feet thick.

*Burnley's Colliery—Clay Cross.*—The air-stoppings are mostly built of debris, and are 3 or 4 feet in thickness, backed up with small coal; there are a few canvas stoppings also.

*New Lambton.*—The air-stoppings are built of debris, 4 to 5 feet thick.

*Brown's Colliery.*—The air-stoppings are built of brick, 4½ inches thick, with a rib in the centre, 4½ inches, to strengthen them.

*New Lambton, Opit.*—The air-stoppings are built of debris, from 4 to 5 feet thick; some of the cut-throughs are stowed from end to end.

*Lambton Colliery.*—The air-stoppings are built of brick, 4½ inches thick.

*Anvil Creek Colliery.*—The air-stoppings are constructed of a wooden framework, with canvas stretched over it.

*New Park Colliery.*—The air-stoppings are built of debris, and are about 6 feet in thickness.

*Ellesmere Colliery.*—The air-stoppings are built of debris, and are about 6 feet in thickness.

## EXTRACTS from Mr. Inspector Rowan's Reports.

*Hermitage Colliery.*—All the intake air-stoppings on the main heading are built with slack and band \* \* \* The stoppings are in good condition.

*Lithgow Valley Colliery.*—All the intake air-stoppings are built with brick and lime on both sides of the main heading. \* \* \* These stoppings are thorough and substantial.

*Esk Bank.*—All the intake air-stoppings on the main heading are built with slack, timber, and band. \* \* \* The stoppings are in fair condition.

*Vale of Clwydd.*—The intake air-stoppings on the engine plane are built with slack, stone, and timber. \* \* \* The stoppings are in good condition.

*Zigzag.*—The intake air-stoppings are built with slack and band. \* \* \* Stoppings in fair condition.

*Esk Bank Old Tunnel.*—The stoppings on the main air-course are built with stone and slack. \* \* \* The stoppings in good condition.

*Main Camp Colliery.*—All the stoppings on the main intake air-way are built with slack and stone. \* \* \* The stoppings in good order.

*New South Wales Shale-mine (Hartley Vale)—No. 3 Tunnel.*—The stoppings on the main intake air-ways are built with stone and clay. \* \* \* The stoppings are in good order.

*Retort Coal-mine (Hartley Vale).*—The intake air-stoppings are built with slack and stone, the same being in good order.

*Katoomba Colliery.*—The main intake air-way stoppings are built with slack and stone, the same being in fair condition.

*Australian Kerosene Oil and Mining Co. (Joadja).*—This colliery is wrought on the long-wall system, and has pack-walls about 9 feet thick on each side of the main intake air-way; so that these pack-walls form the air-course, and when the "top" weight settles down they are almost solid, leaving little or no waste behind the working faces.

*Mittagong Colliery.*—There are no waste workings in this colliery, only two headings driven into the mountain.

*Great Southern Coal-mining Co. (late Berrima).*—The stoppings in the main intake air-way are built with slack and band, the same being in good condition.

## Leases to mine under the ocean or tidal waters.

The Examiner of Coal-fields may be asked to say whether the conditions as to 6-yard bords and 6-yard pillars should be inserted in all leases under the ocean or tidal waters, and whether any general rule should be laid down in regard to the thickness of coal to be taken out or to be left in overhead.—H.W., 3/1/87. Examiner of Coal-fields, B.C., 5/1/87.

My recommendations for special conditions to be inserted in ocean and tidal water leaseholds in the county of Northumberland are forwarded herewith.—J.M., 7/1/88. Under Secretary for Mines, B.C., 7/1/88.

*Tidal Leaseholds.*

Sir,

Coal-fields Office, Newcastle, 7 January, 1888.

Referring to your blank-cover communication of the 5th instant (234), I beg to recommend that in tidal leaseholds a minimum thickness of 6-yard pillars and maximum width of 6-yard bords, or any other excavations or mine works, should be insisted on, leaving the management free to exercise their discretion in altering these (by increasing the maximum thickness or decreasing the minimum width), so as to increase the general safety; and also,—

2. That the 6-yard pillars be left unwrought.
3. The thickness of coal to be wrought out not to exceed 7 feet, without the Minister's permission be obtained for working or excavating any greater thickness of the coal-seam, after it has been opened out and the character of the overlying strata proved by the lessee.
4. All headings and bords to be driven by plumb-lines.
5. All coal-workings to be accurately surveyed every three months, and the coal taken out during the previous three months to have the dates of such surveys affixed on the plan in ink, and every year's workings to be represented on the plan by some conspicuous colour.
6. The colliery plans to contain a faithful and honest record of all faults, dykes, fissures, and occurrences that are met with in the mine, and the workings delineated thereon as they are, and not as they are intended to be.
7. In one road of every pair of winning-off or leading headings, or levels, a bore to be kept going 10 feet in advance, for the purpose of foretelling the presence of any fissure, washout, open joint, fault, dyke, or otherwise; and all winning-off headings shall be driven at least 50 yards in advance of the working bords.
8. Owing to the tendency that faults, dykes, washouts, &c., possess of weakening the roof, and of permitting the passage of water through the broken material that is frequently found along their lines, or through open fissures or joints, the lessee must, on discovering a fault, washout, dyke, or fissure in a bore at the face or side of leading headings or levels, take all necessary precautions against possible danger before opening it up by the drive.
9. That the most accurate and trustworthy information be obtained by the lessees as to the thickness and character of the strata and estuary deposits overlying the coal-seam before commencing to work it.

In conclusion, I have the honor to state that the above conditions embody the Royal Commission on Collieries' recommendations for tidal water leaseholds.

I have, &amp;c.,

JOHN MACKENZIE,  
Examiner of Coal-fields.

The Under Secretary for Mines.

*Ocean Leaseholds.*

Sir,

Coal-fields Office, Newcastle, 7 January, 1888.

Referring to your blank-cover communication of the 5th instant (No. 234), I beg to recommend that in ocean leaseholds a minimum thickness of 8-yard pillars and maximum width of 6-yard bords, or any other excavations or mine works, should be insisted on, leaving the management free to exercise their discretion in altering these (by increasing the maximum thickness or decreasing the minimum width) so as to increase the general safety; and also,—

2. The 8-yard pillars to be left unwrought.
3. The thickness of coal to be wrought out not to exceed 6 feet.
4. All headings and bords to be set out and driven by plumb-lines.
5. All coal-workings to be accurately surveyed every three months, and the coal taken out, during the previous three months to have the dates of such surveys affixed on the plan in ink, and every year's workings to be represented on the plan by some conspicuous colour.
6. The colliery plans must contain a faithful and honest record of all faults, dykes, fissures, and occurrences that are met with in the mine, and the workings delineated thereon as they are, and not as they are intended to be.
7. In one road of every pair of winning-off or leading headings or levels a bore to be kept going 10 feet in advance, for the purpose of foretelling the presence of any fissure, washout, open joint, fault, dyke, or otherwise, and all winning-off headings shall be driven at least 100 yards in advance of the working bords.
8. Owing to the tendency that faults, dykes, washouts, &c., possess of weakening the roof, and of permitting the passage of water through the broken material that is frequently found along their lines, or through open fissures or joints, the lessee must, on discovering a fault, dyke, or fissure in a bore at the face or side of leading headings or levels, take all necessary precautions against possible danger before opening it up by the drive.
9. When possible, the coal under the ocean should be attacked only after a large "gap" has been made by extensive coal-workings under the mainland. This to be in addition to special and unusual facilities being provided for the escape of men by the shafts, will afford a measure of security difficult to over-estimate.

10. That the most accurate and trustworthy information be obtained by the lessees, not only of the depth and character of the sea bottom, but also of the strata overlying the coal-seam, which strata shall be bored through, and proved a minimum thickness of 30 feet, at the face of the leading headings or levels so soon as they have been driven 100 yards in advance of the working bords, and after the first borehole has been completed, other boreholes to be so put up in advance of it at the face of the headings or levels, at distances not to exceed 20 yards.

In conclusion, I have the honor to state that the above conditions embody the Royal Commission on Collieries recommendations for ocean leaseholds.

I have, &c.,

JOHN MACKENZIE,

Examiner of Coal-fields.

The Under Secretary for Mines.

P.S.—The Royal Commission on Collieries have expressed, as their opinion, that they do not see any practicable method where mining operations can, with safety, be conducted under some of the ocean leaseholds, which it may perhaps be as well to remind you of.—J.M.

The conditions recommended by the Examiner may be embodied in leases of land under the ocean or under tidal waters, as the case may be. The Examiner may be asked which leaseholds are referred to by the Commission as unsafe to work.—H.W., 10/1/88. Submitted. Approved.—F.A., 12/1/88. Examiner of Coal-fields, B.C., 17/1/88.

Stockton Ocean Lease of 680 acres (*vide* pages 58, 59, and 67 of Royal Commissioners on Collieries' Third Report) is the one referred to as impracticable to work. Referring to Frank and Garrett's leasehold of 2,516 acres (*vide* page 63) they say nothing short of boring to the actual coal-seams will afford the necessary information with accuracy required. "Hetton Lease.—That the most accurate information of the deposits overlying the coal should be ascertained at several points over this leasehold before any scheme of winning a thick coal-seam is elaborated or begun." This has not been done, although the coal-seam is being opened out and won. "Merewether's Ocean Leasehold."—That (*vide* page 67) "referring to the contemplated winning of a thick coal-seam under all tidal waters or the ocean, they desire in concluding their report on the condition of collieries adjacent to Ferndale, to summarize briefly the points, that they as practical men, connected in their various capacities with mining pursuits, believe should be observed, viz. :—'That the most accurate and trustworthy information should be obtained, not only of the depth of water and character of the sea bottom, but (in collieries mining under the Delta) of the thickness and character of the deposits that overlie the rock; some of which, such as clay, it has been seen add so materially to the security and safety of the mines. From a sincere desire to ensure safety and security to mining works, the Commission, looking to the thickness of the strata overlying the coal-seam in the case of these leaseholds (ocean), where, it is probable, no surface deposits exist, and the rock itself may form the bed of the ocean, consider that, as the workings would be extended, so to speak, toward the unknown (although it may appear arbitrary, and to some extent may restrict operations), a minimum thickness of strata should, indeed must, intervene between the top of the coal and the bed of the ocean. In the case of the undoubted proof of plastic clay overlying the rock had due consideration should be given to that circumstance. To the north of Stockton the surface deposits are, so far as proven, of so ominous a nature that, unless carefully conducted operations reveal improved conditions, the Commission do not at present see any practicable method whereby mining operations can with safety be conducted under the ocean at that part of the district.' "The Commission are fully aware that, so far as they know, no restrictions such as these indicated have been as yet considered necessary in Great Britain or her Colonies, but they are likewise unaware of coal-mining being prosecuted under similar circumstances. The peculiar conditions of the coal-fields under consideration is, in their opinion, a justification for calling attention thus early to the sources from whence danger may be apprehended. The Coal Mines Regulation Act enforces certain precautions being observed approaching suspected danger. The Commission cannot distinguish any reason why these precautionary measures should not be extended with a view to avert danger from a source novel to Colonial coal-mining, and not contemplated when the Act of 1876 was passed."—J.M., 19/1/88. Under Secretary for Mines, B.C., 19/1/88.

The attention of the owners of the collieries or lands referred to may be invited to the portions of the report referred to, and they may be invited to show that the coal-seam proposed to be worked can be worked without danger.—H.W., 20/1/88.

Submitted. Approved. Nothing further should be done towards granting the leases until all the precautions recommended by the Commission and approved by the Examiner of Coal-fields have been attended to.—F.A., 23/1/88.

ADDITIONAL extracts to those previously referred to from the Royal Commissioners on Collieries Third Report on the condition of Collieries adjacent to Ferndale :—

Mr. Jos. Wood, one of the Directors, being asked by the President of Commission, "In what way has Bullock Island Colliery been laid out?" replied, "It is worked with 6-yard bords, leaving 8-yard pillars." And at question 2500, "Has any coal been left on in the roof?" "Yes; we never touch any of the roof coal at all."

*Vide* page 31.—Instead of driving bords 8 yards wide, and having pillars only 4 yards in thickness to support the weight of the superincumbent strata, the directors of this colliery (Wickham and Bullock Island) have adopted the rule of driving bords 6 yards wide, leaving pillars 8 yards in thickness.

Page 66.—The absence of any data as to the thickness of the surface deposits in the valley, especially towards the sea-coast, is of itself sufficient reason for the Commission to discourage any attempt to work coal—certainly eastward of the sea-beach—until most reliable information in this direction has been obtained.

Lessees, before commencing to work coal under the sea, should first obtain ample and unquestionable data, in order to enable them to form opinions and arrive at conclusions, so that their mining works can be laid out in a system evolved from a knowledge of the facts and calculated to ensure safety and inspire confidence.

From their inspection of the collieries embraced in this report, and the opinions or views of the numerous witnesses examined, the Commission have already, as the condition of each colliery was considered, expressed their views on the salient points that had a distinct and specific bearing upon their condition. And, having directed the attention of the several witnesses to the prospective scene of operations of those collieries that contemplate the mining of a thick coal-seam under tidal waters or the ocean, desire, in concluding their report "on the condition of the Collieries adjacent to Ferndale," to summarize briefly the points that they, as practical men connected in their various capacities with mining pursuits believed should be observed on the part of those whose duty it will be to conduct these operations.

The workings should be laid off systematically and conducted carefully, and the width of bords and thickness of pillars strictly adhered to; and any laxity or carelessness on the part of the workmen should be instantly met by the imposition of a suitable fine, and in the case of continued negligence, by some easily obtained and summary form of punishment.

In the case of collieries working under the conditions anticipated, the coal-workings should be accurately surveyed every term, and the coal taken out during the previous term represented by some conspicuous colour, and the dates of such surveys affixed in ink. Colliery plans should be a faithful and honest record of all faults and occurrences that are met within the mine; and the workings should be delineated on them as they are not as they were intended to be. They should also have delineated on them the leading surface or topographical features, and this applies equally to ocean leaseholds and those on the mainland.

In one road of every pair of "winning off" or leading headings or levels a bore should be kept going (say) 9 feet in advance, for the purpose of foretelling the presence of any fissure, open joint, or fault, or otherwise; and in the case of workings under the ocean all winning off heading or level should be driven at least 100 yards in advance of the working bords.

The width of the bords, and the area and arrangement of pillars, while they ought in all cases to be graduated to suit circumstances, such as depth, character of roof, floor, or particular conditions overhead—in the case of collieries working under the ocean at the limited depths referred to (and without reference to the ordinary circumstances that should regulate the width and thickness or area of bords and pillars), may fairly be considered in a special light. The impossibility of calculating the conditions of the superincumbent strata, and the forces that repose in the ocean, makes it necessary, in the opinion of the Commission, to increase the ordinary margin considered sufficient for the safety of a mine. As no attempt under these circumstances could be made to work out or recover pillars, it becomes necessary to consider the coal pillars as so much mineral won, or impossible to recover for this reason. The size of pillars must be such as to afford ample support after exposure to the crumbling effect of the air over many years.

The Commission are, therefore, of opinion that the thickness of pillars should be materially increased beyond that generally considered necessary in the district. The strength of these pillars may be increased by a judicious arrangement of cut-throughs and roads, so as to have as few roads intersecting or branching from a main road at one place as possible.

Zig-zagging pillars, with respect to cut-throughs, may be advisable. The width of bords in the district is 8 yards. In the case of collieries working under the above conditions this width would, in the opinion of the Commission, court disaster. The width of bords should be materially reduced, and the greatest care taken to secure the roof with timber. In these general opinions the Commission are supported by almost every witness who submitted himself for examination. While many of these gentlemen condescended upon specific widths of bords and thickness of pillars, the Commission prefer, in the absence of particular and detailed information, to enunciate general opinion only, and to repeat that while these should be graduated or fixed by a knowledge of all the circumstances, yet it might be advisable to state that in case of ocean leaseholds a minimum thickness of (say) 8 yards for pillars, or maximum width of 6 yards for bords, might be insisted upon, leaving the management free to exercise their discretion in altering these (by increasing the maximum thickness, or decreasing the minimum width), so as to increase the general safety.

Knowing the tendency that "faults" possess of weakening the roof, and of permitting the passage of water through the broken material that is frequently found along their line, or through open joints in their substance, it would be well in discovering a fault or fissure in a bore to take precautions against possible danger from this source before opening it up by the drive.

In the case of some of these ocean leaseholds it may be impossible; but when possible, the coal underlying the ocean should be attacked only after a large "goaf" has been made by extensive coal workings under the main land. This, in addition to special and unusual facilities being provided for the escape of men by the shafts, would afford a measure of security difficult to over-estimate.

In conclusion, I have only to add that there were 72 collieries under inspection, and that notices have been received of 8 new mines having been opened out, against 66 collieries under inspection in the preceding year, and 11 opening out; and that the year's returns show an increase in the Northern District of 65,676 tons of round and small coal raised, and £12,165 in value; in the Southern an increase of 5,738 tons, and £20,690 in value; and in the Western District of 21,908 tons, and £10,420 in value.

I have, &c.,

JOHN MACKENZIE, F.G.S.,  
Examiner of Coal-fields.

The Half-yearly Report of the Inspector of Collieries on the state of the various Collieries in the Southern and Western Districts of the Colony of New South Wales, and Accidents therein for the half-year ending 31st December, 1887.

The Examiner of Coal-fields,—

Sir,

Wollongong, 7 February, 1888.

In compliance with the requirements of clause 26 in the "Coal Mines Regulation Act, 1876," I have the honor to transmit to you this my six-monthly report on the state of the various collieries for the half-year ending 31st December, 1887.

The total number of collieries under inspection in the Southern and Western Districts during the last six months is thirty. Five new collieries have been added to the number during the last six months, viz., Rawden Colliery (near Rylstone), the Vale Colliery (near Eskbank), Oakley Park Colliery (near Eskbank), Biggar's Prospecting mines (near Dapto), making in all thirty collieries.

Western District .....	14 coal-mines and 2 shale-mines.
Berrima " " .....	2 " 1 shale-mine.
Southern " " .....	11 " "
	—
	27                      3 = 30 collieries.

PRESENT STATE OF MINES.

*Osborne Wallsend Colliery.*—About 110 men and horses employed underground, and supplied with 32,000 cubic feet of air per minute in three separate currents. The ventilation and number of men are about equally divided. During the last six months the colliery has been laid out so as to work the bords on the "double-stall" system. This system, if properly carried out with pack walls in the centre of the bords, is a decided advantage as regards the ventilation at the working faces, as the current passes straight up to the face of each bord. The Act in all respects complied with.

*Mount Kembla Colliery.*—About 170 men and horses are employed underground, with a total of 40,000 cubic feet of air per minute in four separate splits, each split supplied with a fresh current of air from the main intake, and not more men on each split than the Act allows. During the last six months the return air-ways have been shortened by erecting overcasts, which gives the return air a more direct course to the furnace. A new air shaft is being sunk 12 feet in diameter. About 11 chains from the face of the main headings the bottom of the shaft will reach the workings at a depth of 320 feet. The Act in all respects complied with.

*Mount Pleasant Colliery.*—About 96 men and horses employed underground. The total quantity of air introduced into the mine is about 27,000 cubic feet per minute in two separate splits. The ventilation is good throughout the colliery, and the bords, as a rule, are exceptionally well timbered. The Act in all respects complied with.

*North Illawarra Colliery (No. 2 Tunnel).*—About 140 men and horses employed underground. The total ventilating current introduced into the mine is about 30,000 cubic feet of air per minute, the same being divided into four separate splits. None of the splits are wrought with more men than is required by the Act. Each split of air is regulated by an overcast, doing away with doors on the main intake. A new air-shaft has been sunk about 100 yards west from the entrance of the tunnel. The shaft is 10 feet in diameter and 93 feet deep. The workings and shaft will be connected in about two months. The Act in all respects complied with.

*North Illawarra (No. 1 Tunnel).*—Four men employed prospecting, testing the thickness and quality of coal. The main headings are driven in a distance of 33 chains. The coal at the face of the heading measures about 3 feet 6 inches.

*Broker's Nose Colliery.*—Work has been suspended for the last six months.

*Coal Cliff Colliery.*—About 77 men and horses are employed underground, and supplied with 16,000 cubic feet of air per minute in two separate splits. During the last six months a new return air-way has been made on the north-west side of the tunnel, and the return on the south side has been shortened, which has greatly improved the ventilation throughout the colliery. The Act in all respects complied with.

*South Bulli Colliery (Bellamba).*—About 40 men are employed and served with 10,000 cubic feet of air per minute in one current. This current is well sustained through the colliery. The Act in other respects complied with.

*South Cumberland Sinking Shaft.*—The shaft is now sunk to a depth of 950 feet. The manager (Mr. Harper) intends to reach the seam at a depth of 1,050 feet. Three shifts of sinkers are employed, eight sinkers on each shift. The Act in all respects complied with.

*Bulli Colliery (Hillend Division).*—About 57 men, 4 wheelers, and 4 horses employed and served with 26,000 cubic feet of air per minute in two separate splits. The ventilation and number of men are about equally divided. The miners are working with locked safety lamps. All the narrow headings are kept bratticed up to within 3 yards of the working face. The ventilating currents are well sustained throughout the workings.

*Western District (Bulli).*—About 17 men, 2 wheelers, and 2 horses employed and served with 7,000 cubic feet of air per minute. The miners in this district are also working with locked safety lamps. The Act in all respects complied with.

*Four-feet Seam (Bulli).*—About 18 men, 2 boys, and 2 horses employed and served with 10,000 cubic feet of air in one current. The Act in all respects complied with.

*P. Lahiff, mineral selection of 38 acres, near Mount Kembla Colliery.*—A heading is broke away from the side of the mountain, 10 ft. wide, 6½ ft. high. The seam of coal is the top seam, and measures 3 ft. 7 in. at the heading face.

*Biggar's Prospecting Mines* are situated about 11 miles south-west from Wollongong. Three tunnels have been opened out on the face of the mountain. The No. 1 heading is driven in a distance of 40 yards. The coal at the face measures 27 in.; this seam is known as the top seam in the Illawarra district. No. 2 tunnel is about 20 ft. perpendicular under the top seam, and is driven in a distance of 40 yards. The coal at the face measures 27 in. high. No.

No. 3 Tunnel is 60 ft. under the second seam, and is driven in a distance of 10 yards into what is known as the 17 ft. seam, or "dirty seam." The coal at the face measures 7 ft. high, and is very soft and sooty, the upper portion of the seam being a series of bands and layers of coal.

*Berrima District.*

*Australian Kerosene Oil Company's Shale Mines, Joadja.*—No. 1 Tunnel:—24 men, 2 wheelers, and 2 horses employed, and served with 3,000 cubic feet of air per minute. No. 2 Tunnel:—20 men, 3 wheelers, and 1 horse, and supplied with 2,600 cubic feet of air per minute. No. 3 Tunnel:—7 men employed, and served with 2,000 cubic feet of air per minute.

The above tunnels are wrought on the Longwall system. The ventilation is brought in a straight line along the working faces. The colliery is in a healthy condition throughout. The Act in all respects complied with.

*Great Southern Coal-mining Company* (late Berrima).—About 8 men are employed, and served with 8,400 cubic feet of air per minute in one current. The Act in other respects complied with.

*Mittagong Coal-mining Company.*—Underground operations suspended until the surface tram-line is completed.

*Western District.*

*Lithgow Valley Colliery.*—About 60 men, 5 wheelers, and 5 horses are employed, and served with 23,000 cubic feet of air per minute in three separate splits; each current of air is brought well round to where the men are working.

The main intake air-course stoppings have been built with brick and lime, which is a decided improvement upon the former mode of building with slack. No complaint, and the Act in all respects complied with.

*Eskbank Pit.*—About 70 men and horses employed underground, and supplied with 20,000 cubic feet of air per minute in two separate splits. The intake and return air-ways and travelling road in good order. The Act in all respects carried out.

*Eskbank Old Tunnel.*—6 men employed, and served with 5,000 cubic feet of air per minute. The intake and return air-ways in good order. The Act in other respects complied with.

*Main Camp (Hartley Vale).*—12 men, 2 wheelers, and 2 horses employed underground. The total amount of ventilation introduced into the mine is 23,000 cubic feet per minute. The bords are well timbered. The Act in all respects complied with.

*Retort Coal-mine (Hartley Vale).*—1 men employed, and served with 4,000 cubic feet of air per minute. The Act in other respects complied with.

*N.W.S. Shale Mines (Hartley Vale).*—No. 3 Tunnel:—50 men and horses employed underground, and supplied with 13,500 cubic feet of air per minute in one current. The ventilating current is well sustained throughout the mine. The working faces and travelling road in good order.

*Hartley Old Tunnel.*—10 men employed taking out pillars, and served with 2,000 cubic feet of air per minute. The Act in all respects complied with.

*Katoomba Colliery.*—About 56 men employed, and supplied with 7,000 cubic feet of air per minute. The bords are well timbered. The intake and return air-ways in good order. The Act in other respects complied with.

*Rawden Colliery* (near Rylstone).—This is a new colliery, which has been opened up during the last six months. 8 men are employed underground, and served with 3,000 cubic feet of air per minute. The colliery is opened out on the same system as the others in the Western District, viz., the pillars and bord system. 2 men are driving the second way to the day, which will come out on the mountain side. Preparations are being made at the bottom of the air-shaft to build a furnace. The Act in all respects complied with.

*Carlo's Gap Colliery.*—2 men are employed and served with 1,000 cubic feet of air per minute. The Act in all respects complied with.

*Zig-Zag Colliery.*—About 36 men, 3 wheelers, and 3 horses employed, and supplied with 15,000 cubic feet of air per minute. The intake and return air-ways in good order. No complaint; the Act in all respects complied with.

*The Vale Colliery.*—This is a new colliery, which is being laid off at the bottom of the Zig-Zag. The shaft is situated north-east 60 chains from the Vale of Clwydd Colliery, and is sunk to a depth of 80 ft., 12 ft. by 7 ft. Mr. Turnbull, manager, intends to reach the seam of coal at a depth of about 200 feet.

*Hermitage Colliery.*—6 men are employed, and served with 13,960 cubic feet per minute. During the last six months all the air-stoppings on the main intake have been built with brick and lime, and a new ventilating furnace has been built. The Act in all respects complied with.

*Oakey Park Sinking Shaft.*—The shaft is being sunk at the bottom of the Great Zig-Zag, Western line, about 1 mile north-east from the Zig-Zag Colliery.

The shaft is 11 feet in diameter, and sunk to a depth of 128 feet. Three shifts of sinkers are employed in the twenty-four hours. The shaft is ventilated by means of a steam-jet. The Act in all respects, complied with.

*Cooverwull Mine.*—One man employed. There is a good current of air going through the tunnel. The Act is complied with.

ACCIDENTS IN MINES.

During the last six months ending 31st December, 1887, I have investigated four separate accidents included in this list.

The first non-fatal accident happened to a miner named Wm. Davidson, at North Illawarra Colliery on 16th August, who was slightly burned on the shoulder by a small quantity of firedamp in the roof on the main heading.

The second non-fatal accident happened at the Australian Kerosene Shale Mines (Joadja), on 5th September, to a miner named James Charles. The spine of his back was severely injured by a fall of stone from the roof.

The

The third non-fatal accident happened at North Illawarra Jetty on 22nd September to a carpenter named G. Pinch, his left arm and leg broken by falling over the jetty into the water, a distance of 22 feet.

The fatal accident happened to a miner named Allan M'Intyre on 3rd September at Mount Kembla Colliery, by a fall of stone from the roof; from the effects of the injuries received he died while the men were carrying him home. An inquest was held at Mount Kembla Colliery concerning the death of deceased. I attended the inquest and fully agree with the verdict of accidental death returned by the Jury.

I have also examined a few other accidents which were not of a serious nature, and are not included in this list.

The usual tabulated list of accidents is hereto appended.

I have, &c.,  
JAMES ROWAN,  
Inspector of Collieries.

TABULATED List of fatal and non-fatal Accidents in the Southern and Western Districts of New South Wales Collieries, investigated by the Inspector of Collieries during the half-year ending 31 December, 1887.

No.	Date.	Colliery.	Sufferer.	Occupation.	Remarks, &c., on the nature and extent of Injuries.	Burned on the shoulders by fire-damp.	Brained by a fall of stone.	Leg and arm broken falling from the jetty.	Fatal injuries by a stone falling from the roof.	Fatal.	Non-fatal.
1	Aug. 16	North Illawarra...	William Davidson...	Miner	Burned on the shoulders by fire-damp.....	1	..	..	..	..	..
2	Sept. 6	Australian Shale Mines (Joadja).	James Charles .....	"	Back injured by a fall of stone from the roof....	..	1	..	..	..	..
3	" 22	North Illawarra...	G. Pinch .....	Carpenter	Leg and arm broken by falling from the jetty ..	..	..	1	..	..	..
4	" 3	Mount Kembla ..	Allan M'Intyre .....	Miner	Fatal injuries by a stone falling from the roof ..	..	..	..	1	..	..
Totals.....						1	2	3	4	1	1

Non-fatal, 3; fatal, 1.

The Half-yearly Report of the Inspectors of Collieries for the Northern District in New South Wales on the present state of the Collieries inspected by the said Inspectors during the six months ending 31st December, 1887.

The Examiner of Coal-fields, Sydney,—  
Sir,

Newcastle, 20 January, 1888.

Pursuant to the provisions of clause 26 in the "Coal Mines Regulation Act 1876," we have the honor to transmit to you this our six-monthly report on the state of the various collieries in the Northern District for the half-year ending 31st December, 1887.

The total number of collieries under inspection in the Northern District during the term embraced in this report is forty-two.

Teralba and Lymington have not been worked during the term, and Dunkirk Colliery has been abandoned.

PRESENT STATE OF MINES.

*A. A. Co.'s Colliery.*—About 700 men, &c., are employed in this colliery on the day shift, and supplied with about 100,000 cubic feet of air per minute. The face workings are divided into separate and distinct districts, and in none of the districts are there more men than the Act allows. The two new pits known as the sea-pits have both been sunk to the main seam of coal. Splendid winding machinery has been erected at the surface in connection with the main shaft, and the work of winning out has been commenced in the seam. The Act is complied with.

*Wallsend Co.'s Colliery.*—About 840 men, &c., are employed in this colliery during the day, and the total quantity of air introduced into the mine per minute is about 170,000 cubic feet. The number of districts and the number of men in each district are in accordance with the Act. The current of air, however, from the new Jubilee shaft, which supplies two districts of men, &c., is passed along a heading where inflammable gas is giving off and mixing with the intake current of air. The manager has been notified of this dangerous practice under the 25th section of the "Coal Mines Regulation Act of 1876."

Apart from this, the provisions of the Act are carried out.

*Newcastle Coal Co.'s Colliery.*—About 400 men, &c., are employed in this mine during the day time. The total quantity of air introduced into the mine per minute is about 80,000 cubic feet. The number of districts and the number of men in each district are in keeping with the provisions of the Act. The Act is complied with in other respects also.

*Burwood Colliery.*—About 270 men, &c., are employed in this mine during the day time, and the total quantity of air introduced into the mine per minute is about 80,000 cubic feet. The ventilation in this colliery has been more than doubled during the year, owing to increased furnace power. The face workings are divided into separate and distinct districts, according to the Act, and none of the districts are at present overcrowded. In other respects also the Act is complied with.

*Lambton Colliery.*—About 440 men, &c., are employed in this mine during the day, and about 80,000 cubic feet of air per minute is available for the several districts. The number of districts and the number of men in each district are in keeping with the provisions of the Act. The Act is complied with in other respects also.

*Stockton.*—About 240 men, &c., are employed in this mine during the day, and supplied with about 60,000 cubic feet of air per minute. The face workings are divided into separate and distinct districts, but at the present time one of the districts is a little overcrowded. Arrangements are, however, being made to remedy this defect as speedily as possible. The Act is complied with in other respects.

*Wickham and Bullock Island Colliery.*—About 130 men, &c., are employed in this mine during the day, and supplied with about 15,000 cubic feet of air per minute. The workings are divided into two separate and distinct districts. Another shaft in connection with this colliery has been commenced during the six months. The work is being vigorously proceeded with, and when the shaft is sunk to the seam and a communication got with the present workings, it will doubtless prove of great benefit to the whole colliery. The Act is complied with in other respects also.

Co-operative

*Co-operative Colliery.*—About 360 men, &c., are employed in this mine during the day. The quantity of air now introduced into the mine per minute is about 80,000 cubic feet. During the last six months a large ventilating furnace has been completed, and is now in good working order. The beneficial results of this addition to the ventilating power have been felt throughout the whole of the workings, and the ventilation of this colliery at the present time is good. The districts and number of men in each district are in accordance with the provisions of the Act. The Act is also complied with in other matters.

*Brown's Colliery.*—There are about 220 men, &c., employed in this colliery on both shifts. The total quantity of air introduced into the mine is about 54,000 cubic feet per minute. The face districts are according to the Act. In the little tunnel there are about twenty-four men, &c., who are supplied with about 6,000 cubic feet of air per minute in one current. The Act in other respects is also complied with.

*Duckenfield Colliery.*—About 200 men, &c., are employed in this mine during the day time. The total quantity of air per minute introduced into the mine is about 45,000 cubic feet. The separate districts are in accordance with the provisions of the Act, and the Act in other respects also is complied with.

*Maryville Colliery.*—This colliery was under inspection during a portion of the six months; but for some months past all operations have been suspended. In the matter of the second opening to the day or surface the Act has not yet been complied with.

*Ferndale Colliery.*—About fifty men, &c., are now employed in this mine, and supplied with about 13,000 cubic feet of air per minute in one current. A second opening to the day or surface has been completed, and the Act is complied with in every respect.

*Tighe's Hill Colliery.*—This colliery was under inspection during a portion of the six months, but is now finally abandoned.

*Pride of Ferndale.*—Only about four men employed in this mine. The ventilation is good, and the Act complied with in other respects.

*South Waratah Colliery.*—About seventy men, &c., are employed in this mine on the day shift, and supplied with about 12,000 cubic feet of air per minute in one current. During the six months a communication has been got between the Charles and Flaggy Creek pits, a distance of about 96 chains. This work was splendidly performed from both pits, and reflects the highest credit on the colliery officials and workmen. Headings are being opened out as rapidly as possible, and in all probability this will soon become a large colliery. The Act is complied with in every respect.

*Old Waratah.*—Only about eight men, &c., now employed in the three tunnels. The ventilation is good, and the Act complied with in every respect.

*Hill End Colliery.*—Only a few men occasionally employed. Act complied with.

*Goose Colliery.*—About eight men, &c., employed in this mine. The ventilation is good, and the Act complied with.

*New Duckenfield.*—About thirty men, &c., are employed in the two mines in connection with this colliery. The ventilation is good, and the requirements of the Act carried out in every respect.

*New Lambton B Pit.*—Only about six men, &c., are now employed in this mine, being engaged in working pillars. The ventilation is good, and the Act complied with in other respects.

*New Lambton C Pit.*—About seventy men, &c., are employed in this mine on one shift, and are supplied with about 21,000 cubic feet of air per minute, in three separate currents. In the adit in connection with this colliery about thirty-eight men, &c., are employed, and supplied with about 7,000 cubic feet of air per minute. The Act is complied with in other respects also.

*East Waratah Colliery.*—Only about forty men, &c., are now employed in this mine, and supplied with about 11,000 cubic feet of air in one current. The Act in other respects also is complied with.

*Hillside Colliery, Burwood.*—Only about nine men, &c., employed in this mine. The provisions of the Act are complied with.

*Brookstown Colliery.*—About fourteen men, &c., are employed in this mine. The ventilation is good, and the Act complied with in other respects also.

*Young Wallsend.*—Sinking operations have again been commenced at this new winning. Only a few men at present employed. Everything satisfactory.

*West Wallsend.*—The main shaft in connection with this colliery was sunk to the coal during the first six months in the year. During the last six months a splendid winding-engine has been erected, and is working well. The pit head frame is of iron, and has the appearance of being strong. This head gear is a novelty in this Colony, and might be copied to advantage. The work of opening the seam at the bottom of the main shaft has been commenced, but not many persons are yet employed. The second shaft is now down to a considerable depth, and is being sunk as speedily as possible. The provisions of the Act are complied with.

*Monkwearmouth.*—The main seam of coal has been reached in this new winning during the six months, but operations are for the present suspended.

*Clay Cross Colliery.*—About fourteen men are employed in this mine on the day shift. The ventilation is satisfactory and the Act otherwise complied with.

*Hetton Colliery.*—The coal has been reached at this colliery during the year. The winning places are being driven, in order to open out the underground workings. The winding engines and surface arrangements are in course of completion. Everything above and below seems to be in good order and secure, and the Act complied with in every respect.

*Great Northern Colliery.*—About fifty men are employed in this mine. The ventilation is good, and the Act complied with in other respects.

*Northumberland Colliery.*—During the six months sinking operations have been commenced with two shafts, each 17 feet in diameter. Considerable progress has been made during the time. The place is fitted up with the most modern appliances in the shape of machinery, &c., for sinking, and the surface is lighted by the electric light, and everything is of the most substantial character.

*Rathluba Colliery.*—There are four men employed in this mine, the ventilation is good, and the provisions of the Act carried out.

*Thornley Colliery.*—There are eight men employed in this mine. A new shaft has been sunk, and is now used for winding coal and also for ventilation. The ventilation is good, and the Act otherwise complied with.

*Sunderland Colliery.*—There are only two men employed at this mine. The ventilation is satisfactory, and the Act complied with.

*Bloomfield*

*Bloomfield Colliery.*—There are only two men employed at this mine. The ventilation is satisfactory, and the Act complied with.

*Homeville Colliery.*—About nineteen men, &c., are employed at this mine. The ventilation is good, and the Act complied with.

*Anvil Creek Colliery.*—There are about twelve men employed at this mine. The ventilation is satisfactory, and the Act complied with.

*Greta Colliery.*—In this colliery there are about 250 men, &c., employed on the day shift. The total quantity of air introduced into the mine per minute is about 30,000 cubic feet. The face workings are divided into five distinct splits, none of which are overcrowded. The requirements of the Act are complied with in other respects.

*Ellesmere Colliery.*—In this colliery there are about twenty-seven men, &c., employed. The ventilation is satisfactory, and the Act complied with in every respect.

*New Park Colliery.*—About fifteen men, &c., are employed in this mine. The ventilation is good, and the Act complied with in other matters.

*Elliott's Colliery.*—Only one man and a boy employed in this mine. The Act is complied with.

*Rosedale Colliery.*—There are only three men employed in this mine. No cause for complaint.

We have, &c.,

JOHN DIXON,

THOS. L. BATES,

Inspectors of Collieries.

The Examiner of Coal-fields, Sydney,—

Sir,

Glebeland, 18 January, 1888.

Pursuant to the provisions of clause 26 in the "Coal-mines Regulation Act, 1876," I have the honor to transmit to you this, my six-monthly report, on the accidents which have occurred in and about the various collieries in the Northern District for the half-year ending 31st December, 1887.

#### ACCIDENTS IN MINE.

THE accidents investigated by me in the Northern District during the six months ending 31st December, 1887, are forty in number, twenty-seven of which I fully reported on at the time, and thirteen minor accidents, which were not at all serious, and on which I did not write full reports.

Of the twenty-seven accidents in the annexed tabulated list, five proved fatal—three by falls of coal, and two by blows from props.

Some of the non-fatal accidents were of a serious nature; others, however, were not so serious as was at first anticipated.

The first of the fatal accidents happened to a miner named George Carter, by a blow from a prop, in the Stockton Colliery, on 5th July last. The District Coroner, G. E. Martin, Esq., J.P., held an inquest on the body of deceased at Stockton, on the day following the accident. I was present at the inquest and heard all the evidence, and fully agree with the verdict of "accidental death," as returned by the jury.

The second fatal accident happened to a miner named Abraham Griffiths, by a fall of coal, in the Co-operative Colliery, on 4th August last. The injuries in this case did not prove fatal at the time, but the poor sufferer lingered for ten days after receiving the accident, and expired on 14th day of same month. On the 15th of same month the District Coroner held an inquest on the body of deceased at Plattsburg. I attended the inquest, and fully agree with the verdict of "accidental death."

The third fatal accident happened to a miner named Enoch Smith, by a fall of coal in the A.A. Co.'s Colliery on 28th September last. On the day following the accident the District Coroner held an inquest on the body of deceased at the Glebe. I was present at the inquest and fully agree with the verdict of "accidental death," as returned by the jury.

The fourth fatal accident happened to a miner named John Wilson, by a fall of coal in the Burwood Colliery on 7th November. On the following day the District Coroner held an inquest on the body of deceased at the Burwood Junction. I attended the inquest and heard all the evidence, and fully agree with the verdict of "accidental death."

The fifth fatal accident happened to a miner named Thomas Morgan, by a blow from a prop in the Burwood Colliery on 19th December last. On the day following the accident the District Coroner held an inquest on the body of deceased, in Burwood. This inquest I also attended, and fully agree with the verdict of "accidental death."

The first of the non-fatal accidents happened to a miner named John Fogo, by a fall of coal in the Co-operative Colliery, on 12th July last, and resulted in leg fracture.

The second non-fatal accident happened to a surface labourer named Robert Kyle, at the Northumberland Colliery, on 26th July, by a fall of clay, and resulted in leg fracture.

The third was a leg fracture to a driver-boy named George Lonsdale, by a fall from a horse at Brown's Colliery on 3rd August.

The fourth resulted in serious injuries to a miner named Thomas Gregory, by a fall of coal in the Wallsend Colliery on 9th August.

The fifth happened to a miner named George Hall, by the explosion of a shot in the Wallsend Colliery, on 17th August, and resulted in very severe burns to face and neck.

The sixth happened to a miner named William Reid, by a fall of morgan in the A.A. Co.'s Colliery on 31st August, and resulted in very severe injuries to head.

The seventh resulted in compound fracture of leg to a miner named John Oswald, by a fall of coal in the A.A. Co.'s Colliery on 2nd September.

The eighth was fracture of arm and injury to hip, to a miner named John Morris, by a fall of coal in the Burwood Colliery on 30th September.

The ninth resulted in severe internal injuries to a miner named John Poole, by a fall of coal in the Greta Colliery on 1st October.

The tenth was a fracture of ribs to a miner named John Cook, by a fall from a canch (or bench) of coal in the Wallsend Colliery on 3rd October.

The

The eleventh happened to a miner named William Bradley, by a fall of coal in the Wallsend Colliery, on 4th October, and resulted in severe injuries to head and neck.

The twelfth was fracture of arm and other injuries to a miner named Nathaniel Rowbottom, by a blow from a prop in the Wallsend Colliery on 4th October.

The thirteenth resulted in internal and other injuries to a surface labourer named James Oak, by being squeezed between a chain and the buffer of a wagon, at the Co-operative Colliery on 28th October.

The fourteenth happened to a miner named John Jones, by a fall of stone in the Burwood Colliery on 18th November, and resulted in severe injuries to head, face, and one hip.

The fifteenth was a thigh fracture to a miner named Joseph Fraser, by a fall of coal in the A.A. Co.'s Colliery on 22nd November.

The sixteenth was also a thigh fracture to a shiftman named William Thomas, by a runaway loaded skip in the A.A. Co.'s Colliery on 23rd November.

The seventeenth resulted in thigh fracture to a wheeler named William Jeffrey, by a loaded skip in the South Waratah Colliery on 23rd November.

The eighteenth happened to a miner named James Overton, by a fall of coal in the A.A. Co.'s Colliery on 26th November, and resulted in thigh fracture.

The nineteenth resulted in fracture of hip-bone to a miner named Thomas Evans, by a fall of coal in the A.A. Co.'s Colliery on 29th November.

The twentieth resulted in very severe injuries to head, face, and arms, to a miner named Enos Bateman, by coal blown from a shot in the Greta Colliery on 30th November.

The twenty-first resulted in a very severe fracture of thigh bone, and deep flesh wound, to a miner named Thomas Hammond, by a fall of coal in the Duckenfield Colliery on 12th December.

The twenty-second, and last non-fatal accident, happened to a miner named Andrew M'Lauchlan, by a fall of coal in the Co-operative Colliery on 13th December last, and resulted in leg fracture.

The usual tabulated list of accidents is hereto appended.

I have, &c.,  
**JOHN DIXON,**  
 Inspector of Collieries.

TABULATED LIST of fatal and non-fatal Accidents in the Northern Collieries of New South Wales, investigated by Inspector Dixon, during the half-year ending 31st December, 1887.

No.	Date.	Colliery.	Sufferer.	Occupation	Remarks on nature and extent of injuries.	Non-fatal.							Fatal.					
						Fall of coal.	Blow from prop.	Fall of clay.	Fall from horse.	Explosion of shot.	Fall of morgan.	Fall from catch.	Squeezed by a chain.	Fall of stone.	Fall of coal.	Blow from prop.	Total non-fatal.	Total fatal.
1	July 5	Stockton	George Carter	Miner	Fatal injuries by a blow from a prop	1											1	1
2	" 12	Co-operative	John Fogo	"	Leg fracture by a fall of coal													1
3	" 26	Northumberland	Robert Kyle	Labourer	Leg fracture by a fall of clay		1											1
4	Aug. 3	Brown's	George Lonsdale	Driver	Leg fracture by a fall from a horse				1									1
5	" 4	Co-operative	Abraham Griffiths	Miner	Fatal injuries by a fall of coal													1
6	" 9	Wallsend	Thomas Gregory	"	Internal injuries by a fall of coal	1												1
7	" 17	"	George Hall	"	Severe burns by a shot explosion				1									1
8	" 31	A. A. Co.	William Reid	"	Severe injuries to head by a fall of morgan					1								1
9	Sept. 2	"	John Oswald	"	Compound fracture of leg by a fall of coal	1												1
10	" 28	"	Enoch Smith	"	Fatal injuries by a fall of coal												1	1
11	" 30	Burwood	John Morris	"	Fracture of arm and injuries to hip by a fall of coal.	1												1
12	Oct. 1	Greta	John Poole	"	Severe internal injuries by a fall of coal	1												1
13	" 3	Wallsend	John Cook	"	Fracture of ribs by a fall from a catch					1								1
14	" 4	"	William Bradley	"	Severe injuries to head and neck by a fall of coal.	1												1
15	" 4	"	Nathaniel Rowbottom	"	Arm fracture and other injuries by a blow from a prop.		1											1
16	" 28	Co-operative	James Oak	Labourer	Internal and other injuries, squeezed by a chain.							1						1
17	Nov. 7	Burwood	John Wilson	Miner	Fatal injuries by a fall of coal												1	1
18	" 18	"	John Jones	"	Severe injuries by a fall of roof stone								1					1
19	" 22	A. A. Co.	Joseph Fraser	"	Thigh fracture by a fall of coal	1												1
20	" 23	"	William Thomas	Shiftman	Thigh fracture and deep wound by a loaded skip.									1				1
21	" 23	South Waratah	William Jeffrey	Wheeler	Thigh fracture by a loaded skip										1			1
22	" 26	A. A. Co.	James Overton	Miner	Thigh fracture by a fall of coal	1												1
23	" 29	"	Thomas Evans	"	Fracture of hip bone by a fall of coal	1												1
24	" 30	Greta	Enos Bateman	"	Severe injuries to head by a shot explosion					1								1
25	Dec. 12	Duckenfield	Thomas Hammond	"	Severe fracture of thigh bone by a fall of coal.	1												1
26	" 13	Co-operative	Andrew M'Lauchlan	"	Leg fracture by a fall of coal	1												1
27	" 19	Burwood	Thomas Morgan	"	Fatal injuries by a blow from a prop												1	1
Total.....						11	1	1	1	2	1	1	1	1	2	3	22	5

## GEOLOGICAL SURVEY OF NEW SOUTH WALES.

Report of Progress for 1887 by the Geological Surveyor in charge.

The Under Secretary for Mines,—

Sir,

I have the honor to submit the following report of progress of the Geological Survey Branch.

With the Examiner of Coal-fields I inspected the country lying east of the Great Northern Railway line, between Sydney harbour and the Hawkesbury River, in reference to applications to mine for coal under reserves in that district.

This country consists of the Hawkesbury sandstone formation, which is about 1,000 feet in its greatest thickness, and has been eroded into numerous precipitous rocky ravines and valleys, the deepest of which is 700 feet to sea-level.

We are of opinion that the measures in which the workable coal-seams of New South Wales occur will not be reached within a depth of 1,500 feet below sea-level, or within at least 2,200 feet below the level of the Great Northern Railway line, between the 20th and 27th mile-pegs. The places where the Coal Measures are likely to come nearest to the surface are at the head of the salt-water portions of M'Garr's Creek, Narrabeen Creek, and Cowan Creek—in other words, these are the most favourable places for boring to ascertain at what depth the coal-seams actually occur. It is, of course, impossible to state with certainty what this depth may be, for there is no evidence revealing the extent of disturbance or upheaval of the Coal Measures prior to their being overlaid by the Narrabeen shale-beds and Hawkesbury formation. It is only by actual test by boring that the question can be determined.

Mr. Coghlan's bore at Narrabeen is said to have attained a depth of 1,998 feet without meeting a workable coal-seam.

At Pittwater the Hawkesbury formation is seen resting on the Narrabeen shale-beds at a few feet above sea-level.

After inspecting the Jenolan Caves with Mr. E. C. Cracknell, Superintendent of Telegraphs, for the purpose of arranging for the lighting of the caves by electricity, I proceeded to the Inverell District, accompanied by Mr. Anderson, Geological Surveyor, and examined the diamond-bearing formations at Cope's Creek. My progress report, with maps of the country on the south side of the creek, is given in Appendix No. 1.

The examination of the deposits on the north side of Cope's Creek, and also of those in the Bingera diamond-field, was continued by Mr. Anderson, whose reports and maps form Appendices Nos. 8 and 9 herewith.

The original matrix of the diamond in this country has not yet been conclusively ascertained. The Tertiary drifts are the oldest deposits in which the diamond has been found. Based upon this fact, an opinion was some years ago expressed by myself and others that the diamond may have been formed chemically in those drifts. Extended observations in the diamond-bearing districts would, however, lead me to suggest that if the Tertiary drifts be not the original matrix of the diamond, possibly its source may be in the metamorphosed Carboniferous or Devonian beds, where these have been intruded by granites and porphyries. Evidence of carbonaceous rocks having been subjected to great heat and pressure is presented in the rocks quarried for road metal at Pennant Hills, near Parramatta. If such conditions be favourable for the occurrence of the diamond, this locality should be prospected.

I visited the gold-fields in the Albert District in company with yourself and Mr. Slee, the Inspector of Mines, as members of the Prospecting Board, to inquire into the applications for aid out of the Government Prospecting Vote. These gold-fields lie within two areas, consisting of rocky ranges of slate formation, surrounded by undulating—nearly level plains—country of the Cretaceous formation. One of these areas, of about 22 square miles, extends from Mount Browne, where the principal diggings are, northerly for 11 miles to Depot Glen, 2 miles south of Mount Poole. It was in the deep gorge, where the Evelyn Creek has eroded its channel through the slate formation, that gold was first discovered in this district. The Mount Browne Ranges are composed chiefly of altered Silurian slates traversed by numerous quartz-reefs. Gold has been found in the shallow alluvial deposits, and from these traced down in payable quantity into the Cretaceous gravel beds to a depth of about 220 feet until further work has been stopped by the heavy influx of water. These gravel beds once formed the beach of the Cretaceous ocean, and where they have been deposited in hollows of the slate bed-rock along the old shore line no doubt payable gold-bearing deposits will be found; but from their mode of deposition they must necessarily be of a patchy nature. The second area, comprising about 109 square miles, commences 2½ miles north-east of Mount Poole, and after extending northerly for about 11 miles, forming the Whittabreena Ranges, turns in a north-easterly direction for 12 miles to the Granite Diggings, which are so named on account of the formation being granite, on which rich shallow alluvial deposits have been worked. The gold is chiefly of scaly character—"granite gold"—but nuggets up to 7 oz. in weight have been found on the granite bed-rock.

The township of Tibooburra, which is, by aneroid observation, 650 feet above sea-level, is situated on this granitic area. Within about 2 miles from the town, on the north-east and south sides, the great Cretaceous plains commence, in which artesian water is likely to be found by boring. About 3 miles north from Tibooburra a well, known as Scott's Well, has been sunk about 200 feet through Cretaceous sandstones and blue clay, and a good supply of water rises 60 feet in it. A Chinaman's garden alongside this well affords evidence, in the splendid growth of cabbages, carrots, onions, &c., of the success attending irrigation of the soil in this climate.

It is probable that if this well were sunk deeper water would be obtained which would rise to the surface. The Prospecting Board decided to recommend that several bores be put down in the Cretaceous formation, as near as possible to the diggings, with the view of obtaining an artesian supply for mining purposes, for, owing to the small rainfall and great evaporation, water conserved in tanks or dams cannot be depended upon.

The Whittabreena Reef, which is almost in the centre of the slate country, has been worked to a depth of 200 feet; it strikes N. 22° W., and varies from 6 inches to 2 feet wide. The mine is now idle, but particulars regarding it are given in the Annual Reports of the Department for the years 1882-4, by Mr. W. H. J. Slee, who was then Warden of this gold-field.

There

There are numerous quartz-reefs throughout the slate and granite areas, and it is probable that many of them will be found payable. But I am of opinion that much of the fine sealy gold, especially that obtained in the alluvial at Nuggoty Creek, has been derived from pyritous slates, it having been formed in the cleavage planes and joints of the slates. Further description of this locality will be found in my paper on the Geology of the Albert Gold-fields, to be published in the Records of the Geological Survey.

The great area of the palæozoic formations extends to about 7 miles north of Pack-saddle Station, where it consists of altered clay slates, traversed by quartz-reefs, which appear to be favourable for the occurrence of gold, copper, &c., and deserve the attention of prospectors.

North of this point to the Mount Browne slate ranges the formation is the Cretaceous, with a large depression near the centre, forming Lake Cobham, 360 feet above sea-level, which receives the drainage of a large extent of the surrounding country. This tract of country has been more or less furrowed into hollows by denudation; and in the hollows have accumulated fluviatile deposits of sandy clays and gravels of the Pleistocene Age, while many sand ridges have been formed here and there by wind action. These ridges usually extend about east and west, and, like the waves of the sea, have been formed at right angles to the direction of the prevailing winds. Over nearly the whole of this vast Cretaceous area artesian water may be obtained by boring, and gold and other mineral deposits are likely to be discovered in the Palæozoic areas, so that this portion of New South Wales will probably become one of great mining importance.

Returning from the Mount Browne Gold-fields, and accompanied by Mr. Slec, I examined the ironstone lodes near Corona. In my report upon this district in 1884 I referred to the occurrence of a large ironstone lode about 1 mile west from Mr. Patterson's Corona Station. A sample which I then took from the surface of the lode gave an assay at the rate of 1 oz. 12½ dwt. of silver per ton, and a trace of gold. A shaft has since been sunk into it to a depth of about 30 feet, and a cross-course driven showing the lode to consist chiefly of soft ferruginous clay rubble; an average sample of this yielded neither gold nor silver; and another sample of the harder gossan assayed at the rate of 58 oz. 5 dwt. 2 gr. of silver per ton, and gold a trace.

At intervals, for about 8 miles to the south, occur many other similar gossan lodes, some cropping out at the surface for only a few feet, others for more than 100 feet in length; occasionally they contain quartz. In Hobbs's lease, within a width of 10 chains, are several ironstone lodes, one 130 ft. wide, and a shaft has been sunk, 60 ft. deep, in hard and soft clayey lodestuff. Seven miles south from Corona another lode (Horsen's), from 20 to 30 ft. wide, has been sunk upon, to a depth of 60 ft., in black and brown talcose ironstone, with irregular quartz-veins through it. About 1 mile further south is Horan's gossan lode, which is over 300 ft. long, and 25 feet wide. The north shaft on this lode is 60 ft. deep; a sample taken from it assayed at the rate of gold a trace and silver a trace.

The general direction of the belt traversed by these lodes is about N.N.W., and the ferro-manganese lodes 9 miles N.N.W. from Corona, mentioned in my previous report, are probably within the continuation of the same belt. From Corona, northerly along the main road, several manganese and ironstone lodes may be seen, and one, about 8 miles from the station, on the west side of the road, and between the road and the Out Station well, crops out above the surface in large masses of gossan; this should be prospected. About 12 miles further, in a northerly direction, the slate formation is traversed by an immense quartzite lode, varying in width from a few feet up to 200 feet, and dipping W. 5° S. at 45°. Its rocky outcrop, resembling a broken stone wall, may be seen for about 2½ miles. Mr. Harvey Patterson, of Corona, has had a shaft sunk upon it to a depth of 60 feet without obtaining payable results. Near its southern end some small gossan lodes occur, with beds of limestone. Numerous quartz reefs occur in the locality, but about 1 mile to the east of the great quartzite lode the slate formation is overlaid by the Cretaceous gravels and clays.

It is probable that in places along the margin of the Cretaceous formation, where the gravel beds rest upon the slate formation, payable gold-bearing deposits will be found, as in the Mount Browne Gold-field. Gold is said to have been found in the Coco Mountains, which lie in a northerly direction from 5 to 10 miles from this place.

I also inspected the principal tin-bearing lodes found at Caloola, Euriowie, and Wankeroo, in the Barrier Ranges. These so-called lodes are intrusive dykes of granite in the slate formation, and, with the exception of a few, the tin ore is too much scattered through the dyke stone to allow the ground to be systematically mined by large companies; nevertheless, by tributors, or small parties of miners whose labour is their capital, a large quantity of tin ore will be raised and exported from this field. My report on these tin lodes, with remarks on the Broken Hill and other lodes, is given in Appendix No. 2.

Garnets of good colour for jewellery purposes are found in some abundance at Corona, Poolamaca, Silverton, and other places. On account of the slight bluish-red colour which some of the garnets exhibit they have been mistaken for rubies. After returning from the Barrier Ranges the Prospecting Board proceeded, via Dubbo, to the Byerock District. It may be of interest to record the following observations upon the character of the country traversed:—At Dubbo the river flows through alluvial (Recent and Pleistocene) deposits. One mile west, on the north side of the railway line, the country becomes hilly; about 50 chains further, at the 280.30 mile-post, a belt of basalt, 10 chains wide, crosses the line; then there is half a mile of red sandy Tertiary beds, which crop out from under the basalt. Again, we have a strip of basalt 20 chains wide; then sandy country for three quarters of a mile, where red, yellow, and gray sandy beds rest on Hawkesbury false-bedded sandstones, which continue for 5 miles to Manoa; but at the 284.20 mile stake occurs a massive outcrop of ironstone, whether as a dyke or a superficial deposit I could not determine in passing by in the train. For about a mile from Manoa granite occurs; then for 1½ miles sandstone and sandy flats, when granite again comes to the surface for 2½ miles, succeeded by sandy flats 2 miles. Here Silurian purple and gray sandstones appear, dipping about N.N.W. at 60° for 30 chains. The next 103½ miles consists of Pleistocene sandy alluvial flat country, covered with forests in places, and open myall plains in others. One of these plains, at Trangie saw-mills, affords fertile loamy soil, under which water may be got by sinking, as will probably be the case over much of this flat country. The Cretaceous formation evidently extends under Trangie Plains. At 398 miles, low Silurian slate ridges commence, and, with occasional red loamy flats, continue to Girilambone, 1 mile west of which the slate hills rise to a height of 150 ft. The Girilambone copper lode is in these

hills.

hills. At 406½ miles the Silurian rocks are seen to be intersected by quite a network of small quartz-veins. This slate country extends to Byerock, near which, as well as at Coolabah, the Silurian rocks are overlaid by patches of Cretaceous indurated ferruginous nodular clays and pebble beds. At Coolabah some prospecting shafts have been sunk over 100 ft. in these beds, and a little gold obtained. (*See Mr. W. Anderson's Report, Appendix No. 12.*)

The elevation of this country is about 740 feet above sea-level, which is about the level of the uppermost Cretaceous beds in the Mount Browne and Silverton Districts. This is probably the southern margin of the great Cretaceous formation, an inlet from which may come up the valley of the Bogan and pass under the low country about Trangie. Doubtless Cretaceous fossils, saurians, &c., will be found in this district.

A remarkable waterhole 8 feet deep and 12 feet in diameter occurs in granite rock half a mile west of Byerock. It is from this rock that the town is so named. The hole is on the line of a joint which runs W. 30° W. The granite is coarse-grained with black mica (Biotite), and encloses angular masses of all sizes of other rocks, chiefly porphyry, which the granite probably picked up from older rocks through which it was intruded. These enclosed masses of rock are generally fine-grained, and the exposed surfaces of some have been smoothed by the natives sharpening their tomahawks on them.

For about 4 miles E. of Byerock the surface is flat, and composed of red loamy sand-soil; then a patch of granite outcrops, and beyond, for the next 8 miles, Silurian fine-grained sandstones and contorted clay slates with quartz-veins occur. At 12-13 miles there are some large beds of Silurian quartzite with quartz-reefs. There are occasionally patches of Cretaceous gravels, chiefly of angular and rounded quartz pebbles. In one patch near De Foe's dam several shafts have been sunk, the deepest being 52 feet, and a few specks of gold obtained. It is proposed to further prospect this ground in an alluvial flat, which has received the drainage from the Cretaceous and Silurian formations.

About 2 miles west of Byerock the Mulga Creek flows through an alluvial flat half a mile wide.

A shaft has been sunk here 60 feet deep in the Pleistocene gravels and red loamy clays without reaching the bed-rock. As this broad alluvial flat drains a large extent of Silurian and granite formations, overlaid in places by Cretaceous gravels, it should be prospected for a deep lead.

From Byerock the Prospecting Board proceeded to Ironbarks, Orange, Molong, The Forest, Wattle Flat, Sofala, Hill End, Tambaroora, Hargraves, Mudgee, Gulgong, Parkes, Forbes, Pinnacles, and Grenfell, and dealt with the several applications for aid to prospect reefs and alluvial deposits in those districts.

When visiting the Gulgong District I inspected the antimony lodes at Ford's Creek, near Gulgong, and also the newly-discovered gossan lodes, containing gold, silver, and lead, at Denison Town. My reports on these lodes are given in Appendices No. 3 and No. 4 respectively.

Mr. David, Geological Surveyor, proceeded to Warren and reported upon the discovery of the supposed diamonds, which he found to be quartz of no value. He witnessed, together with the Superintendent of Drills, Mr. Slec, the boring by diamond drill through the second seam of coal, 5 feet 3 inches thick, at a depth of 2,301 feet below the surface, at Holt-Sutherland. A detailed description of this coal discovery will be found in Appendix No. 6.

When submitting Mr. David's report, I wrote the following remarks:—"In this bore, a depth of 2,307 feet from the surface, or 2,175 feet below sea-level, has been attained; this is therefore the deepest diamond-drill bore in Australia. Mr. W. H. J. Slec, the Superintendent of Drills, informs me that the diameter of the bore to a depth of 500 feet is 3½ inches, and below that depth it is 3 inches. The strata passed through consist of Hawkesbury sandstone formation, 653 feet 6 inches.

	ft.	in.
Shales, sandstones, and conglomerates; the upper 314 feet, consisting chiefly of chocolate-coloured shales .....	1,573	3
Upper seam of coal.....	4	2
Shales, sandstone, and conglomerate .....	65	0
Lower seam of coal.....	5	3
Black shales.....	5	11
<b>Total.....</b>	<b>2,307</b>	<b>1</b>

From the first 1,003 feet bored, 94.05 per cent. of core was obtained, and of the remaining 1,304 feet the percentage was 97.54, which is evidence of the efficiency of the boring at that great depth.

The seams of coal are evidently the continuation of the Coal Cliff or Bulli seams, and the same that were pierced in the bore at Mt. Westmacott, near the Waterfalls Railway Station. The coal is also of the same semi-bituminous and splint character as that of the Bulli seams.

Whether the slight thinning out which the seams here show be merely local can only be determined, as Mr. David has pointed out, by putting down at least one more bore in the locality. It is very important that this question should be solved, owing to the proximity of the land to the metropolis.

The discovery of cupriferous shales between 1,729 feet and 1,800 feet from the surface is of interest, and should lead to further search for payable deposits. From their position in the formation these shales should be exposed at the surface, below the Hawkesbury sandstones, on the face of the Illawarra coast-range from a few miles north from Coal Cliff southerly to near Wollongong.

I had several samples of this cupriferous shale assayed, with the following results (Nos. 2 to 7 were not assayed for copper):—

No.	1	yielded at the rate of	0.21	per cent. of copper.
"	2	"	8 dwt.	1 gr. of silver per ton, with trace of gold.
"	3	"	3	" 23 "
"	4	"	5	" 21 "
"	5	"	4	" 13 "
"	6	"	13	" 1 "
"	7	"	7	" 20 "

In future borings through this formation attention should be given to these copper-bearing beds, as they probably extend under a large area in the counties of Cumberland, Camden, Cook, and Northumberland, and may in places contain payable metalliferous strata. The rock immediately below them, in the Holt-Sutherland bore, has been ascertained, by microscopic examination by Mr. Geological-Surveyor Anderson, to be a volcanic tufa. It may, therefore, have had some connection with eruption of the old igneous rocks in the Kiama District, which contain native copper, and from which it is believed the fine alluvial gold found near Shellharbour has been derived. Mr.

Mr. David, with Mr. G. A. Stonier, Field Assistant, has chiefly been engaged upon a geological survey of an area of 50 square miles in the Maitland District, where the Middle and Lower Coal Measures are well developed. In carrying out this survey, Mr. David has not only discovered a valuable seam of coal at Deep Creek, but has ascertained that the seam of coal which was struck in the diamond-drill bore at East Maitland is one below those already worked in the East Maitland collieries. In consequence of this discovery the seam is now being opened at Rathlaba. A geological map showing the position of the several coal-seams will soon be ready for publication. Under Mr. David's supervision, sections of the principal igneous rocks of New South Wales, especially of those associated with the occurrence of gold-bearing reefs, are being prepared for microscopic examination.

Mr. W. Anderson, Geological Surveyor, during the early part of the year, was engaged (*see Appendix No. 7*) upon an examination of the diamantiferous deposits in the Inverell and Bingera Districts. His reports, with maps, are herewith appended (*Appendices Nos. 8 and 9*.) From these it will be seen that there is a large extent of diamond-bearing drifts, a very small portion of which has as yet been worked. According to returns furnished by some of the mining managers it appears that upwards of 50,000 diamonds have already been obtained; they are chiefly under half a carat in weight, with some ranging up to nearly 3 carats. I have no doubt that diamond-mining in these districts, if carried out on a large scale, will become a profitable industry.

Mr. Anderson's report on the seam of coal struck in the diamond-drill bore at Mittagong is given in Appendix No. 10.

His report on the limestone deposits at Lewis Ponds will be found in Appendix No. 11.

He also proceeded to Captain's Flat and inspected certain lands, which he recommended should be reserved for mining purposes, on account of the promising future awaiting the development of the gold and silver bearing lodes in that locality.

In August, Mr. Anderson visited the Wellington Caves, and reported as to certain improvements being made in the caves. From here he went to the Byerock District and made a geological examination of that locality, more especially in reference to the occurrence of auriferous formations, which he has described in Appendix No. 12.

After spending some time in working at rock-sections, he proceeded to Nyngan, and examined the country between that town and Nymagee, Cobar, and Girilambone. (*See Appendix No. 13*.)

Mr. Robert Etheridge, jun., who had been appointed through the Agent-General in England, arrived in Sydney on 18th of April, and at once entered upon his duties as Palæontologist to the Geological Survey of New South Wales and to the Australian Museum. Now that we have the advantage of the services of a gentleman of such high repute in his special field of palæontological research, I trust that we shall soon be in a position to publish his investigations of the ancient life history of this portion of the world. Mr. Etheridge has made a preliminary classification of our principal collections of fossils, upon which he has furnished several reports (*vide Appendices Nos. 14 and 15*), and he is at present engaged upon the examination of the carboniferous fauna from the Lower Coal Measures. The first part of his work is now ready for the press, and will be published in the Memoirs of the Geological Survey of New South Wales.

Mr. J. E. Carne, Curator of the Mining and Geological Museum, has very ably performed his duties. But for his unremitting energy it would have been impossible without extra assistance to have dealt with the increasing work connected with the examination of numerous mineral samples sent to the Department for assay and analysis. During the year 2,178 mineral samples were assayed, and these were chiefly made for parties engaged upon prospecting newly discovered or unworked deposits.

According to Mr. Carne's report (*see Appendix No. 16*), 20,770 specimens have been registered for the Museum collection, only a portion of which can at present be displayed in the Museum, owing to the limited amount of space available. More accommodation for our valuable collections is greatly needed, to enable this useful and important branch of the Department to afford that valuable aid which it is capable of rendering in the development of the immense mineral resources of the Colony. By direction of the Honorable the Minister for Mines, the Museum was opened to the public on the 19th December, and it has been visited by many persons seeking information and guidance upon mining matters. The Library has acquired many valuable works of reference upon geology, palæontology, and mining.

This Department having undertaken, at the request of the Commission for the Adelaide Jubilee Exhibition, to arrange for the display of the mineral exhibits from this Colony, Mr. Carne was deputed to proceed to Adelaide to carry out the arrangements, and this he effected in a very satisfactory manner.

The Department of Mines received thirteen 1st awards for minerals and geological maps, together with eight 1st awards and one second for 2nd and other forestry exhibits.

The assay work of the Department is now performed in the laboratory at the head office, and is conducted by Mr. J. C. A. Mingaye, F.C.S., who was formerly assistant to the Government Analyst, and was transferred to this Department on the 1st March. His duties have been very heavy, owing to the large number of mineral samples submitted for assay and analysis. His report herewith (*Appendix No. 17*) shows the large amount of useful work that has been done, which reflects much credit upon Mr. Mingaye and his assistants, especially as the work has so considerably increased of late that the laboratory accommodation is insufficient for it. I trust that arrangements which are now being made for providing a new laboratory will soon be completed, for at present, owing to the numerous mineral samples submitted, a period of ten days or more has sometimes to elapse before results of assays can be made known.

Being deprived of Mr. H. T. Wilkinson's services for about one month in each quarter, on account of his having to visit Lord Howe and Norfolk Islands, caused some temporary inconvenience, which, however, was lessened by the ready help of Mr. A. H. Taylor, the assistant clerk, who is a very able young officer.

The Geological Collector, Mr. Charles Cullen, has assisted in the sorting of the fossil collections for the Palæontologist, and in packing, &c., the collections of minerals for the Adelaide Exhibition. But during the latter part of the year he has been engaged upon the collection of fossil bones from a remarkable deposit in an old "mud-spring" on the Myall Creek Station, on the property of Mr. M'Donald, who kindly granted permission for the removal of the bones. Mr. Cullen has obtained a very valuable collection of these interesting fossils of the Pleistocene period. They will be fully reported on when they arrive in Sydney. The process of exhuming them has been a difficult one, as the bones are in a fragile condition; and much credit is due to Mr. Cullen for the enthusiastic energy and the careful manner in which he has carried out the exploration of this fossiliferous deposit.

Mr.

Mr. David's geological report upon the stanniferous formations has been issued from the Government Printing Office, and forms a valuable work of reference. I am glad to report that Baron C. Ettingshausen's English translation in manuscript of his work on the Tertiary Flora of New England has been received, and is now in the printer's hands. This work will form an important addition to the palaeontological literature of Australia; and our thanks are specially due to the Baron for this valuable contribution to science.

Mr. R. Etheridge, jun., has undertaken to edit the palaeontological publications of this Department.

Additional improvements have been made during the year to the Jenolan Caves. A newly-discovered cavern has been opened; and the electric lighting of the Imperial Cave has been effected under the direction of Mr. E. C. Cracknell, Superintendent of Telegraphs, who has always manifested much interest in the matter. It is proposed to extend this system of lighting to some of the other caverns; and a turbine wheel is about to be erected at one of the waterfalls on the creek near the caves, for obtaining the motive power for driving the electro-dynamo machine. A pump or hydraulic ram will also be fixed for pumping water to the cave house, and for fountains for improving the scenery about the cave grounds. The number of visitors during the year to the Jenolan Caves was 1,082; to the Wellington Caves, 876; and to the Wombeyan Caves, 152. A caretaker, James Murray, has been appointed to the charge of the Yarrangobilly Caves, where an accommodation house is in course of erection. Plans have also been prepared for the erection of a house shortly at the Wombeyan Caves. As soon as arrangements can be made, I purpose having a further exploration carried out in the Abercrombie Caves, where I formerly discovered some narrow passages not yet explored, which were inhabited by wombats. It is probable that fossil remains will be found in the red earth forming the floors of some of the caves.

#### APPENDIX No. 1.

##### Geological Examination of the Diamond-bearing Formations in the Inverell District.

Sir,

Inverell, 31 January, 1887.

In accordance with your instructions that a geological examination should be made of the diamond-bearing formations of this district, I have the honor to submit the following progress report.

Last week, assisted by Mr. Geological Surveyor Anderson, I examined and mapped out the extent of the diamond-bearing formations on the south side of Cope's Creek, where the Round Mount, Crown Jewel, Kohinoor, Red Hill, and Collas Hill diamond mines are situated.

The diamond-mines occur in old Tertiary river drifts, and in the more recent drifts derived from them. The former were once, and are partly still-covered by basalt, which in a molten state flowed down the ancient valleys and filled up the river channels. But the enormous denudation that has since eroded the present deep valleys has swept away considerable portions both of the lava streams and of the old river deposits beneath them, leaving the remnants here and there in disconnected patches resting on the older granite and altered sedimentary rocks. It is in one of these isolated patches that the above-mentioned Companies, with the exception of that at Collas Hill, are working, by sinking and tunnelling. The deposits are extensive, and have not yet been thoroughly prospected; the wash-dirt is from a few inches to 5 feet in thickness, and has yielded on an average from 2 to nearly 4 carats per load, averaging about four or five diamonds to the carat, though diamonds between 2 and 3 carats in weight each have been found.

The returns kindly furnished me by mining managers show that about 23,000 diamonds, weighing 5,151 carats, have been obtained during the last twelve months. The Round Mount Company having washed 722 loads, yielding diamonds weighing 2,685 carats, or 3.7 carats per load. From the Crown Jewel mine, the owner, Mr. W. Brown, obtained 291 diamonds, weighing 122½ carats, in addition to 152 carats, of which the number of diamonds was not ascertained. During my visit Mr. Henderson, manager of the Sydney Company's Red Hill mine, washed 19½ loads for a yield of 205 diamonds, weighing 42 carats.

It will thus be seen that so far the average yield per load has not been a high one, though in one instance from the Round Mount mine six loads of wash yielded 1,080 diamonds, weighing 296 carats, equal to 49 carats per load; but this is an exceptional yield. However, with efficient methods of working, I feel assured that diamond-mining will become a large and profitable industry; and the proposals which I understand have been made for the Companies whose land adjoins to amalgamate, will, if carried out, no doubt greatly conduce to this end by bringing the workings under one general management, thus affording facilities for a large output at the least expense for direction and supervision.

When the rest of the district has been examined, I will describe in further detail the character of the deposits; meanwhile, I send you the accompanying map, showing the extent of the deposits referred to on the south side of Cope's Creek.

I notice that several mineral leases have been taken up embracing land which is not likely to contain payable diamond-bearing deposits.

I have, &c.,

C. S. WILKINSON,

Geological Surveyor in Charge.

The Under Secretary for Mines.

#### APPENDIX No. 2.

##### Report on Tin Lodes, near Poolamacca, in the Silverton District, New South Wales.

Sir,

Department of Mines, 24 October, 1887.

In accordance with your instructions, I have examined the tin-mining country near Poolamacca, in the Barrier Ranges. The tin-bearing rocks have been proved over an extent of country about 28 miles long, in a N.N.W. direction, and 3 miles wide; but is likely to be found over a much wider area, for the same formations are seen throughout the greater part of the Barrier Ranges as far south as Thackaringa. These formations consist of metamorphosed clay slates and mica schists intersected by dykes of granite and quartz reefs. The tin ore, cassiterite, occurs in the granite dykes, not as veins, but in black crystals, in size from a mere speck or grain, hardly visible to the naked eye, up to about 3 inches in diameter. It is not evenly disseminated through the granite, but is distributed more or less in patches, with a little ore scattered between them. In fact, the cassiterite appears crystallized like the minerals composing the rock—the quartz felspar and mica—which also often occur separately or together, in coarsely

coarsely crystalline patches in a fine-grained base of the same minerals. Sometimes one or more of these minerals predominate, so that in places the rock is chiefly composed of mica in large flakes, or of mica and quartz, or of mica and feldspar, with crystals of tin ore and black tourmaline intermixed. The granite dykes themselves are very irregular in thickness and extent, either in length or in depth. In some instances, as at Lake's Camp, they suddenly widen out for 100 ft. or more across; in others they divide into branches, or form small oblong or boat-shaped masses.

One of the most regular lodes yet opened is that which runs for about half a mile through the Euriowie North portions. In this lode also the tin ore is seen to be more regularly distributed through the granite than is usually the case. But even this lode, or granite dyke, which it really is, varies in width from 1 to 18 ft., and runs in breaks, thinning out at intervals and making again within a few feet on the west side; nevertheless, the lode appears to be sufficiently persistent to be worked on a large scale.

I was informed that a parcel of 20 tons of it, crushed at the Umberumbuka machine, yielded at the rate of 8 per cent. oxide of tin. The lode strikes N. 13° W., and has a westerly dip; it consists of coarsely crystalline granite with large flakes of mica, and traverses altered mica schists which strike north and south. The same lode continues into the Euriowie South Company's ground.

About Caloola are the lodes which I described in my former report on this field in 1881. On the Caloola Company's lode a shaft has been sunk, following the lode to a depth of 75 ft., and showing it to be much the same character as near the surface. Some 8 tons of about 50 per cent. ore have been raised during the sinking of this shaft. The lode or granite dyke dips E. 35° N. at 75°; it is from 1 to 9 ft. wide, and outcrops on the surface for about 200 yds.; the tin ore is in patches through it. Similar tin-bearing granite lodes occur about three quarters of a mile to the N.N.E. in the Cosmopolitan and other mines. One mile in a S.S.E. direction from here are the Jubilee Company's lodes; one, 18 in. wide, but thinning out on the north end, consists chiefly of quartz and feldspar with but little mica; the tin ore occurs in patches, containing about 10 per cent. of tin ore. Another granite lode 2 chains to the east is 2 ft. 6 in. wide, and has been opened for 6 ft. from the surface; only a little tin ore is visible in it. At Caloola South two dykes of coarse-grained granite are being prospected; one is 20 ft. across, as seen in an open cut 6 ft. deep, and the other, 70 ft. east, is 15 ft. wide. 2 chains north these dykes come together.

In the Bischoff Company's ground a lode 7 feet thick on surface is being driven across a depth of 35 ft.; it contains some coarse crystals of tin oxide; it strikes N. 25° W., and a few chains from it is another granite dyke also containing coarse tin in scattered crystals and large masses of quartz.

In the adjoining ground of the Queen Victoria and Prince of Wales United Co. a shaft has been put down on a granite dyke 40 ft. wide, cropping out on the top of the range; a little tin ore is seen in the stone. About 100 yards on the east side of it is another similar lode, 16 ft. wide, dipping W.S.W. at 60°; the tin ore is chiefly near the foot-wall, and on the west are two other lodes, one 52 ft. wide dipping easterly and showing a little tin. The lodes consist of coarsely-crystallized granite, very feldspathic, traversing altered schists; they vary in thickness, and in places thin out. But on the same line of strike, towards the south, other lodes, crop out through the Victory Co.'s ground. Some of these are being prospected, and a shaft 40 ft. deep has been sunk in one 8 ft. 4 in. wide. This lode strikes N. 10° W., and consists of coarse crystals of feldspar, mica, and quartz, with tin ore in patches, which, if worked separately, would probably yield 20 per cent. of ore.

About 4 miles further south is the Trident tin-mine. Here, within a width of 130 ft., the slate formation is traversed by several granite dykes, one 12 ft. wide, very micaceous and quartzose in places, with coarse tin crystals unevenly distributed. A shaft 60 ft. deep has been sunk, and the shallow alluvial in a small gully draining from the lodes have been surfaced for a few yards, and several bags of "shed-tin" obtained.

In the next mine, the Sceptre, a similar granite dyke suddenly widens out to 100 ft. at the surface. It contains large irregular patches of quartz, with chlorite, tourmaline, and crystals of tin also in patches. Its general strike is N. 20° W.; but to the south it divides into two branches, which, varying from 2 to 10 ft. thick, continue into the Cobar Co.'s ground; thence towards the Lady Don mine, where one of the dykes, 12 ft. thick, has been prospected by two tunnels driven in at different levels on the side of the slate hill. Tin ore is scarce in it, portions of it not showing any; I noticed a little fluor spar. The granite is composed of large crystalline masses of feldspar, mica, and quartz; one patch of quartz at the surface is 10 ft. wide. The dyke strikes N. 10° W. About 4 chains easterly is another similar dyke 4 to 15 ft. wide, with a very irregular strike to the N.E.

At Mount Lake occurs a dyke mass of coarse-grained granite, suddenly widening out in one place to 100 ft., with very small tin crystals appearing here and there in it. A branch vein up to 6 ft. thick, but pinching out in places, extends W. 30° S. from it for 4 chains, and shows coarse crystals of tin ore in patches. Within 15 chains to the east are four other granite dykes and quartz reefs from 1 to 10 ft. thick; they strike N.N.W., and have not yet been opened. Some small deposits of stream tin are likely to be found in the alluvial flats between these hills, together with good soakage water. Similar tin-bearing granite dykes occur to the south in Kali's claim, and also beyond, in the Mount Lake south blocks, where there is one showing coarse tin in patches, from which 50 per cent. ore might be picked; but the general average of the lode would not, I think, yield 4 per cent. of ore; it strikes N. 30° E. for about 8 chains and varies in width up to 15 ft.; but to the south it takes a more southerly course for about 200 yards, thinning out in places. There are other small lodes near on either side, and another 8 chains east is very feldspathic, varying in width up to 20 ft. for about 130 yards, with small crystals of tin in patches. These lodes have only been opened 3 ft. from the surface.

About a mile from here is the Dalcoath Co.'s. (Messrs. Sinclair and Bond's) ground, in which a lode consisting chiefly of quartz, and varying in thickness up to 8 ft., contains tin ore in patches which separately would yield about 30 per cent. ore; it strikes N. 5° W., traversing altered slates. Twenty yards from it, on the east side, is another lode of lenticular bunches of quartz up to 2 ft. thick, containing tin ore. At the Wankeroo, prospector's mine, several openings have been made along a singular outcrop of talcose schist for about 15 chains; it contains a little tin in small crystals, and strikes N. 5° W., with lenticular quartz veins 2 ft. wide. Along its southern extension lenticular veins of granite, as well as of quartz up to 3 ft. thick, occur. The patches of tin ore in the granite, if taken out separately, would yield from 20 to 30 per cent. of tin oxide. About 300 yards to the north, in the Consolidated Co.'s ground, a similar slate reef, with granite veins of irregular width up to 15 in. has been opened to a depth of 6 ft., containing coarse

coarse tin ore in patches. Twenty ft. from it, on the east side, is a large quartz-reef 3 ft. 6 in. wide and 70 ft. long. Further east 100 ft. another granite dyke 3 ft. thick would yield tin ore probably up to 2 per cent., but it could be sorted to give a higher yield. On the south side of Yancewinua Creek, in portion 95, is the Albion lode, of coarse crystalline granite in altered slate formation dipping W.  $25^{\circ}$  N. at  $80^{\circ}$ ; it would probably yield 12 to 15 per cent. of tin. A shaft has been sunk 22 ft. deep, 100 ft. further south a cutting 4 ft. deep has been made showing the lode 7 ft. wide, with a small patch of tin ore in centre. Near the S.W. corner of portion 95 is a lode 25 ft. wide showing a little tin and tourmaline; within 10 chains east are a few other lodes; one from 1 to 2 ft. thick containing some tin and brown garnets has been opened 3 ft. deep; it strikes N.  $40^{\circ}$  E. in chlorite slate. In the Pine Paddock Proprietary Co.'s leases are several tin-bearing dyke, of large-grained felspathic granite, traversing slate, and varying in thickness up to 10 ft., striking N.  $5^{\circ}$  W. to N.  $20^{\circ}$  E. Some are like short oblong or boat-shaped dykes; the tin ore with tourmaline occurs in patches, and would have to be sorted to yield 10 or 15 per cent. of ore.

On the South Wankeroo Co.'s ground three lenticular granite dykes striking N.  $5^{\circ}$  W., and up to 4 ft. thick, show coarse crystals of tin in patches; the whole, if taken out, would yield about 2 per cent. ore. A similar tin-bearing lode 4 ft. thick, and striking N.  $10^{\circ}$  W., traverses the mica slates in the Western Star Company's mine. Immediately north of these are the Granite Springs lodes. Within a diameter of 3 chains are three lenticular granite dykes up to 4 ft. thick containing a little tin ore, about 2 per cent.; strike E.N.E., N.E., and N.  $5^{\circ}$  E. (same as strata); three chains north are talcose slates like those in the Prospector's mine, with quartz, blaws, and fluor spar; 5 chains further north is a lenticular granite lode 5 ft. wide showing a little tin, and near it a quartz reef containing wolfram. Three other small lodes have also been prospected near the surface; they contain small quantities of tin ore in patches; a little stream tin was found near the head of a gully draining from them. The slate formation of the district is traversed by numerous similar granite dykes. From the above references it will be seen that the tin-bearing granite dykes, or so-called tin lodes, present more or less the same features, and from the irregular mode of occurrence both of the lodes and of the tin in them may be inferred how uncertain must be their productiveness, therefore much prospecting will be required to prove their value. But as the lodes are numerous, there can be no doubt that considerable quantities of tin ore will from time to time be raised in working the lumpy portions of them. Timber for mining purposes and surface water are scarce; but a fair supply of the latter may be obtained by sinking wells in the valleys, or by making large tanks for conserving the rainfall.

Returning from the tin-mines I took the opportunity of examining several of the silver lodes. In the War Dance mine, near Purnamoota, three small lodes have been opened in the slate country. In one, which dips S.S.E.  $45^{\circ}$  with a well-defined hanging-wall, carbonates of copper richly streaked with chloride of silver occur with the gossan. About 150 ft. from this is another parallel vein 4 to 6 in. thick of gossan, carbonates of copper and chloride of silver; a shaft has been sunk 50 ft. deep; and 3 chains further S.E. in a shaft 20 ft. deep another gossan lode showing chloride has been opened. These lodes though small yield rich ore, and appear to be of a permanent character. About 3 miles from Purnamoota are the Victory lodes in slate formation traversed by granite dykes. One, opened to a depth of 30 ft., consists of ferruginous rubble lodestuff from 6 in. to 2 ft. thick, containing small patches of argentiferous galena; it dips E. at  $35^{\circ}$ . Five chains N.N.E. another similar rubble and quartz lode 6 in. to 4 ft. thick, dipping S.E., has small veins of galena crossing it; at a depth of 40 ft.; in a shaft which is being sunk to cut this lode, a small ironstone vein containing chloride of silver is said to have been passed through. Five chains W.N.W. another lode up to 18 in. thick of porous gossan and quartz dips E.S.E. at  $35^{\circ}$ ; and in portion 16, about 20 chains W.  $35^{\circ}$  N. from the last, is a lode of gossan and quartz, varying in thickness to 18 in., containing irregular veins up to 6 in. thick of galena. From the well-defined curved hanging-wall this lode should be permanent.

It is probable that many other similar silver-bearing lodes will be discovered in this district. And though they may be too small to support smelting works at each mine, yet from them collectively will no doubt be raised considerable quantities of silver lead ore, that could be forwarded for sale or treatment at some central public reduction works.

The Umberumberka is still the deepest mine in the field, the lode described in my former report having now been worked to a depth of 400 feet, or 267 feet below the water-level. From the 300-360 feet levels the galena encloses small crystalline masses of antimonial silver ore, of which I have obtained samples for analysis. Some very fine specimens of galena, coated in places with native silver, were sent by the manager, Mr. C. H. Wilton, to the Adelaide Jubilee Exhibition. A short distance from the lode, on the north side, another lode has been exposed in the railway cutting, where it is 10 feet thick, and dipping S.S.E., almost parallel with the former lode. It consists of iron ore, has a good hanging-wall, and every appearance of being a valuable and permanent lode. It is now being prospected.

With the Inspector of Mines, Mr. Snee, I visited the Broken Hill mine, and was shown through the underground working by Mr. Patton, the newly-appointed General Manager, and Captain Piper, Mining Manager. I was surprised at the large amount of work that has already been done in proving this splendid lode to a depth of 316 feet, the water-level being about 240 feet. It is a true fissure lode, varying from 10 to 160 feet wide, and consists chiefly of porous iron and manganese oxide in places, more or less siliceous, containing carbonate of lead and chloride of silver, with occasionally carbonates of copper and zinc. These ores have resulted from the decomposition of sulphides and arsenides, which will be found in their unaltered original condition below the water-level. As one looks at the sides and headings of the drive, the gossan lodestuff, with its cavities and joints sparkling with crystals of cerussite and chloride of silver, presents a most interesting and fascinating sight. In one large natural cavity in the lode the sides were lined with black stalactites of iron ore, spangled over with white translucent crystals of carbonate of lead and carbonate of zinc, together with pale-green crystals of chloride of silver—treasures for a mineralogical museum. Sometimes the gossan is intermixed with kaolin and garnets, and in places occur angular fragments, embedded in various positions, and of all sizes, of mica slate, granite, and quartz, which had fallen from the sides of the fissure. The walls of the lode are well defined, especially the hanging-wall, which in two places I measured dips to the N.W. at  $65^{\circ}$ , but the dip varies in other places, and has changed to the E. below the 216-feet level in Mr. Cullock's shaft. I noticed that one projection on the hanging-wall had been rounded and striated by a faulting or downward-sliding movement northerly at an angle of  $47^{\circ}$ . This is an important feature, showing that though the lode must necessarily vary in width, it will continue, as far as the displacement or sliding movement of the hanging-wall has taken place,

place, probably to a great depth. The lode continues northerly with much the same character, narrowing and widening in places through blocks 14, 15, 16, and Broken Hill Junction, beyond which it seems to continue in irregular smaller lodes of a more siliceous nature, containing argentiferous galena and carbonates of lead and copper with a little chloride of silver. To the south also it passes into quartzite lodes, containing silver, lead, and copper ores sparingly distributed through the lodestuff. Similar unpromising quartzite lodes crop out again about 3 miles further south, in the Rise and Shine Co.'s ground, together with several ironstone lodes, one 8 ft. thick, and two others 1 ft. and 1 ft. 6 in. thick respectively, containing carbonate of lead, which I was informed gave on assay up to 80 oz. of silver per ton. These gossan and lead lodes should be prospected to greater depths. In portion 37, near the N.W. corner of portion 10, a shaft is being sunk to prove a favourable-looking gossan and quartz lode, which shows at the surface about 30 ft. in width.

Some promising garnet ironstone lodes containing galena are now being prospected in the Lady Byre's mine, on the southern slope of the Middle Pinnacle. At the surface three lodes crop out within a width of 130 ft., one of which is 20 ft. thick, running in a N.W. direction. A shaft has been sunk 110 ft. in the hornblende schists, and from it a drive is being put in to intersect the lodes. The lode-stuff somewhat resembles that from the Pinnacle mine. At the latter the most complete and extensive crushing and concentrating plant in the Colony has been erected under the management of Mr. Lewis, and is nearly ready for work. The rough ore is first fed into a stone-breaker, thence it passes automatically through roller-crushers, revolving screens, jiggers, Huntingdon crushers, and finally over four Fruc vanners before being again handled in its concentrated condition. This plant will afford a good example to be followed in other mining districts when the success of mines yielding classes of ores depends to a large extent upon the employment of efficient concentrating appliances.

The opening of the railway line to Silverton and Broken Hill will greatly tend to the development of the mining industry of the whole Barrier Ranges District, and I quite endorse the anticipation of the Warden, Mr. Wyman Brown, that ere long the value of the annual mineral production of this important mining district will amount to one million sterling, or one-third of that of the present production from the whole of New South Wales.

I have, &c.,

C. S. WILKINSON,

Geological Surveyor in Charge.

The Under Secretary for Mines.

#### APPENDIX No. 3.

Sir,

Department of Mines, Sydney, 25 November, 1887.

In accordance with your instructions, I have inspected the antimony lodes at the head of Forde's Creek, near Gulgong.

There are two small lodes cropping out at the surface about 100 feet apart. The uppermost lode is about 6 inches thick, and dips S. 15° E. at 20°, and has been exposed in an open cutting 6 feet deep and 30 feet long.

The lower lode, which has been opened to a depth of 5 feet, is about 6 inches thick, and dips S. 25° E. at 27°, but in one place at 60°.

They are breccia or rubble lodes, consisting of broken fragments of slate rock, associated with quartz, and contain oxide and sulphide of antimony.

The lode fissures have evidently been formed in each case by the faulting or sliding movement of the strata above the fissures upon the rock below it. Consequently, when the line of fissure was straight, no cavity would be formed, and there would be no chance of any large accumulation of lodestuff; but where uneven, the movement of the one above the other would leave cavities or enlargements of the fissure in which the ore would form as bunches of variable size.

The prospecting operations that have been carried out show the dip of the fissures to be almost straight, and if it should continue so the lodes would not be worth working.

But as the faulting in such strata is sometimes uneven, there is a possibility of the angle of dip curving, and allowing cavities to form, which may contain patches of payable ore deposits.

This can be better ascertained by following down each lode on its underlay than by sinking the present shafts. Then, should payable ore be discovered, a vertical shaft could be sunk for the more economic working of the deposit.

I have, &c.,

C. S. WILKINSON,

Geological Surveyor in Charge.

The Under Secretary for Mines.

#### APPENDIX No. 4.

Sir,

Department of Mines, Sydney, 29 November, 1887.

In accordance with your instructions, I have examined the newly-discovered lodes which are situated about 3 miles east of Denison Town.

Seven gossan lodes have been found, but only on two of them has prospecting work been done; these are in Robinson and party's lease; one of them is about 45 feet wide, dips N.N.W. at 45°, and outcrops at the surface for a length of about 200 feet. It is being prospected by a trench, from 5 feet to 10 feet deep sunk diagonally (N.W.) across it. In this the lode is seen to be well defined, and is exposed as follows, commencing from the hanging-wall, which consists of green chlorite schists:—

Assay Sample No. 1—	{ 18 ft. 0 in. Gossan, with patches of quartzite and manganese oxide.
	{ 2 ft. 0 in. Soft iron ore.
Sample No. 2—	3 ft. 0 in. Siliceous gossan and quartz containing pyrites and sulphide of zinc.
Sample No. 3—	21 ft. 0 in. Red and brown gossan partly siliceous.
Sample No. 4—	{ 0 ft. 3 in. Galena and carbonate of lead, in patches.
	{ 4 ft. 0 in. Gossan.
	{ 1 ft. 0 in. Gossan, with patches (up to 9 in. thick) of carbonate of lead and galena enclosing iron pyrites. (Sample 4a.)
Sample No. 5—	{ 5 ft. 0 in. Gossan.
	{ 0 ft. 3 in. Gossan, with carbonate of lead and galena.
	{ 3 ft. 0 in. Gossan and manganese oxide.
Sample No. 6—	{ 10 ft. 0 in. Altered felspathic rock.
	{ 3 ft. 0 in. Mottled gossan foot-wall, altered felspathic rock.

I collected average samples of the lodestuff from the different parts of the lode as enumerated above. The assay results are as follows:—

Assay Sample No. 1	—	Silver at the rate of 0 oz. 10 dwt. 21 gr. per ton;	no gold.
Sample No. 2	—	1 oz. 1 dwt. 16 gr. "	gold, a trace.
Sample No. 3	—	0 oz. 16 dwt. 6 gr. "	gold, a trace.
Sample No. 4	—	16 oz. 12 dwt. 2 gr. "	gold, a trace.
Sample No. 4a	—	19 oz. 1 dwt. 2 gr. "	{ no gold. lead, 76·5 per cent.
Sample No. 5	—	5 oz. 19 dwt. 8 gr. "	no gold.
Sample No. 6	—	" " " a trace	no gold.

According to these results the ore could not be profitably worked, but as the samples were taken from within only a depth of 10 feet from the surface, and the lodestuff appears to be of such a promising nature, I am of opinion that the lode should be further opened and tested at a greater depth.

About 250 feet to the S.E. another gossan and quartz lode has been opened to a depth of 8 feet in a narrow crosscut trench. It dips N.W. at 45°, is 16 feet wide, and can be traced on the surface for a length of 450 feet. An average sample of the ore taken from the full width of the lode exposed gave, on assay, at the rate of 5 dwt. 10 gr. of silver per ton, and no gold. This lode extends to the N.E. into Mr. Cox's lease. In an adjoining lease (Mr. Lowe's) two similar gossan lodes occur which have not yet been prospected: one is 30 feet wide and in massive ironstone blocks, crops out for a length of about 300 feet; the other, 50 feet distant to the S.E., is 15 feet thick, and is over 100 feet in length.

About 10 chains from these, in a south-easterly direction, on Mr. Latimer's lease, another gossan and siliceous lode crops out on the surface, 20 feet in width and 200 feet in length. It has not been opened. A sample taken from the surface gave, on assay, at the rate of 10 dwt. 21 gr. of silver per ton, and no gold.

3 chains further to the south-east, on the same lease, there is another gossan lode showing on the surface 50 feet wide and 200 feet long; and 5 chains to the south-west a more siliceous gossan lode crops out 20 feet wide and 60 feet long. These lodes have not been tested.

About 30 chains to the south-east, Messrs. Little and party are prospecting a quartzite dyke 100 feet wide with small patches of porous quartz and gossan in it. A sample of this latter gave, on assay, only a trace of silver, and no gold.

On the west side of it occurs a quartz reef about 2 feet thick, and containing iron pyrites. A sample of it yielded, on assay, at the rate of 4 oz. 7 dwt. 2 gr. of silver and 3 dwt. of gold per ton. This reef should be further prospected. About 4 chains to the N.W. is another parallel quartzite dyke 75 feet wide, and striking N.E. for about 10 chains. These dykes are not likely to prove payable.

Notwithstanding the low results afforded by the assays already made, the favourable appearance of the ore at the surface would, in my opinion, warrant the proper testing of each of the above-mentioned gossan lodes.

I have, &c.,

C. S. WILKINSON,

Geological Surveyor-in-Charge.

The Under Secretary for Mines.

#### APPENDIX 5.

Progress Report for 1887, by T. W. E. David, B.A., F.G.S., Geological Surveyor.

Sir,

I have the honor to furnish you with the following report of the work done by myself and the field assistant, Mr. G. A. Stonier, during the year 1887:—

From the beginning of the year until January 24th, I was employed in field work at Maitland and Mount Vincent, at the latter of which localities I examined a thick unworked seam of coal in Reserve No. 69A, in the parish of Mullbring.

I then proceeded to Sydney by your instructions to superintend the drilling through of the lower coal-seam at Holt Sutherland. My report thereon is appended. On February 5th, I returned again to Maitland, and examined the coal-measures at Raymond Terrace.

On February 18th I came to Sydney with your permission, and further examined the Holt Sutherland and Heathcote diamond-drill cores, and selected a miniature section of the former core for the Mining and Geological Museum.

On February 21th, I returned to Maitland, and on the following day examined the new shaft at Deep Creek, near Bishop's Bridge, sunk through the coal seam, the discovery of which by me had been previously reported.\* My second report on this seam has already been published.\*

From this date I was employed chiefly in field work near Maitland until March 23rd, when I went to Sydney, and was engaged in office work until April 2nd, when I resumed field work at Maitland till April 27th, from which date until May 3rd, I was in constant attendance at the East Maitland Court-house, my evidence being required by the Crown Solicitor. From this date until August 17th, I continued field work, when I went to Sydney and worked at the office until August 29th, when I left to report on the supposed diamonds at Warren. My report has already been given elsewhere.

I returned to the office on September 2nd, and to Maitland on September 9th, where I was employed in field work until November 12th, when my camp was broken up, and I returned to Sydney. From November 14th to December 4th, I had three weeks leave of absence, excepting November 26th, when I reported conjointly with Mr. Warden Martin on some applications for reserves for prospecting areas in the neighbourhood of Vegetable Creek. On December 7th, I returned to the office and was employed there for the rest of the year in preparing my maps, sections, and report on the Maitland District. Mr. Stonier accompanied me in the field during the earlier part of the year, and for the rest of the time was engaged in mapping out the alluvial deposits, which cover a considerable area of the coal-measures near Maitland.

By far the greater part of the year has therefore been spent by Mr. Stonier and myself in field work, the principal results of which are given in the following summary:—Mr. Stonier throughout has worked carefully and conscientiously, and his discovery of the marine fossils near Morpeth is, I consider, of great importance, as upon further examination I find that the zone of rocks, in which the fossils occur, is the actual boundary-line between the barren upper marine series and the overlying productive coal-measures of East Maitland. Such a junction-line had been anxiously looked for by us for some time, and now that it is found, it proves to be sharply defined and very persistent, for Mr. Stonier has found the same strata at Mount Vincent, over 15 miles southerly from the point where its occurrence was first observed.

Summary

Summary of Field Work.

The work done consists of,—

1. A preliminary examination of the coal-measures and their associated formations from Newcastle, on the east to Branxton, on the west a distance of 30 miles, and from Glendonbrook on the north to Broken-back Range near Mount Vincent on the south, also a distance of about 30 miles.

2. A detailed examination of the country around Maitland, comprising an area of over 50 square miles. A geological map of the latter with sections, accompanied by a detailed report, is now being prepared. The rocks comprised in this area may be broadly divided into I, *Igneous*, and II, *Sedimentary*.

The sedimentary rocks may be divided into two great groups—1, Palaeozoic, and 2, Cainozoic. The Mesozoic Group, as far as is known, is not represented, unless some of the igneous rocks may possibly be referable to the Mesozoic Era.

1. *Palaeozoic*. The rocks of this age, near Maitland, include the productive coal-measures of Stony Creek and East Maitland, and the unproductive marine series between the Stony Creek and East Maitland coal-measures, and below the Stony Creek series, and the plant beds with thin coals below the barren Lower Marine series. These strata may therefore be referred to four series ranged in the following descending order:

- V. *East Maitland Series*, 700 feet thick. { Productive coal-measures of fresh-water or estuarine origin, containing a thickness of about 36 feet of coal, out of which 22 feet has been worked from time to time. 100 feet (about), *Sanguinolites* beds; 300 feet (about), finely laminated cherty carbonaceous shales and mudstone.
- IV. *Upper Marine Series*. Thickness probably at least 5,000. Not known to contain coal. { 1,700 feet (about) strata, chiefly clayey. Exact characters at Maitland not known, owing to their being hidden under alluvial deposits. 2,000 feet (about) marine conglomerates, sandstones, and sandy shales with large "erratics."
- III. *Stony Creek and Grcta Series*. Thickness 300 feet. { 300 feet lower coal-measures, in the upper half of which occur five seams of coal, having an aggregate thickness of 17 feet. Three seams have been worked, and two are now being worked.
- II. *Lower Marine Series*. { 1,000 feet (at least) Lower Marine series sandstone, shales and conglomerates. No coal.
- I. *Lepidodendron Series*. { Thickness unknown, sandstones and shales, containing plants, *Rhacopteris*, etc.

The total thickness of strata from the base of the Stony Creek series to the top of the East Maitland series, is about 6,000 feet.

The total thickness of coal known is 53 feet.

The following is a generalized section of the strata, arranged in descending order:—

	Ft.	in.	
	20	0	Conglomerate.
	53	0	Fine grained carbonaceous sandstones, and dark grey sandy shales, with thin coal seams.
	4	6	Coal seam—"Top seam" at Woodford) 3 ft. of good coal. Not being worked at present.
	63	0	Fine grained sandstone, hard like quartzite as it approaches the underlying coal seams, and dark shales with thin coal seams.
	7	0	Coal seam—(No. 2 seam at Thornley).
	5	0	Soft dark sandy shales, and shale with abundant gloss-opteria.
	6	0	Coal seam—(No. 3 seam at Thornley, and "Big Ben" in part (?) at Woodford.)
	12	0	Dark mudstone.
	3	0	Coal seam—2 ft. 3 in. coal, 9 in. next floor inferior coal. (No. 4 seam at Thornley, and "Big Ben" in part (?) at Woodford.)
	20	0	Chiefly grey sandstone, fairly hard. Upper part of section shaly.
	2	9	Coal seam—(No. 5 seam at Thornley, No. 4 seam at Woodford, where it underlies "Big Ben" at a depth of from 16 to 18 feet.)
	150	0	(about). Sandstone and shales, with beds of clay ironstone $\frac{1}{4}$ to 1 ft. thick, and towards base of section shales with large pebbles.
<i>East Maitland Series.</i>	70	0	Chiefly sandstone, hard and pebbly, near commencement of section.
	11	0	<i>Rathluba seam</i> , 4 ft. to 4½ ft. of which is worked. Splits into two seams towards Morpeth and Woodford, at the former of which localities the upper and lower portions of this seam are separated from one another by 140 ft. of strata.
	35	0	Carbonaceous sandy shales, with ironstone and thin coals, and grey sandstone.
		4-12 in.	ironstone.
	2	0	Coal Seam— <i>Ironstone seam</i> .
	45	0	Soft carbonaceous shales and soft grey sandstone.
	4	6 to 8 ft.	3 in. <i>Morpeth seam</i> . Worked to a small extent in paddock at back of Mr. Close's house, near Morpeth. This seam splits into two seams in places, the divided portions of the seam being separated by 10 ft. of brown shale. This seam has also been proved in the diamond drill bore at East Maitland Gaol.
	13	1½	Clay, rock, clay, sandstone, and shale.
	7	8	Rock and coal.
	20	7½	Rock (chert, or cherty sandstone (?)).
	16	6½	Sandstone, coal, shale, and hard blue clay.
	38	9½	Rock, shale, coal, and pipeclay.
	99	3½	"Sandstone" upper marine series probably begin here.
	201	5½	Blue shale.
	101	2½	Blue shale and pipeclay bands.
	37	3½	Blue sandstone.
	40	8½	Sandy shale.
	45	5	Blue shale. At 7 ft. from bottom of this bore a large <i>spirifer</i> , like <i>spirifer glaber</i> , in the core.
<i>Upper Marine Series</i>	1,700	0	(about). Chiefly dark grey mudstones and shales.
	400	0	Chiefly sandstones, with marine fossils especially <i>productus</i> .
	20	0	<i>Bohcarra conglomerate</i> . A hard coarse calcareous conglomerate, traceable for at least 30 miles.
	2,450	0	Chiefly marine sandy shales and clayey sandstone with erratics, some weighing a ton. Occasional conglomerate beds.
	150	0	(about). Chiefly conglomerate with marine fossils in beds of gritty sandstone.
	5	7	to 1 ft. Coal seam, chiefly cannel.
	7	0	Shale or clod.
	3	0	to 2 ft. Coal seam, bituminous coal.
	8	0	Shale and fireclay.
<i>Stony Creek Series.</i>	5	0	Coal seam, chiefly cannel.
	0	6	Coaly shale.
	3	0	Fireclay.
	1	3	Coal.
	49	0	Chiefly conglomerate.
	3	6	Coal Seam, bituminous. This is the lowest worked seam in all the coal-measures.

Base of Stony Creek series.  
Top of Lower Marine series.

Below

Below this come sandstones, shales, and occasional beds of conglomerate at least 1,000 feet thick, and below this again the *Lepidodendron* series, to which the *Rhacopteris* beds near the Paterson township, are probably to be referred.

*Stony Creek and Greta Coal-measures.*

These strata consist of conglomerates, sandstone, and carbonaceous shales, with thin beds of clay, ironstone, and several seams of coal, the last having an aggregate thickness in places of 25 ft. These strata are capped conformably by marine conglomerates and overly conformably the marine sandstone and shales of the lower marine series.

*Thickness.*—This series is thinnest to the south, and thickens in a northerly direction, the thickening of the strata being accompanied by the splitting of one thick seam into several thinner seams. At Stony Creek the thickness is 300 ft., and about the same at Leconfield, near Greta.

*Dip.*—The dip varies from the nearly horizontal to an angle of over 30°, increasing as the areas of disturbance are approached, and lessening as the coal-measures recede from them. At Deep Creek, for instance, near Bishop's Bridge, which is furthest removed from the disturbing influence of igneous rocks, the dip is only from 2½° to 5°, while at Leconfield and Stony Creek it is 15°, and near Eclah and Bolwarra, over 30°. The systematically varying directions of dip between Maitland and Greta, as pointed out by yourself,\* prove the existence of an immense anticline or dome, having its centre near Lochinvar, and united on the east by a trough 4 miles wide to a smaller anticline, the details of which have not yet been fully worked out.\* The first anticline, which may be termed the Lochinvar Anticline, is about 14 miles wide and 16 miles long, and measured from the bottom of the East Maitland trough to the original top of the arch over Lochinvar, about 14,000 ft. high. The bottom of the trough would lie about 6,000 ft. below sea-level, so the top of the arch would be 8,000 ft. above the sea.

This does not necessarily imply that the land surface at Lochinvar ever actually attained that altitude, but that it would have, had not the upheaved strata been removed from time to time by denudation, while the anticline was being formed, as was probably the case. The existence of this great anticline is well shown by the changes of dip as indicated on the geological map now in course of preparation.

*Faults.*—As shown by yourself,† an immense fault occurs somewhere near the outcrop of the Greta seam in Black Creek, near Branxton. To prove whether or not the seam at Black Creek was identical with the Greta Seam, I had a small shaft sunk on the seam at Black Creek, by the kind permission of Mr. D. S. Mitchell, the owner, and Mr. E. V. C. Maine, the lessee of the property. The section of the seam here, given below, proves beyond question that it is the Greta Seam. The fault must, therefore, have a throw of about 2,000 ft. In the vicinity of Maitland the faults have a north-easterly or north-westerly trend, the throws being chiefly northerly.

*Thickness and quality of the Coal.*—At Glendonbrook, the furthest point on the north, to which the geological examination extended, a seam of coal cropping in a creek on Drinan's selection, near Billybrook, parish of Stanhope, county Durham, gave me the following descending section:—

*Roof.*—Conglomerate, with pebbles 2 in. to 3 in. in diameter.

Ft.	in.	
0	6	Coal, good, hard, bituminous.
1	8	Band of coaly shale.
0	8	Band of carbonaceous sandstone.
0	9	Coal, hard, good, bituminous.
0	2	Band, sandstone, and conglomerate.
1	3	Coal, good, hard, bituminous.
0	6 to 12 in.	Band, sandstone, and conglomerate.
4	0	Coal, good, hard, bituminous.

Total Coal ... 6 6

Total Seam... 9 9

Floor, Coaly Shale.

This seam has never been prospected nor worked. It is the equivalent of the Greta Seam, and the bottom, 4 ft. of clean coal, exactly resembles the Greta coal. At Leconfield, at the north end of the estate, a Government diamond drill bore has proved the existence of six seams of coal, the following being an abridged descending section:—

Ft.	in.	
179	2	Sandstone, shale, and conglomerate.
4	3	Coal.
34	4	Conglomerate with shale and sandstone below coal.
0	7	Coal.
15	10	Shale, sandstone, and conglomerate.
3	7	Coal.
31	10	Conglomerate with a little sandstone.
0	9	Coal.
65	7	Chiefly conglomerate with a little shale and sandstone.
6	1	Coal.
6	2	Shale.
40	0	Conglomerate and shale.
0	3	Coal.
70	0	Conglomerate and sandstone with a little shale.

At 1½ miles southerly from the preceding four tunnels driven into the hillside by Mr. R. Wyndham, show that these seams are coming together in a southerly direction. The section seen here is as follows:—

	Ft.	in.	
	107	0	Sandstone and dark grey shale in about equal proportions with occasional beds of conglomerate.
	409	6	Chiefly sandstone with conglomerate.
	2	0	Shale.
	9	9	Conglomerate.
No. 1 seam.— Coal 5 ft. 8½ in.	1	10½	Coal.
	0	1½	Sandy, shale band.
	1	3	Coal.
	0	1½	Conglomerate band.
	1	1	Coal.
	0	0½	Conglomerate band.
	1	6	Coal.
	3	6	Sandstone and shale.
	31	0	Conglomerate.

No.

\* Annual Report of Department of Mines, 1884; page 151.

† Annual Report of Department of Mines, 1884; page 140.

	Ft.	in.	
No. 2 seam.— Coal 8 ft. 5 in.	1	9	Coal (partly perished from exposure near outcrop).
	0	1½	Clayey coal.
	0	11	Clay shale.
	0	11	Coal, good, hard, bituminous.
	0	0-0½	Band intermittent.
No. 3 seam.	5	9	Coal, good, hard, bituminous.
	1	0	Sandy shale.
	31	0	Chiefly conglomerate.
	1	9	Coal.
	10	0	(about). Shale.
	5	0	(about). Sandstone.
	30	0	(about). Conglomerate.
	0	8	Coal, full thickness not proved.
Total ..			656 11

At Greta the following section was measured by me in the dip heading from B. Pit:—

	Ft.	in.	
Not worked.	2	0	Brassy tops, inferior pyritous coal.
	0	3½	Coaly shale.
	0	8½	Coal, very soft, bituminous.
	0	2	Band grey sandy shale.
	1	0	Coal, hard, bituminous.
	0	10	Stony coal, hard, dull, black.
	0	3	Coal, hard, bituminous.
	0	4	Stony coal, like inferior cannel.
	3	1½	Coal, hard, bituminous.
	0	2 to 15 in.	Band, white stone.
	0	4	Coal cannel, with layers of softer coal.
	0	4	Coal cannel.
	2	0	Coal, hard, bituminous.
	0	2½	Coal cannel.
	0	7	Coal, hard, bituminous.
	0	6	Band black stone, clayey cannel.
	3	3	Coal, hard, bituminous, approaching cannel in places.
Total...			16 1

At Anvil Creek a seam of hard bituminous coal, 4 ft. thick, is stated by Mr. J. Mackenzie, the Examiner of Coal-fields, to underly the main seam at a depth of 16 ft. At the A Pit, at Greta, where Mr. Mackenzie's section gives the thickness of the seam there as 26 ft., the increased thickness is partly due to this lower seam being included in the section of the main seam, as it is there separated from it by a band of shale only 1½ ft. thick. A patch of kerosene shale 1 ft. 2 in. thick is stated by the same authority to occur at 2 ft. 3 in. from the top of the seam at this point.

At Black Creek, near Branxton, on the upthrow side of the great fault, I measured the following section of the Greta seam:—

Ft.	in.	
		Roof.—Conglomerate, 6 ft. seen; gritty sandstone, 3 in.
0	8	Coal, perished.
0	0½	Band grey clay.
1	9	Coal, hard, bituminous.
0	2½	Clayey coal.
0	8½	Coal, dull, black bituminous.
0	0½	Clayey coal.
0	2	Band whitish-grey fireclay—white stone.
0	8	Coal, hard, bituminous, rather dull black.
0	3	Pyritous clayey coal—black stone.
0	0½	Clayey coal.
0	6½	Coal, hard, bituminous, somewhat dull, black.
0	0½	Clayey coal.
1	3½	Coal, hard, bituminous, somewhat dull, black.
0	1½	Coal, bituminous.
0	0½	Clayey coal.
0	9	Coal, hard, bituminous.
0	0½	Clayey coal.
0	0½	Coal, a trifle softer than the average.
1	9½	Coal, very hard, bituminous.
0	8½	Coal, bituminous, rather softer.
Total... 9 10½		

Floor.—9 in. grey pyritous shale; 1½ in. black carbonaceous shale; 3 in. grey shale.

NOTE.—As this section was taken close to the outcrop of the seam, the coal in the upper part of the seam had suffered somewhat from perishing.

This seam dips W 20° N at 27°.

At Deep Creek, near Bishop's Bridge, the Greta seam dips at from 2½° to 5°.

The following is a section of the seam there measured by me.\*

Ft.	in.	
		Roof.—Pebbly carbonaceous conglomerate.
1	1	Coal, hard, bituminous.
2	0	Coal, hard, bituminous, with minute concretions of pyrites, ¼ to ½ inch in diameter.
0	10	Coal, with minute streaks of pyrites.
2	0	Coal, hard, bituminous.
1	3	Coal and bands, not workable.
2	1	Coal, hard, bituminous.
0	0½	Band of brown clay.
1	3½	Coal, hard, bituminous.
0	0½	Band of brown clay.
2	0	(at least) Coal, hard, bituminous.
Total seam... 13 5		

NOTE.—This seam was described to me as being 14½ ft. thick, but the influx of water into the shaft was so strong that the workmen were unable to bale it down within less than 2 ft. of the bottom of the shaft, so that I was unable to make sure that I measured to the bottom of the seam.

Traced

Traced in a northerly direction from Deep Creek towards Maitland, this seam is found to split into several seams, as proved at Font Hill and Homeville, near Stony Creek.

The following is a section of the seams at Homeville, the section of the top seam being taken from "Sedimentary Formations of New South Wales," by Rev. W. B. Clarke, third plate at end of book, and those of the other seams from my own measurements, with the exception of the particulars of the 1 ft. 3 in. seam below the cannel seam, taken from your own notes, and the description of the strata above and below the bottom seam, supplied me by Mr. H. J. Adams:—

Ft. in.		
	5 7	Roof, conglomerate.
	7-10 0	Coal, chiefly cannel, much thinned in places through contemporaneous erosion.
		Clay shale, passing into fireclay next to underlying seam.
"Fireclay" coal seam.	0 5	Coal, hard, bituminous.
	0 7	Clay shale.
	2 0	Coal, hard, bituminous.
	7-9 0	Clay shale with fireclay underlying "Fireclay Seam."
	0 8	Dull, semi-cannel coal.
"Cannel" seam	0 0½	Clayey coal.
	0 6	Soft, dull, black pyritous coal.
	0 7½	Coal, bright, black, bituminous.
	3 6	Coal, cannel.
	0 6	Coaly shale.
	3 0	Fireclay.
	1 3	Coal, hard, bituminous.
49 0	Chiefly conglomerate with a little dark shale.	
3 9	Coal, hard, bituminous, with intermittent clay band ¼ to 1 in. thick at about 4 in. from roof.	
2 7	Sandy shale overlying conglomerate.	

Traced further north, across the Maitland to Lochinvar road, these seams probably thin somewhat. They have not yet been proved to extend as far north as the Hunter River above Eelah, or in an easterly direction towards Largs, Raymond Terrace, and Port Stephens. It is almost certain, however, that they extend in this direction at least as far as Largs, and the inferior kerosene shale near Port Stephens is possibly connected with these coal-measures. Considering the highly volatile character of these coals, which pass into cannel in places, and contain occasional patches of kerosene shale, as at Greta, it is somewhat surprising that no evidence has yet been met with of rock oil at points where these coal seams have been invaded by highly heated igneous rocks as near the ford over the Hunter River above Eelah, and anywhere from here to Largs, Raymond Terrace, and Port Stephens, where such a junction of coal seams and igneous rocks may exist. At all events, it would be important to test the coal-measures which underly the sand dunes between Stockton and Port Stephens to prove the existence or otherwise of the Greta seams. The upper marine series certainly continues easterly at least as far as Raymond Terrace, and probably extends to the Pacific Ocean, and although nothing whatever is known of the underlying rocks from Raymond Terrace easterly to the Pacific Ocean, it is quite possible, if not probable, that the Greta coal-measures underly the sands between Raymond Terrace and Port Stephens. The probable point of outcrop under ground is very difficult to guess at even within wide limits, as the alluvial deposits here are very extensive, and the coal-measures, especially in the neighbourhood of Port Stephens, are known to be much disturbed. The following facts ought to serve as a rough guide:—At Dempsey Island a bore has been put down to a depth of 2,000 feet without striking the upper marine series, and possibly (if the East Maitland series underly the Newcastle) without even reaching the East Maitland or Tomago coal seams (the latter being probably the equivalent of the former and of the Woodford coal seams). This theory, if right, proves a thickness of 2,000 feet of strata at least separating the Newcastle from the East Maitland coal-measures. The thickness from the top of the East Maitland series at Maitland to the top of the Greta and Stony Creek Coal measures is, as already stated, at Maitland about 6,000 feet. This would give a thickness (assuming, of course, that the East Maitland underlies the Newcastle series, and that the strata maintain their thickness between Maitland and Newcastle), of about 8,000 feet of strata at Newcastle between the Borehole seam and the Greta seam. If the direction and amount of dip between Newcastle and Port Stephens could be ascertained, it would be an easy matter to calculate at what point approximately between these two places, with this given thickness of strata, the Greta seams should crop out under the alluvials. At Stockton the dip is said to be south-easterly at a low angle. At Raymond Terrace the dip of the upper marine sandstones, "erratic" beds and conglomerates is S. 38° E. at 19°. At Raymond Terrace, however, the strata have been disturbed by intrusive igneous rocks, so that the amount here is probably considerably above the average. If this line of strike be continued, the Greta seams would run into Port Stephens somewhere near Saltwater Creek, but it is more probable that the intrusive igneous rocks at Port Stephens have changed the dips in that neighbourhood from south-easterly to southerly. The elucidation of this question must, however, be reserved for the detailed geological examination of that district.

The presence of so much volatile matter in the coal of the Greta and Stony Creek series occasions a remarkable amount of perishing in the coal, extending back from the outcrop as much as 150 feet, even in places where there is a thick rock cover over the coal. At Leconfield, for instance, a seam of coal 10 feet thick showed only 4 inches of black dirt at the outcrop, even when traced under the solid rock. The perishing of the coal had in fact been so complete as to nearly allow the roof and floor of this thick seam to touch one another; this is an important feature to be remembered with reference to prospecting coal seams in this series, as, in consequence of thick and thin seams making equally thin outcrops, it is only by tunnelling or sinking on the coal at a point sufficiently far from the crop for the coal to have escaped perishing that an estimate can be formed of its true thickness.

*Quality of Coal.*—The coal in the seams of this series has been classed as bituminous and cannel. Both varieties are very hard, and do not soil the fingers. This great hardness makes them very suitable for shipment. The coal is minutely laminated, but the laminae are so welded together that the coal does not break very readily along them, and its appearance may therefore be described as streaky rather than

laminated

laminated. The lustre is pitchy, but not quite as bright as that of a pure bituminous coal. The average specific gravity is about 1.275, and the average composition of the coal taken from the mean of five analyses is about as follows:—

Moisture .....	2.00
Volatile hydrocarbons .....	41.00
Fixed carbon .....	51.20
Ash .....	4.60
Sulphur .....	1.20
	100.00

Coke firm, not much swollen up. The cannel coal has a specific gravity of 1.35, and has the following composition:—

Moisture .....	2.27
Volatile hydrocarbons .....	35.39
Fixed carbon .....	53.91
Ash .....	8.43
	100.00

The great thickness of strata covering the Stony Creek and Greta coal series precludes the possibility of working these seams, excepting at points, where part of the covering has been removed by denudation. At East Maitland, for instance, a shaft or bore started at the base of the East Maitland Coal-measures would have to penetrate about 5,000 feet of strata before reaching the Stony Creek and Greta seams; and at Newcastle the depth would be equally great—at least, and if the theory be correct that the East Maitland Coal-measures underly the Newcastle, the depth at the latter place will be considerably greater—probably not less than 8,000 feet. The only hope that the Greta seams may occur at a workable depth at points where the so-called “Upper Coal-measures” (Newcastle series) or the “Middle Coal-measures” (East Maitland series) exist, is that there may be a great unconformity between the Upper Marine series and the Upper and Middle Coal-measures. The existence, however, of this unconformity has not yet been proved.

#### *East Maitland Series.*

The rocks of this series, as stated above, consist of sandstones, carbonaceous shales with ironstone bands, shales with large pebbles, conglomerate, chert, and white fireclay—besides a number of thin coal seams in addition to those about to be described.

The thickness of this series at the Four-mile is about 700 feet, and at Woodford about 500 feet. The series thickens, however, from Woodford in a northerly and north-westerly direction, while the materials composing the strata become coarser—shales passing into sandstones, and sandstones into conglomerates.

The rocks and coal seams in this series are far more variable than those of the Greta series, and show marked evidence of contemporaneous erosion. They dip at from 4° to 9°.

At East Maitland, the general dip is E.S.E.—being a continuation of the dip of the eastern side of the Lochinvar anticline.

The centre of the succeeding syncline is reached near the Two-mile Creek, where the East Maitland to Newcastle road crosses the creek. At the top of the next hill to the E.S.E., the dip is north-westerly. Then comes another anticline before the Four-mile Creek is reached.

From here to Woodford the dip is chiefly easterly and south-easterly. At Woodford, the dip varies from S.E. to S.W.

The result of the continuation of an easterly dip for a considerable distance from the Four-mile towards Woodford, is that at Woodford the Four-mile Creek seams reappear dipping southwards, whereas they have been denuded off the anticline between the Two-mile and Four-mile Creeks.

The lowest seam known in this series is a seam for which I propose the name of the “Morpeth” seam, because its outcrop strikes directly through the town of Morpeth, where it dips south.

From Morpeth, southerly, the outcrop is hidden under the alluvials along the East Maitland-to-Morpeth branch railway. At the Gaol Hill, the seam was struck in the diamond drill bore at 124 feet from the surface, and the outcrop reappears—from under the alluvials in Bank-street, East Maitland—above the Gas Works. From here, the outcrop has been proved by me through Miss Day’s property and the Glebe land—at both of which the two divisions of the seam are somewhat wider apart than at the Gaol Hill, and near to Gas Works.

Just below the spur of the hill, above the quarry on Wallis’ Creek near the English Cemetery, East Maitland, the crop of a seam has been proved by me—probably representing the upper division of the Morpeth seam, but a great thickening takes place here of the beds below the seam, which are principally cherts. The outcrop of the Morpeth seam has also been proved in a small shaft near Rathluba, at the head of the lagoon between Rathluba and Louth Park, and I have also found it on the road from Louth Park towards the Bloomfield Colliery, which is the furthest point to the south to which it has at present been traced.

*Thickness and character of the coal.*—Near Morpeth, as your field notes describe, this seam was sunk to, in a shaft, 70 ft. deep, in the paddock at the back of Mr. Close’s house, the seam consisting of 4 ft. 8 in. of coal and bands, the greatest thickness of clean coal being 1 ft. 8 in.

At the Government diamond drill bore at the East Maitland Gaol,\* the section of this seam was as follows:—

Ft. in.	
2 6	Coal, with 1 in. band.
1 7	Pipeclay and blue clay.
4 2	Coal.

No other section of this seam is known to me except that obtained in the trial shaft near Rathluba, subsequent to my departure from the district.

The bottom seam struck in the diamond drill bore at Ironbark Brush, near Woodford, is probably identical with this Morpeth seam.

*Rathluba*

\* Annual Report, 1884; p. 179.

*Rathluba Seam.*—The furthest point to the south to which this seam has as yet been proved is Rathluba.

At Rathluba the seam consists of a lower workable portion from 4 to 4½ ft. thick, and an upper unworkable portion about 5½ ft., with thick bands.

The following is a section of this seam at Rathluba:—

		Section at air-shaft.	
		Ft. in.	
Roof ...	{	10 0	Massive grey sandstone.
		0 8	Soft clayey sandstone, with fine pebbles.
		0 0½	Coal.
		0 2	Brown shale.
		0 1-2	Coal.
		0 1	White fireclay.
		0 5½	Perished splint coal, or chitter.
		0 2½	Brown shale.
		0 7	Coal.
		0 6-8	White fireclay.
		1 2	Coal, soft, bituminous.
		0 4½	White fireclay.
		0 1	Coal.
		0 4	Clay shale, grey, and brown.
		0 10	Coal, soft, bituminous.
		1 6	Carbonaceous clay shale, hard, blackish, brown.
		0 4	Coal, dull black splinty, with thin bands.
Worked part of seam, 4ft. of coal.	{	0 5	Clay shale, dark.
		0 9 to 12	Coal, soft, bituminous.
		0 1½	Band of clayey coal.
		0 4	Coal, soft, bituminous.
		1 7	Coal, soft, bituminous, with 3 in. of hard splint coal at top.
		0 1-2½	Band, block stony coal.
		1 0	Coal, bituminous.

In a northerly direction from Rathluba, the seam splits the lower portion, striking through King street, East Maitland, where it was worked by Mr. Keddy, over 40 years ago.

The upper division of the seam, characterized by thick bands of white fireclay, is divided from the lower by a wedge of rock thickening northerly to such an extent that at the night-soil shaft, 207 ft. deep, on the back road to Morpeth, the strata intermediate between the two seams reach a thickness of 140 ft.

The following is a section of this shaft taken from "Mineral Products of New South Wales, 1887," plate 17:—

		Ft. in.	
		29 5	Blue and white rock.
		0 4	Coal.
		4 0	Blue rock.
		5 0	Blue and white stone.
		1 0	Indurated clay.
		0 6	Coal.
		1 0	Indurated clay.
		0 6	Coal.
		2 0	Indurated clay.
		0 8	Coal.
		0 10	Indurated clay.
		1 0	Coal.
		1 6	Indurated clay.
		1 0	Coal.
		1 2	Indurated clay.
		1 9	Coal.
		0 6	Indurated clay.
		1 5	Coal.
		8 0	Freestone.
		1 3	Coal.
		16 0	Freestone.
		2 0	Blue gravelly rock.
		71 4	Blue and white rock.
		2 0	Indurated clay.
		1 6	Coal ..... 8 in. Coal. (Mr. Andrew Tulip's section.)
		33 6	Blue and white rock.
		4 0	Indurated clay.
		5 6	Coal.
			{ 6 in. to 9 in. Pipeclay.
			{ 1 ft. 8 in. to 2 ft. Coal.
			{ 6 in. to 8 in. Black band.
			{ 10 in. to 12 in. Coal. (Mr. Andrew Tulip's section.)

Total ..... 198 8

The sections in the right hand column were supplied me by Mr. Andrew Tulip, and represent the worked portions of the upper and lower seams.

The crop of the upper and lower divisions of the Rathluba seam runs out before reaching Morpeth, but as the dip here is southerly the outcrops should be traceable in an easterly direction, but are hidden under a large swamp. On the east side of this swamp however, about 1 mile south-easterly from Morpeth, Mr. Stonier has observed the outcrop of the upper division of this seam in a quarry near Mr. Doyle's house about 14 chains E.N.E. from the bridge over the ditch draining the swamp, on the Morpeth to Raymond Terrace road.

The following section of this seam was measured by me in this quarry:—

		Ft. in.	
Roof.	{	8 0	Massive grey sandstone.
		5 0	Sandy shales.
		1 0	Fireclay, whitish grey.
		0 3	Black dirt, clayey.
		0 4	Fireclay, whitish grey.

Ft.	in.	
0	1	Brown clay.
0	2	Fireclay, whitish grey.
0	1	Clay, brownish grey.
0	3	Black dirt, clayey.
0	0½	Band brown clay.
0	2½	Black dirt.
0	1-1½	Fireclay, pure white, weathering pale yellowish white.
1	3	Fireclay similar to above, but with rusty patches.
0	6	Black dirt (perished coal).
0	10	Fireclay, pure white, weathering pale yellowish grey.
0	6-7	Black dirt (perished coal).
0	2½	Clay shale, brown with rusty thin ferruginous bands.
1	1	Fireclay, slightly inferior to previous, grey.

This seam is identical with the upper seam described above in the section of the 200 feet shaft near Morpeth.

This seam is dipping about W. 15° N. at 18°. This westerly dip having given the outcrops a southerly strike brings this seam near the surface along the east side of the East Maitland Reserve, and it has been proved in a shaft sunk by Matthew Hall, at a point about 10 chains W.S.W. from the S.E. corner of the preceding reserve. According to information given me by Mr. Arthur Campbell, of Hamilton near Newcastle, the seam here, including bands, was 10½ to 11 feet thick, with 10 different layers of coal the thickest being about 1 foot. The bands were said to be from 2 to 3 inches thick.

At Woodford according to the same authority this seam has been worked from the Old Scotch Derry Shaft, where it underlies "Big Ben" seam at a depth of 112 ft. at Woodford, the seam was said to exactly resemble that in Hall's shaft, and from its stratigraphical position as well as from the association of a pure white fireclay with this seam, I have no doubt of its identity with the upper division of the Rathluba seam.

The coal in the Rathluba seam, especially in the lower part of it, is bright and bituminous, and suitable for steam, gas, and household purposes.

Spherical lumps occur in this coal, as in the Wallsend seam, but whether they are due merely to a spheroidal fracture or to a concretionary structure in the coal, has not been determined, probably the latter is the correct explanation.

An account will be given in the detailed report, of the fireclays and grey clays associated with the upper division of this seam, which are worked near Victoria-street, East Maitland, for the manufacture of fire bricks, drain pipes, &c. The next seam worked above the Rathluba, from which it is separated by about 260 ft. of strata, is the 2 ft. 9 in. seam, which at Thornley is 32 ft. below the 6 ft. seam now worked there by Mr. Marshall. At Thornley another seam has been proved 3 ft. thick, and 12 ft. below the 6 ft. seam, but the lower 6 in. of this 3 ft. seam is of inferior quality. In other parts of the district this seam probably becomes united to the upper seam.

A good section of the 2 ft. 9 in. seam is to be seen in the tunnel, about half a mile E.N.E. from the N.E. corner of portion 28, parish of Maitland, where I measured the following section of it:—

Ft.	in.	
		Roof, fine grained sandstone with fine black laminæ.
0	3	Coal, bituminous.
0	0½	Coal, dirty.
0	1	Band, brown clay.
0	1	Coal, splint, rather dirty.
0	6½	Coal, splint.
0	1	Coal, soft bituminous.
1	6	Coal, splint.
0	4½	Coal, bituminous.

Total ... 2 11½

Floor, dark clay shale.

This coal is a splint coal suitable for steam, blacksmith, and household purposes.

The next seam above this (omitting the intermittent 3 ft. seam at Thornley) is the No. 3 seam at Thornley, which varies in thickness from 3 ft., at Thornley, to 4 ft. at Bloomfield. An account of this seam, and of the overlying No. 2 seam, has already been given by me in the Annual Report for 1886, page 149.

At Thornley, the No. 1 seam, the uppermost in the series, was measured by me as follows:—

Ft.	in.	
		Roof, sandstone with coal pipes, fairly hard.
0	1	Coal and bands.
0	1½	Band, dark clay.
0	1	Coal, bituminous.
0	0½	Band, black shale.
0	3½	Coal, splint and bituminous.
0	0½	Band, black shale, with "mother-of-coal."
0	8½	Coal, splint and bituminous.
0	1½	Coal, splint, dirty.
0	2	Coal, bituminous.
0	5	Band, dark grey crumbling sandy clay shale with coal pipes.
1	0	Coal, chiefly bituminous.
1	5	Coal, hard splint; the last two inches rather dirty.
		Floor, dark grey clayey sandstone with half-inch of black shale on top.

Total ... 4 6

This top seam at Thornley is probably identical with the "top" seam at Woodford.

Full particulars about the seams in the East Maitland series, and in the Stony Creek series, will be given in the detailed report now being prepared to accompany the geological map and sections.

The recent (?) alluvials, and the igneous rocks will also be described in the memoir.

I have, &c.,

T. W. EDGEWORTH DAVID,

Geological Surveyor.

The Geological Surveyor-in-Charge.

## APPENDIX No. 6.

Sir,

Department of Mines, Sydney, 3 February, 1887.

In accordance with your instructions, I proceeded to the diamond drill bore on the Holt-Sutherland Estate, and witnessed the drawing of the core from the bore-hole on the three occasions when the lower part of the bottom seam struck in this bore-hole was being proved.

The Superintendent of Drills, Mr. W. H. J. Slee, and the engineer in charge of the drill, Mr. J. T. Pearson, informed me on my arrival on the ground on January 25th that about 6 inches of coal had been bored through at the previous drilling, but when the rods were lifted there was no coal in the core barrel, although coal dust had been coming up previously in the water, which is pumped down the bore under great pressure. The core then raised consisted of soft pebbly sandstone, and was about 1 ft. 6 in. less in length than the distance drilled. This deficiency is to be accounted for by the wearing away in the bore-hole of the core of soft sandstone and coal. Assuming that one-half of the core so lost consisted of coal, 9 in. must be added to the 6 in. of coal known to have been penetrated, so that it may be inferred that the drill bored through 1 ft. 3 in. of coal at the previous drilling.

The distance drilled on January 25th, was 2 ft., and the duplex core barrel on being raised was found to contain 2 ft. of coal core.

Boring was resumed on January 28th, and I was informed by the Superintendent that the distance bored was 4 ft. 6 in. The duplex core barrel was emptied in our presence, and contained 1 ft. 8 in. of core, of which 1 ft. 4 in. was coal, and the lowest 4 in. black carbonaceous mudstone.

On February 1st, a further distance of 3 ft. 5 in. was drilled, and when the rods were lifted the ordinary core barrel was found to contain 3 ft. 9½ in. of core, consisting of black clayey sandstone and carbonaceous sandy shales. The upper part of this core for a length of 2 ft. 2 in. showed unmistakable signs of its having been inside the duplex core barrel, which was used at the previous drilling, but not on this occasion, and so this length of the core belongs to the previous boring, and should be added to the length of core recovered from it.

The total distance drilled since the seam was first struck until it was passed through was 7 ft. 9 in., made up as follows:—

	Ft. in.	
	1 3	Bored, January 18th.
	2 0	" " 25th.
	4 6	" " February 1st.
Total .....	7 9	

Out of this distance of 7 ft. 9 in., 5 ft. 10 in. of core were obtained, of which 3 ft. 4 in. were chiefly coal, and the rest stone. Assuming that the length of core not accounted for (1 foot 11 inches) was coal ground to dust, and lost in the water flowing from the bore-hole, the thickness of the seam would be 5 ft. 3 in., made up as follows:—

	Ft. in.	
	3 4	Coal core, brought to the surface.
	1 11	Coal lost from various parts of the seam through the pulverization and washing away of the coal by the water forced down the tubes through the bore-hole.
Total .....	5 3	

Owing to the loss of part of the coal core from the causes above-mentioned, it is impossible to give an accurate section of the seam.

The following is a descending section of the portion of the core recovered:—

	Ft. in.	
	0 3½	(about) Coal, small fragments of splint and bituminous steam coal.
Sample analysed from here—No. 53.	0 9½	Coal, dull black splint and bituminous steam coal, the bituminous coal occurring in layers from ½ to ¼ inch thick.
	0 0½	Coal, soft bright black bituminous.
	0 1½	Coal, dull black splint and bituminous steam coal.
	0 0½	Coal, brown, pyritous.
Sample analysed from here—No. 54.	0 8½	Coal, dull black hard steam coal, with lamina of brittle bright black bituminous coal ¼ of an inch thick.
	0 0¼	Band, brown stony clay.
Sample analysed from here—No. 55.	0 5½	Coal, splint and bituminous steam coal.
	0 0½	Band of brown clay.
	0 0½	Coal, rather clayey.
	0 0½	Band of brown clay.
	0 0½	Coal, rather clayey.
Sample analysed from here—No. 56.	0 5½	Coal, splint and bituminous steam coal.
	0 3½	Coal, soft bituminous, with thin bands of coaly shale from ⅓ inch to ¼ inch thick, occurring at intervals of ¼ inch.
Total .....	3 4	

The four samples selected by me from the parts of the core above specified have been analysed by Mr. W. A. Dixon, F.I.C., F.C.S. The following is a copy of his analysis and report:—

	No. 53.	No. 54.	No. 55.	No. 56.
Specific gravity .....	1.44	1.34	1.43	1.36
Composition, in 100 parts.				
Moisture .....	0.36	0.24	0.68	0.40
Volatile hydrocarbons .....	13.52	14.03	12.21	12.63
Fixed carbon .....	70.96	73.96	69.92	74.04
Ash .....	14.72	11.16	16.80	12.52
Sulphur .....	0.44	0.61	0.39	0.41
	100.00	100.00	100.00	100.00

The coke of No. 53 (85.68 %) was black, not swollen, and rather soft. The cokes of No. 54 (85.12 %), No. 55 (86.72 %), and No. 56 (86.56 %) were all swollen slightly, firm but dark coloured. The ashes in all were dark gray. These coals are all short-flamed steam coals. The average ash is 13.8 %, which is  $\frac{1}{2}$  % more than Bulli coal. They are all, however, noticeable for the small amount of volatile hydrocarbons and the high percentage of fixed carbon, and should therefore give good results under boilers built to consume Welsh coal.

The percentage of ash is rather high, but, as pointed out by yourself in your report on the core from the lower coal-seam at Heathcote, analyses of cores of coal-seams, when much of the core has been lost, do not afford conclusive evidence as to the average quality of the coal in the whole seam, because such recovered portions of the core usually contain all the stony and inferior parts of the seam, while the core lost is almost entirely composed of the softer and purer coal. Hence the proportion of ash in the seam, if calculated from the analyses, would be unduly increased.

The depth of the top of this seam below the surface is 2,295 ft. 11 in., and the total distance drilled was 2,307 ft., the bore being carried to a depth of 5 ft. 11 in. below the coal.

The bore is situated on the left bank of Dent's Creek, on the watershed into Port Hacking, at a point  $1\frac{1}{2}$  mile easterly from the Sutherland Railway Station, the latter being 15 miles south of Sydney. The surface of the bore-hole is 132 ft. above sea-level, so that the bottom of the bore is about 2,175 ft. below the level of the sea.

A seam of coal, 4 ft. 2 in. in thickness, was proved in this same bore-hole, 65 feet above the seam first described, on December 24th, 1886; and there can be no doubt that these two seams at Holt-Sutherland are identical with the two seams of coal proved at Heathcote, near Mount Westmacott, about  $8\frac{1}{2}$  miles S.S.W. The two coal-seams proved at Heathcote are 4 ft. 8 in. and 6 ft. 1 in. thick respectively, and were struck at respective depths of 1,513 ft. and 1,577 ft. 9 in.; they are continuations of the Bulli seams. The Holt-Sutherland bore bears about N. 29° E. from Heathcote, and the seams dip in this direction at an average rate of 127 ft. per mile. The true dip of the seams between these two points is nearly due north, at about 145 ft. per mile. This estimated rate of dip is only approximate, as this calculation does not take into account faults or local changes of dip.

No analysis has been made as yet of the coal from the upper seam at Holt-Sutherland, but, to judge from its appearance, it is a steam coal of good quality. The thickness of the upper seam being taken as 4 ft. 2 in., and the average specific gravity of the coal as 1.4, this seam contains about 7,090 tons of coal per acre, which will yield, after one-third has been deducted for waste in getting, faults, &c., about 3,550 tons of large coal and about 1,480 tons of small coal per acre.

The thickness of the lower seam being taken as 5 ft. 3 in., and the specific gravity as 1.4, the seam contains about 8,930 tons of coal per acre, which should yield, after making the same allowance as before for waste in getting and small coal, about 4,470 tons of large coal and 1,480 tons of small coal per acre.

The great depths at which the seams occur, and their thinness as compared with the principal seams of coal now being worked in this Colony, considered in conjunction with the high percentage of ash in the lower seam, leaves the question as to whether they can at present be profitably worked open to grave doubts. On the other hand, it must be borne in mind that coal-seams are liable to local thinning-out, as well as to deterioration in quality, and either of these changes may take place within a distance of a few hundred yards, as has frequently been experienced in our own coal-fields, as well as in those of other countries. As this is the only bore which has reached the coal in this neighbourhood up to the present, the only other being the similar bore at Heathcote,  $8\frac{1}{2}$  miles to the south, it would be premature as yet to infer that the fine Bulli coal-seams thin out or deteriorate in quality as they approach Sydney. Considering the immense area of the ground to be proved, and the rather equivocal character of the results so far obtained, the evidence of a single bore-hole like this is, in my opinion, insufficient to justify the expenditure of a large amount of capital in developing these coal-seams. The Bulli seams have been pronounced to be workable at Heathcote, on the evidence afforded by the diamond-drill bores; but before these seams can be proved to be workable or otherwise, as far north as the Holt-Sutherland bore, at least one more borehole should be made between Holt-Sutherland and Heathcote, or east or west of the Holt-Sutherland bore.

It is interesting to note the occurrence of native copper in the mottled dark purple and green shales, a thickness of 71 feet of which was met with between 1,729 feet and 1,809 feet below the surface. Metallic copper is disseminated in scales and threads through the mass of the shales, which, like the cupriferos shales of Germany, occupy a position intermediate between the top of the coal-measures and the base of the Triassic rocks, the latter being represented at Holt-Sutherland by the Hawkesbury sandstone.

The copper shales (kupfer-schiefer) are profitably worked for copper in Germany; and it is possible that if these purple shales were carefully examined at points where they crop out at the surface patches might be found containing sufficient copper to admit of their being worked to advantage.

The Holt-Sutherland bore is the deepest and largest in Australia, the depth of the bore being 2,307 feet, and the diameter 3 inches. The bringing to the surface of 3 ft. 4 in. of coal core out of a total thickness of 5 ft. 3 in. from such a depth, when such heavy pressure of water had to be applied to keep the borehole clear, speaks for itself as to the successful management of the diamond drill at this bore.

I have, &c.,

T. W. EDGEWORTH DAVID, B.A., F.G.S.,  
Geological Surveyor.

The Geological Surveyor-in-Charge.

#### APPENDIX No. 7.

Department of Mines, Geological Survey Branch,  
Sydney, 28 February, 1888.

Sir,

I have the honor to submit the following progress report of my work during the year 1887. From the beginning of the year until January 20th I was engaged in office work, drawing up reports on the Yarrangobilly Caves and the Kiandra Gold-field.

On January 20th I left Sydney for Inverell, where I arrived on January 22nd. Here I accompanied you during your examination of the neighbouring diamantiferous deposits, and after your departure for Sydney I remained to make a geological map of the Cope's Creek Diamond-field. (See Appendix No. 8.)

On

On February 20th I rode from Inverell to Myall Creek Station, and next day, through the kindness of Mr. M'Donald, I visited the bone deposit on the run. The bones are embedded in a stiff clay, and were first exposed by the denudation caused by the neighbouring creek. They consist chiefly of the bones of *Diprotodon*, but lately the remains of *Thylacoleo* have been unearthed. These Pleistocene bone deposits are of extreme interest, because the remains from them, taken with those from our caves, form a link between the terrestrial fauna of the present time and that of the Tertiary period; and additional interest is added to them from the fact that in other parts of the world it is in such post-Tertiary deposits that the earliest traces of man are met with.

On February 22nd I proceeded to Bingera, in the neighbourhood of which I was engaged till the beginning of May, mapping geologically the diamantiferous deep lead.

On May 2nd I returned to Sydney, where I remained till June 23rd, engaged in writing a report (Appendix 9) on the Bingera Diamond-field, and in other office work.

On June 23rd I proceeded to Mittagong, to be present at the boring through a coal-seam which had been struck in the diamond-drill bore put down about a mile from the town. This bore passed through the Hawkesbury sandstone, and at 602 feet the first thin coal was struck. For the next 45 feet the bore passed through alternating beds of carbonaceous shales, splint coals, thin bituminous coals and fireclays, until at 647 feet a workable seam of good bituminous coal, 5 feet thick, was reached. I returned to town on July 7th, and reported on the section passed through. (See Appendix No. 10.)

On July 29th I left for Captain's Flat, situated about 30 miles to the south of Bungendore, for the purpose of reporting as to the alienation of certain lands, returning to Sydney on August 1st.

On August 15th I travelled to Orange, and examined and reported on a bed of limestone at Lewis Ponds. (See Appendix No. 11.) From Orange I went to Wellington, visited the caves there, and reported to you the advisability of having certain improvements carried out in connection with them. From Wellington I went on to Bourke, and from there back to Coolabah, where I inspected the deposit in which a couple of shafts had been sunk, and in which traces of gold had been found. This deposit is a loose gravelly conglomerate, at this place over a hundred feet deep, and I believe it to be a Cretaceous-Tertiary deposit, filling up the hollows and inequalities in the surface of the Silurian bed-rock of the district; and consequently, although much of it has been derived from the denudation of auriferous Silurian rocks, the gold, which no doubt occurs in the deposit, will not be concentrated in any particular part of the deposit, but will occur generally disseminated through it or in isolated patches. From Coolabah I went to Byerock, and from that place, as a starting-point, I made an examination of the general geology of a large portion of the surrounding district, my report of which is appended. (Appendix No. 12.) I returned to Sydney, *via* Girilambone, on September 30th. I was engaged in office work till October 31st, and on that date I proceeded to Orange, where I received from you my instructions with regard to the geological examination of the country between Nyngan, Nymagee, and Cobar and Girilambone. I arrived at Nyngan on November 2nd, and after examining the country in the neighbourhood of that town, I proceeded by coach to Cobar on November 14th. From here I made numerous extensive excursions over the neighbouring country, going as far south as Nymagee. During one of these excursions, to the north of Cobar, a very interesting discovery was made of the occurrence of three or four small detached hills, named El Capitan, consisting of that very rare form of lava, Leucite Basalt, the only other Australian locality for which is Byerock Mountain, some 30 miles north from El Capitan. At the latter place there are evidences, in the presence of quartzite and hard siliceous grits, below the basalt, that here the Leucite lava had flowed as a lava stream down a valley, burying the creek-bed at the bottom of it.

Being prevented by the heavy rains from returning to Nyngan, I left Cobar on December 4th for Bourke, from which place I returned to Sydney, arriving on December 9th, having called at Girilambone and Nyngan on the way.

Till the end of the year I was engaged in office work, writing my report on the Nyngan and Cobar District. This report is appended. (Appendix No. 13.)

I have, &c.,  
WILLIAM ANDERSON,  
Geological Surveyor.

The Geological Surveyor-in-Charge.

#### APPENDIX No. 8.

Sir,

Bingera, 30 March, 1887.

In accordance with your instructions, I have examined and mapped geologically the country immediately to the north of Cope's Creek and the Gwydir River, in the parishes of Clare, Auburn Vale, and Aconite, and have the honor to submit to you a report on the geological features of that district, accompanied by a geological map.

The rocks which occur in the area embraced by this map are:—Granite, altered sedimentary rocks, basalt and drift (Pliocene Tertiary), and a siliceous conglomerate (Miocene Tertiary).

The granite is exposed over large tracts of this area, and is, as a rule, coarsely crystalline, having the crystals of felspar porphyritically developed; but at one point in the parish of Clare the quartz is the porphyritic mineral, there being little felspar present. It contains a good deal of tourmaline, which, in some places, occurs in crystals of considerable size, as among the granite ranges which form the northern boundary of the parish of Aconite. This granite is evidently intrusive, having been intruded among a series of sedimentary rocks, of which only a few patches have been left in this district, the rest having been removed by denudation. In weathering it leaves behind it many curious and fantastic forms. Now in the shape of a perpendicular slab, standing upright out of the ground, which calls to mind the "standing stones" so laboriously raised in other countries by prehistoric man; and again as rounded hill masses, whose summits seem inaccessible, and whose smooth surfaces when seen from a distance only want the groovings and polishing to produce the *roche moutonnées* surfaces so commonly seen and so characteristic of a glaciated country, while everywhere the surface of the granite country is strewn with immense rounded boulders of granite.

The sedimentary rocks, consisting of sandstones, limestones, and shales, have been so highly altered by their contact with the granite that, as yet, little evidence has been found to prove to which of the Palæozoic formations they belong, although some fossils, which were obtained by Mr. C. S. Wilkinson,

Government:

Government Geologist, from a bed of limestone on Auburn Vale Creek, show that these rocks are either of Devonian or Carboniferous age. A large patch of them occurs between Auburn Vale Creek and Cope's Creek, where their junction with the granite is also well seen.

The basalt mostly occupies the high grounds, and it can frequently be seen covering the drifts and pipeclays which were deposited in the valleys by the rivers and creeks of the earlier Pliocene-Tertiary Period. In some places, it still remains spread over large areas, forming elevated plateaux, as in the parishes of Aconite and Auburn Vale. The rich alluvium or black soil of this district has been derived from the decomposition of this basalt. It is often very vesicular, and the cavities contain zeolites in great variety. This basalt, which, towards the end of the Tertiary Period, flowed down and filled up the valleys, burying the drift beneath it, now occupies the high grounds, because the denuding agents, such as the air, rain, and streams, found the hard compact basalt more difficult to wear away than the hills of granite and altered sedimentary rock which enclosed these valleys. From the large areas which it covers, this basalt could hardly have flowed from a single or even a series of volcanoes, but it had probably a similar origin to the great basaltic flows which took place in Western Europe towards the close of the Tertiary period—that is to say, the lava welled up through fissures or cracks in the earth's surface and spread over the country in all directions, drying up rivers, filling up the valleys and covering the lower hills. Since then the rivers and creeks have worn new channels for themselves, generally through the granite and other rocks, although in many places the basalt has been cut through, thus exposing the wash underneath it, and leaving isolated knobs capped with basalt.

The siliceous conglomerate is most largely developed to the north of the Malacca and Stockyard Hills—two isolated basalt-topped hills, near the eastern boundary of the parish of Clare. It also occurs on the basaltic plateau in the parish of Aconite. It is a silicified drift, and represents an older river drift than the Pliocene-Tertiary drift, which is present in many places below the basalt. Its pebbles are well rounded and waterworn, and have been cemented together into a very hard and compact conglomerate by the action of water containing silica in solution. It is probably of Miocene-Tertiary age. The Pliocene drift can be seen at various points resting on this siliceous conglomerate.

The Pliocene-Tertiary drift, which is at present being worked for diamonds, consists of gravels, sands, and pipeclays. The gravel and sand occur mixed together, or in more or less stratified layers, and represent the bed of the old Pliocene river. As a rule the drift is loose, but patches and layers of it often occur cemented together with iron, which has been present in solution in the water that has filtered through it. This wash may be seen cropping out from under the isolated basaltic hills, such as the Malacca and Stockyard, and also in places from beneath the denuded edges of the basaltic plateaux. The pebbles in the wash are well rounded and waterworn, and consist chiefly of quartz, altered sedimentary rock, and granite; while in the wash at the Round Mount, on the south side of Cope's Creek, clay boulders are very common, and in the wash at the Red Hill, in the parish of Gum Flat, boulders of basalt occur, which, however, have not been derived from the Tertiary basalt overlying the wash, but must have come from some older bed of basalt. The finer drift consists largely of gem stones; of these, the sapphire, topaz, garnet, zircon, and the diamond occur, while along with these the minerals tourmaline, tin, and gold are present. Tourmaline is particularly abundant, both in large and small crystals, which generally show the triangular section, and also in rounded and waterworn fragments. The diamonds do not occur in particular layers in the wash, but are generally found scattered throughout it, although in some cases small patches of wash have been discovered which have been very rich in diamonds.

The pipeclay is sometimes found resting on the wash, but more frequently it occurs alone between the bed-rock and the basalt. It is never more than a few feet in thickness, and was probably deposited in the quiet reaches and on the flats of the old rivercourse.

The deep lead which flowed westward from between Inverell and Bundarra must have passed along the line of the present course of Cope's Creek, and joined the deep lead coming from Boro Creek, near the Round Mount.

I have, &c.,

WILLIAM ANDERSON,

Geological Surveyor.

The Geological Surveyor-in-Charge.

#### APPENDIX No. 9.

Sir,

Department of Mines, Sydney, 10 May, 1887.

In accordance with your instructions, I have examined and mapped, geologically, the country in the immediate neighbourhood of the Bingera Diamond Mines, in the parishes of Bingera and Derra Derra, county of Murchison, and I have now the honor to submit a report on this diamond-field, accompanied by a geological map.

The base-rock of the district in which the diamond drifts occur consists of sedimentary rocks, comprising argillaceous shales, sandstones, and conglomerates, with interbedded igneous rocks. They are well exposed in section in the cuttings on the Narrabri Road, where they are seen to be much hardened and contorted. As a rule they are much jointed, and often break up into rudely polygonal prismatic pieces. This jointing, with its results, is particularly well seen in a rugged gorge lying to the north of the Narrabri Road, just before it reaches the top of the basalt range, about 6 miles from Bingera. This gorge occurs at the junction between the basalt with its underlying pipeclays and the sedimentary rocks, and its presence is largely due to the polygonal jointing of these rocks. The denuding agents, by their mechanical and chemical action on the joints, have gradually loosened the rock in polygonal masses, until now a picturesquely rugged gorge has been formed, showing precipitous faces of rock some hundreds of feet in height, on which the columnar structure is well seen. Prismatic or columnar jointing is most commonly met with in basaltic and other igneous rocks, where it is a superinduced structure, due to the contraction of the lava in cooling.

The fossils obtained from these rocks are from beds of shale in Eagle Hawk and Doctor's Creek, and consist of some undeterminable plant markings with a few casts of *Lepidodendron australis*, M'Coy, identified by Mr. R. Etheridge, junr., Palaeontologist to Geological Survey of New South Wales, the presence of which would point to the rocks being either of Lower Carboniferous or Devonian age.

Numerous veins of quartz and calcite occur traversing these rocks, the latter sometimes being as much as 2 feet in thickness. The quartz veins are usually small, although in some parts of the district they form large reefs, which in some cases, as the All Nations reef, near Bingera, are payably auriferous.

The

The Tertiary Formations consist of two beds of basalt with their underlying gravels and clays. The older basalt rests on the Tertiary clays and river gravels which contain the diamonds and gems, while the two flows of basalt are themselves separated by thick layers of clays, sands, and sometimes fine gravels. These old lava flows now form a high range, in height from 1,200 to 1,400 feet above the township of Bingera, and running in a general south-east and north-west direction. It forms the dividing range between the Gwydir and Horton Rivers, and is in places nearly cut through owing to the extensive denudation, which has also rendered its sides scarred and precipitous, and has thus freely exposed the sands, clays, and gravels below the basalts. At a few points, however, the upper and younger basalt may still be seen abutting against the sedimentary rocks, which formed the side of the old Tertiary valley down which the lava flowed.

The basalt is not uniform in texture throughout, some parts being hard and compact, while others have decomposed into botryoidal masses which have a kernel of hard basalt surrounded by concentric layers of decomposed rock. It often shows prismatic structure, and at one point to the north of Pallal Gap, the upper bed is seen to split up into thin slabs as if it were a bedded rock, but this is really due to one system of divisional planes being more developed than the others, consequently giving the rock a fissile character.

Both beds of basalt extend, with a few slight breaks in the upper one, from Five-mile Creek to about a mile north of Pallal Gap. At this point the upper basalt turns sharply to the west, while a lower and interrupted range, capped by the older basalt, runs northwards to within a few miles of the Gwydir River. In breadth it varies from a few hundred yards to nearly two miles. In all its extent the pipeclays, sands, and occasionally gravels, can be seen at intervals outcropping from beneath both beds, the lower of which is at least 300 feet thick, while the upper, at its thickest, point some distance to the north of Pallal Gap, is 350 feet in thickness.

The upper surface of the lower basalt does not show evidences of erosion having taken place to any extent during the deposition of the upper sands, clays, and gravels, therefore it is probable that there was no great lapse of time between the occurrence of the two lava flows. Sufficient time, however, must have elapsed for the drainage of the country to have reasserted itself, and for this river to have again flowed down its old valley, whose bottom was, however, covered over with a thick layer of basalt, on which were deposited the upper sands and clays, in places to the thickness of 120 feet, before the second flow of lava took place.

The Tertiary river drifts occur under both beds of basalt, and consist of fine-grained pipeclays, sands, and gravels, and the whole deposits vary from a few feet to over 100 feet in thickness. The pipeclays are variously coloured, while the sands are in many cases composed of comminuted fragments of gemstones and quartz. The gravels in which the diamonds are found are composed of large and small pebbles mingled together with sand. Sometimes the sands are arranged in lenticular patches. The pebbles are well rounded and of all sizes, and consist mostly of variously coloured jasperoid rocks, quartz, altered sedimentary rock, and in some parts stiff clay boulders, but the relative proportion of these various kinds of pebbles differs in different parts of the deposit. Sometimes the jasperoid pebbles predominate, sometimes pebbles of the altered sedimentary rock, while in few instances the clay boulders are most abundant. The drift which occurs between the two beds of basalt consists almost entirely of sand containing great numbers of small fragments of gems, such as topaz, sapphire, spinel, zircon, &c. It has been deposited pretty uniformly, averaging nearly 100 feet in thickness. In a few places fine gravels occur mixed with the sand, as at the S.W. corner of M.L. 152. In this upper drift diamonds have been picked up after rain, but they were very small. The gemstones and minerals which occur in the drifts along with the diamonds are as a rule of small size, and generally fractured. They comprise sapphire, topaz, ruby, garnet, spinel, zircon, brookite, titaniferous iron, magnetic iron, wood tin, tourmaline, quartz, opal, iron pyrites, gold, osmiridium, and the diamond. There are besides, small oval and rounded fragments of jasperoid rock of all colours, but chiefly of a light gray colour. These curious little pebbles usually average about  $\frac{1}{2}$  of an inch in diameter. Their surfaces are very smooth and polished, and they are always found with the diamond, tourmaline, and other gems on the turning up of the sieve in washing. This is due to their specific gravity being nearly the same as that of the diamond.

At present diamond-mining is almost at a standstill in this district, but, on the flat, known as "Gympie Flat," to the east of the basalt range, gold is being worked in the Pleistocene alluvial deposits, which have been partially derived from the denudation of the basalt range with its underlying clays and gravels. The gold obtained here is in all respects similar in character to that which is present in the diamantiferous deposits, and there is little doubt that it has been largely derived from the denudation of these deposits. Most of the diamond-mining has been done in working the gravels which occur as isolated hills on the flat to the east of the basalt range, and from these a large number of diamonds have been obtained, besides in some cases, as on M.L. 135, large quantities of gold. These isolated deposits on the flat are probably of a different age from the drifts under the basalt. They lie at a much lower level, there being a difference of 200 or 300 feet between them and the nearest exposure of drift on the range. They were probably deposited at different times, the deposits under the basalt being the earlier of the two.

The mining operations that have been carried on for the purpose of obtaining diamonds have not been extensive.

The drift on M.L. 132 was worked as far back as 1873, by M'Caw & Wescott, who obtained 1,680 diamonds from about 100 loads of gravel. Since then altogether about 4,000 diamonds have been got from this patch of wash. On M.L. 139, five shafts, averaging 50 feet in depth, have been sunk, all through wash, which, although containing abundance of gemstones, has, as yet, yielded no diamonds.

On M.L. 9 the wash is from 5 to 8 feet thick, and 116 diamonds were obtained from 48 loads, 20 of which yielded 18 carats, while the average was  $\frac{2}{3}$  of a carat to the load. The "Big Hill," on M.L. 10, was first worked by Falk & Co., of Melbourne, who got from 40 to 50 diamonds out of it, and afterwards by the Melbourne and Bingera Diamond-mining Co., but with very unsatisfactory results. On M.L. 135 the wash is about 4 feet thick and 100 lodes of it yielded 53 diamonds, weighing 15 carats.

Shafts have also been sunk on M.Ls. 20, 21, and 22, close by the Narrabri Road, but the gravels were washed for gold alone, although a few diamonds were got in the process.

A little to the west of M.L. 148 a shaft has been sunk 56 feet through sands and clays which yielded no diamonds. A few hundred yards to the N.W. of this a hard cemented wash occurs, which is full of gemstones.

On

On M.L. 125 a tunnel has been driven 40 ft. in the wash below the basalt. About a chain to the south of this is a shaft which at 45 ft. cut through 6 ft. of wash with a S.W. dip.

Another shaft close by was bottomed at 87 ft. after going through 7 ft. of wash. Some 3 loads of this were washed, and produced something like half a dozen diamonds. On the next block to the south, 126, Craddock and party have driven five tunnels, the longest of which is 170 ft. in the wash, which consists of fine sand in layers and boulders of quartz, jasperoid rock, and clay. There is a good deal of tourmaline in the wash, which thins off to 3 ft. in thickness at the end of the longest tunnel, but a little to the west several shafts have been sunk through the basalt. One, 43 ft. deep, went through 14 ft. of basalt, then pipeclay, with 7 ft. of wash below it. From the 170-ft. tunnel 35 diamonds were obtained from 3 barrowfuls. In another tunnel 17 diamonds were washed from 22 bags, each bag weighing 50 lb., while from another spot 10 diamonds were obtained from 11 bags of wash. Altogether over 500 diamonds have been taken out of this claim. While I was there one dishful of drift was washed, and it gave one diamond and 2.08 grains of gold.

On M.L. 16 there is a patch of gravel and sand which has been called the Monte Christo. The pebbles consist of quartz, jasperoid rock, and clay boulders.

A tunnel has been driven a considerable distance into the deposit, and a number of shafts have been sunk in it; one of the latter is 33 ft. deep, all in wash. 10 loads from the tunnel gave 83 diamonds, weighing 14½ carats, while at the first washing 20 loads went 5 carats to the load; the rest gave 2 carats to the load. From the shaft the wash went 1 or 1½ carats to the load. Altogether 87 loads were washed from Monte Christo, giving about 209 carats—1,134 diamonds.

At the end of the basalt range some distance south of the Gwydir River, in the parish of Banchcet, on M.L. 132, a tunnel has been driven for 200 ft. into the wash below the lower basalt. It consists of boulders of altered sedimentary rock, quartz, and a few clay boulders. At the mouth of the tunnel the wash is about a foot thick, but it increases somewhat in thickness towards the inner end of the tunnel. Three loads were washed from this tunnel which gave 23 diamonds.

About a mile further south along the range a shaft has been sunk 36 ft. through pipeclay and 2 ft. of wash, from which 3 loads were washed producing 3 diamonds.

At Five-mile Creek, south of the Narrabri Road, a shaft has been sunk through the lower deposit. It is down over 100 ft., and passes through chocolate-coloured clay with fossil leaves, light-coloured pipeclay, and 18 ft. of wash, which consists mostly of variously coloured pebbles of altered sedimentary rock, with quartz boulders and sand. A few bags only of this were washed, and from them one diamond was obtained.

On C.P. 71 a shaft, known as Lowe's Shaft, has been sunk through the top basalt. It is upwards of 230 feet deep, but not bottomed. The first 80 ft. were through the upper basalt, then 50 ft. of pipeclay, 14 ft. of sand, 50 ft. of pipeclay and lignite, and then 30 ft. in the lower basalt.

On M.L. 134 Mr. Mercer has obtained diamonds from the Pleistocene redistribution of the Tertiary gravels, having got 20 diamonds from 24 barrowfuls of wash; and there is every reason to believe that diamonds, as well as gold, are present in the alluvial of the other numerous gullies which drain from these diamantiferous deposits.

The recorded yield of diamonds from the Bingera Diamond field are as follows:—

Up to August, 1873, as recorded in Professor Liversidge's paper in the *Trans. Roy. Soc. N. S. Wales* for 1873, the number was 2,370 diamonds, the Gwydir Diamond-mining Company getting 690 diamonds from 34½ loads, and Wescott & Co. getting 1,680 diamonds.

In the Annual Reports of the Department of Mines the earliest notice of the diamond yield from Bingera is in 1883, when the Australian Diamond-mining Company obtained over 400 diamonds from 100 loads of wash at Doctor's Creek.

In the Report for 1884 (p. 88) the yield is given at 1,210 diamonds from 418½ loads, the Australian Diamond-mining Company getting 1,193 diamonds, weighing 25½ carats, from 418 loads, while Craddock and party obtained 17 diamonds from half a load.

In the Report for 1885 (p. 83) the yield obtained by the same Company was 1,134 diamonds, weighing 209 carats, from 87 loads.

Besides these recorded yields there has been a large number of diamonds obtained of which there is no record. As far as I have been able to learn, there have been at least 12,000 diamonds obtained from the Bingera Diamond field, and probably this number is below the mark.

The diamonds from the Bingera deposits are usually small, and average 4½ diamonds to the carat. They are most frequently colourless and transparent or straw-coloured, although a few specimens have been obtained of a pale brown and a greenish tint. A large number of the Bingera diamonds are fractured. Some specimens appear as if waterworn; but this is no doubt due to the faces of the crystals being round instead of flat, this being a well-known peculiarity in the crystallization of the diamond. It is hardly possible that the diamond could be abraded and have its edges and angles rounded off, even when carried along by a river current among boulders of all kinds and sizes, rolling pellmell over each other. Under these circumstances it might get fractured, but never water-worn, owing to its great hardness and the polished smoothness of its surfaces. I have not heard of nor seen any specimens of "boart" from the Bingera deposits, although it is quite possible that this useful variety of the diamond may have been overlooked in washing for the more precious variety.

In reference to the quality of the New South Wales diamonds, a valuable report has lately been published by Messrs. Davies and Etheridge, jun., on the diamonds exhibited at the Colonial and Indian Exhibition, London. From that report I quote the following conclusions arrived at by the authors:— "The diamonds of New South Wales in their physical characters are more nearly allied to those of Brazil than any other country. They have been very largely sold in London as such. As regards colour, they differ practically but little from those of other fields. The general absence of 'cleavage' and 'macles' is a point much in their favour. Stones of the rarer colours assumed by the diamond should be particularly sought for. The greater hardness of New South Wales gems will probably raise the cost of cutting, but this will be compensated for by their extra 'brilliancy.' 'Boart' should be eagerly sought for." (Report on New South Wales Diamonds by Thos. Davies, F.G.S., and R. Etheridge, jun., p. 8.)

It will be seen from the description I have given of the various formations of this locality that the diamantiferous deposits are very different from those in which diamonds are obtained at Kimberley, South Africa. Here the deposits consist of river drifts, which occur spread over the denuded surfaces of the bed-rock

bed-rock of the district. In South Africa, although diamonds were formerly worked in the drift deposits of the Vaal River, the chief source of the diamond now is in the neighbourhood of Kimberley, where they occur embedded in a curious agglomerate, which fills a series of elliptical pipe-like hollows passing vertically through the sedimentary bed-rock of the district. These hollows are supposed to be the necks or pipes of ancient volcanoes, and are, with the rock which fills them, and which is the matrix of the diamond, of volcanic origin. It may be that in this Colony the diamond has not yet been traced to its matrix, but there can be no doubt that the Bingera deposits differ widely both in origin and character from those at Kimberley.

From the barometric observations which I obtained of the edges of the basalt and of the outcrops of the pipeclays and gravels, I find that in all probability an old river channel occurs below the basalt on which Smith's and Butler's selections are situated. To the N.E. of Lowe's shaft, along the Narrabri Road, the sedimentary rock is still seen forming a series of hills, which rise above the level of the basalt, the lower bed of which runs against the older sedimentary bed-rock, this showing that here we have the side of the old valley, while immediately to the west of the W.R. 418 there is a high ridge of sedimentary rock running in a N.W. and S.E. direction. This ridge now rises above the top of the lower basalt, and in Tertiary times was no doubt a much greater height. Pebbly wash was found, 18 feet in thickness in the shaft which was sunk at the southern end of the basalt near Five-mile Creek. There is also an outcrop of pebbly wash exposed by a deep bend of the creek which flows south along the edge of the basalt into Five-mile Creek. Some distance to the north of this, where a fence crosses the creek, there is an outcrop of pipeclay which has a slight dip to the S.W. The lowest level of this edge of the basalt at which I have noticed the pebbly wash is to the S.E. of Smith's conditional purchase 71, where the creek, by taking a sharp bend, has exposed a small cliff of wash overlaid by a good thickness of pipeclays. These facts, I think, would show that here we have the old Tertiary valley still defined by the hills of sedimentary rock which enclosed it, although these are now very much denuded, and consequently much lower than they were in Tertiary times.

All over the district the denuding agents have more easily denuded away the hills of sedimentary rock than the basalt which filled the Tertiary valleys, and consequently most of the present valleys and low-lying flats have been scooped out of the sedimentary rock, leaving the hills capped with basalt.

To bottom a shaft on the basalt plateau on which Lowe's shaft has been put down it would require to be at least 500 feet deep, for, as shown by the shaft already sunk, the upper basalt is here about 100 feet thick, and below it there are about 100 feet of sands and clays, while the lower basalt is at least 300 feet thick. I consider this locality to be perhaps the most promising part of the field, and think that it ought to be prospected. Another part of the field which has shown every appearance of producing good results both in gold and diamonds, if opened up, is at Craddock's claim, M.L. 126.

I have estimated the extent of the various isolated patches of diamantiferous wash on the flat to the east of the basalt range to be roughly about 150 acres. The amount of wash under the basalt cannot as yet be computed, as it has not been prospected sufficiently to indicate its probable extent.

In conclusion, I beg to state that there is in this district a series of basalt-capped ranges which no doubt contain in many places below the basalt Tertiary river deposits similar to those from which the diamonds have been obtained at the sources of Eaglehawk and Doctor's Creeks.

I have, &c.,  
**WILLIAM ANDERSON,**  
 Geological Surveyor.

The Geological Surveyor-in-Charge.

APPENDIX No. 10.

Sir, Department of Mines, Sydney, 11 July, 1887.

In accordance with your instructions, I proceeded to the diamond-drill bore near Mittagong, and witnessed the drawing of the cores from the time the first coal was struck, on 23 June, until the coal seam was passed through on 7 July.

On my arrival the engineer informed me that the actual depth bored was 605 feet. At this depth a seam of bituminous coal, 2 inches in thickness, was struck. This was the first coal passed through below the Hawkesbury sandstones. I was present during the boring of 47 feet 10 inches below it, and witnessed the raising of the cores corresponding to that depth.

The following is a section of the strata passed through:—

Section of Diamond-drill Bore near Mittagong.

	Ft. in.	
	0 0	Sandstone.
	0 2	Bituminous coal.
Depth of first coal, 605 feet	2 0	Black shale.
	6 2	Sandstone and grit.
	0 4	Black shale.
	0 5	Splint and bituminous coal.
	0 9	Black shale.
	0 4	Fireclay.
	0 4	Black shale.
	0 7	Fine-grained sandstone.
	0 5	Black shale.
	0 2	Fireclay.
	1 2	Splint coal (inferior).
	0 1	Band.
	0 10	Bituminous coal (inferior).
	0 1	Band.
	1 8	Splint coal (inferior).
	1 6	Fireclay shales.
	0 4	Coaly shales.
	0 7	Splint coal (stony).
	0 1	Band.
	0 7	Coaly shales.
	0 8	Splint coal.
	0 1	Band.
	0 6	Coaly shale.
	1 3	Splint coal.
	0 1	Band.

			Ft. in.	
			1 4	Splint coal.
			2 10	Fireclay shales.
			1 6	Splint coal (stony).
			0 2	Fireclay shales.
			0 1	Bituminous coal.
			0 1	Band.
No. 4 Analysis	{	Sample G.	2 2	Bituminous coal.
			0 5	Fireclay shale.
			0 10	Coaly shale.
No. 3 Analysis	{	Sample F.	1 5	Splint coal.
			0 3	Black shale.
		Sample E.	1 0	Bituminous coal.
No. 2 Analysis	{	Sample D.	0 2	Splint coal.
			2 10	Bituminous coal.
		Sample C.	0 1	Band.
No. 1 Analysis	{		0 2	Splint coal.
			0 10	Bituminous coal.
			0 2	Splint coal.
			0 1	Band.
			0 2	Splint coal.
			0 4	Bituminous coal.
			0 1	Coaly shale.
			3 4	Bituminous coal.
			0 2	Band.
			5 0	Bituminous coal.
			0 8	Coaly shale.

} Workable seam.

The cores when brought up were considerably broken, particularly those of the bituminous and splint coals, although, taken as a whole, the core was a fairly good one. This was, no doubt, due to the fact that the special core barrel was largely used after the coal was first struck.

Four samples of the principal seams of coal gave on analysis the following results:—

No.	Moisture.	Vol. Hydrocarbon.	Fixed Carbon.	Ash.	Sulphur.	Sp. Gr.	Coke.
1	1.35	25.77	60.06	12.24	0.56	1.347	72.30
2	1.40	24.61	59.22	14.08	0.69	1.376	73.30
3	1.65	27.87	52.30	17.40	0.78	1.420	69.70
4	1.17	19.25	47.59	31.42	0.57	1.338	79.01

From these results it will be seen that the workable portion of the seam is 8 ft. 11 in. thick, containing 8 ft. 8 in. of bituminous coal.

The following is the section of the seam, the top of which is 642 feet from the surface:—

Roof, splint coal.	Ft. in.
Bituminous coal .....	0 4
Coaly shale .....	0 1
Bituminous coal .....	3 4
Band (dark) .....	0 2
Bituminous coal .....	5 0
Floor, coaly shale.	

Samples Nos. 1 and 2, taken from this seam, are bright bituminous coals of good quality containing some thin streaks of splint coal. They are fairly good coking coals, the coke swelling considerably, and becoming hard and firm. The percentage of ash in the lower part of the seam (sample No. 1) is 12.24, and in the upper part (sample No. 2), 14.08. This amount of ash is not excessive, and would not prevent the use of the coal for domestic and steam purposes. The colour of the ash is gray. A sample of ash, taken from the 4 in., 3 ft. 4 in., and 5 feet coals of the workable seam, gave the following analysis:—

	In 100 parts.	
Silica .....	67.10	} Insoluble in acids, 88.42
Alumina .....	21.32	
Alumina .....	6.37	} Soluble in acids, 11.53
Protoxide of iron .....	4.01	
Protoxide of manganese .....	trace	
Lime .....	0.81	
Magnesia .....	trace	
Phosphoric anhydride .....	0.22	
Sulphuric .....	trace	
Alkalies and loss .....	0.17	
	100.00	

The low percentage of sulphur in the coal, together with the small amount of phosphoric and sulphuric anhydride in the ash, will enhance the value of the coal for smelting purposes.

I have, &c.,

WILLIAM ANDERSON,  
Geological Surveyor.

The Geological Surveyor-in-Charge.

#### APPENDIX No. 11.

Sir,

Bourke, 20 August, 1887.

In accordance with your instructions, I have made an examination of the Limestone at Upper Lewis Ponds, 16 miles to the north of Orange, and have the honor to forward my report thereon.

Between Orange and Lewis Ponds the strata consist of highly altered and metamorphosed lower Palaeozoic rocks. The limestone at Upper Lewis Ponds occurs as two lenticular beds separated by a few beds of altered slates. They outcrop on the side and top of a high and steep range, and, with the accompanying talcose and chloritic slates, dip at a high angle to the east.

The

The limestone is compact and of fine texture. At the outcrop it is greyish white in colour, but at greater depths, as can be seen in the tunnel which has been driven into the side of the hill to catch the limestone, it has a bluish tinge. It contains numerous fossil remains, consisting of Brachyopoda and the broken stems of Encrinurus. Small nests of crystalline calcite occur scattered throughout the limestone. The beds are of considerable thickness. In extent it is limited, the outcrop of the lenticular beds being confined to a 20 acre mineral lease (508).

It is suitable for the manufacture of lime, and is conveniently situated for metallurgical purposes to aid in the smelting of the ore of the neighbouring silver lode. The presence of the crystalline calcite in it however, would prevent its indiscriminate use for polishing and ornamental purposes, although slabs of considerable size could no doubt be obtained by carefully selecting portions which are free from crystalline calcite. It is somewhat splintery, and this would militate against its use for sculptural purposes.

The nearest railway station to the deposit is Orange, which is 16 miles distant by road. This road is somewhat hilly, and is very bad and soft in wet weather, although it is reported in the district that it is to be improved shortly. On the road there are two creeks to be forded which are impassable when in flood.

It will thus be seen, that this deposit will have a local value for the extraction of lime from it and for metallurgical purposes, but I do not think that it will be of any great commercial value for the various ornamental uses to which a good marble could be put.

I have, &c.,

WILLIAM ANDERSON,

Geological Surveyor.

The Geological Surveyor-in-Charge.

#### APPENDIX No. 12.

##### Report on the Geology of the Byerock District.

Sir, Geological Survey, Department of Mines, Sydney, 9 October, 1887.

In accordance with your instructions I visited Coolabah and Byerock, in the counties of Canbelego and Cowper, and having made a general examination of the geology of the surrounding districts, I have now the honor to submit my report thereon.

After visiting Coolabah I went on to Byerock, from which place I made numerous excursions in various directions into the surrounding country. The area embraced by my examination extends westward as far as the southern extension of the Gundabooka Mountains, southward for some miles past Coronga Peak, eastward for over 20 miles towards Gongolgon, and northward for over a dozen miles to Mr. Oliver's station, Kenilworth.

Most of this country appears to any one passing over it to be perfectly flat, but this is not actually the case, for although much of it consists of approximately level plains, there are in reality great numbers of small ridges and rising grounds, while at wide intervals a few isolated hills rise to a considerable height above the plains. These physical features can only be appreciated when a panoramic view of the country is obtained from one of the higher hills, such as Coronga Peak, Mount Dijon, or the Gundabooka Mountains. From such points of vantage the whole country is seen to present a series of broadly waving undulations, with the circular horizon only broken at one or two points by a few far off isolated hills rising above it. The country is thinly timbered, and the timber is, as a rule, of small size; this no doubt being due to the former prevalence of bush fires, together with the natural dryness of the climate. The most common trees are the mulga, box, beefwood, and ironwood. The scrub is only locally dense, and never impenetrable. Frequently wide open patches occur altogether free from timber, while everywhere the luxuriant growth of grass tells of the fertility of the soil. Watercourses and natural gullies are rarely met with. The chief watercourse of the district is Mulga Creek, which, although it generally contains some water, seldom flows as a creek for any length of time.

The geological formation of the district is an extension northwards of the lower palaeozoic rocks (silurian?) which occupy so wide an area to the south of Girilambone and Cobar, west of the Bogan River. Passing to the north from Girilambone, the hills and rising grounds gradually occur less frequently, and the flats become more numerous and extensive until between Byerock and Bourke the country assumes a real plain like character, similar to that produced by the horizontally bedded cretaceous rocks to the north of the River Darling.

The rocks which occur in this district are as follows:—

Igneous	...	{	Leucite basalt.
			Granite.
			Red soil.
Aqueous	...	{	Quartzites.
			Siliceous sandstones, grits, and conglomerates.
			Loose quartz conglomerates.
			Silurian slates.

The silurian or auriferous formation, together with a few small patches of granite form the base rock of the country. The hollows and irregularities in the surface of these formations have, however, been filled with siliceous sandstones, grits and conglomerates, probably of Cretaceous or Tertiary age, thus producing an approximately level country, over which the flood-loams, known as "red soil," have been deposited.

*Leucite Basalt.*—Byerock Mountain, 6 miles to the west of the township, consists of leucite basalt. In Ulrich's catalogue of the rocks of Victoria there is no mention of this basalt. Indeed, it is a form of basalt that is of very rare occurrence and is one of the forms of lava which have been erupted from Mount Vesuvius, near Naples, in Italy within historic times. At Byerock, however, the eruption probably took place in late Tertiary or early Pleistocene times. The basalt now occupies an area of about 3 square miles, although in former times it must have been more extensive. At its western extremity it is over 100 feet thick, while towards the east it gradually thins off. It occurs in the vicinity of a granite dyke over a quarter of a mile in width. I think it probable that the orifice from which this basalt flowed as a lava was at the western end of the mountain where the bed is thickest, and that it was probably situated on the line of weakness between the granite and the slate. There is no other basaltic rock in the country I examined, nor did I come across any rock which showed evidences of having been the orifice from which this lava flowed.

**Granite.**—This rock occurs only in a few small patches. It comes to the surface immediately to the south of Byerock Mountain, and on the railway at the 456-mile peg, and also about half a mile to the west of the township. It is on the surface of this last outcrop of granite that the natural waterhole occurs from which the township takes its name.

**Quartzites.**—Some of the highest hills in the district are composed of this rock. Coronga Peak, which rises nearly 900 feet above the neighbouring station, and the hills immediately to the north of it consist of quartzite, and so, also, do the ridges which come southward from the Gundabooka Mountains. (See Diagram No. 2.) The higher of these two ridges is about 800 feet above the plains. The upper surface of the bed of quartzite, which dips E. 25 N. at about 30°, forms the eastern slope of the ridge, while its western face is precipitous and rocky. On Curraweena Hill beds of quartzose sandstones occur interbedded with the silurian slates.

**Siliceous Sandstones, Grits, and Conglomerates.**—These have been exposed in a railway tank, a few hundred yards to the south of the township. The tank is only 16 feet deep, so that the bottom of the beds is not exposed. Similar beds no doubt occur under many of the other flats of the district. No fossils have yet been found in these beds to indicate their age, but they are probably Cretaceo-Tertiary deposits.

**Quartz Conglomerate.**—This consists of a gritty matrix, in which are embedded angular, sub-angular, and rounded pebbles, chiefly of quartz, with a few pebbles of slate and jasperoid rock. It shows false bedding, and frequently contains lenticular beds of grey and greenish clay-shale, while locally it is hardened into a cement by peroxide of iron. The pebbles are all small, averaging from 1 to 3 inches in diameter. It is widely distributed, occurring at Wilga, Coolabah, and Byerock. The deposit at Wilga has been largely used as ballast for the railway line to Bourke. At Coolabah two shafts have been sunk in this loose conglomerate, one for 70 ft., and the other for over 100 ft. This latter shaft was bottomed on the silurian slates. (See Diagram No. 1.) The deposit at the bottom of this shaft gave, when washed, a few specks of gold to the dish. It occurs under many of the flats in the district, and in many cases it has been cut into in excavating tanks. There is little doubt that it has been derived either primarily or secondarily from the denudations of the silurian or auriferous rocks, and consequently there is every probability that the pebbly drift occurring in the potholes and inequalities on the surface of the bed rock may contain a fair amount of gold, although its occurrence will be patchy.

Sixteen miles to the east of Byerock, near Defoe's tank, a series of shafts have been sunk, some of them over 40 ft. deep. They pass through a pebbly quartz drift, which in places is cemented into a very hard conglomerate. In some of the shafts a few colours of gold have been got to the dish. This is evidently a similar deposit to the quartz conglomerate of Coolabah and Wilga, except that here there are evidences of an old river course (probably Pleistocene) coming down from the gully in which Defoe's tank is situated.

**Silurian Rocks.**—These form the base rock of the district, and crop out on the ridges and hills wherever they rise above the surface of the red soil. They consist of talcose and chloritic slates, with quartzose sandstones, and indurated clay slates, which show well marked cleavage in some of the sections on the railway, particularly in the first 5 miles between Byerock and Bourke. At Mount Dijou small blocks of limestone are scattered about, even on the top of the mountain itself. I did not, however, see the bed of limestone *in situ*. Throughout these rocks are many quartz reefs, which as a rule do not show much mineral. In numerous localities in this district there are surface indications of the presence of ironstone lodes. Samples from a few of these have been assayed, but have given no return. The ridgy country lying between the Bogan River and the railway line seems to be the most likely part of the country to repay prospecting for alluvial gold. In the flatter part of the district, the places where prospecting ought to be begun, are in the small gullies which drain off the isolated hilly ranges. There can be little doubt that, during the Tertiary and early Pleistocene Periods when this country possessed such a very moist climate, there had been numerous river-courses draining this area. During later Pleistocene times all this country had been more or less flooded, and from these floods were deposited the red soil, the red colour being due to the greater amount of oxidation which this has undergone compared with the black overflow muds which are spread over the country in the neighbourhood of the present rivers. The presence of this coating of red soil has obliterated all the surface indications of these old river courses. The flats lying between the ridges of slate rock, doubtless, in many instances, represent old valleys, but whether the drift at the bottom of these contains payable gold or not can only be proved by prospecting them.

In conclusion I have to record my thanks to Mr. Little, of Curraweena, and also to Mr. Burton, of Coronga Peak, for their kindness in affording me information and assistance while examining the country.

I have, &c.,

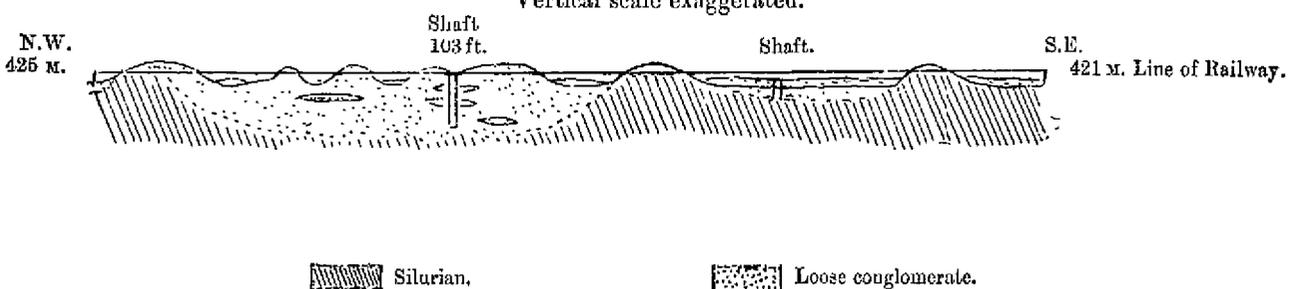
WILLIAM ANDERSON,  
Geological Surveyor.

The Geological Surveyor-in-Charge.

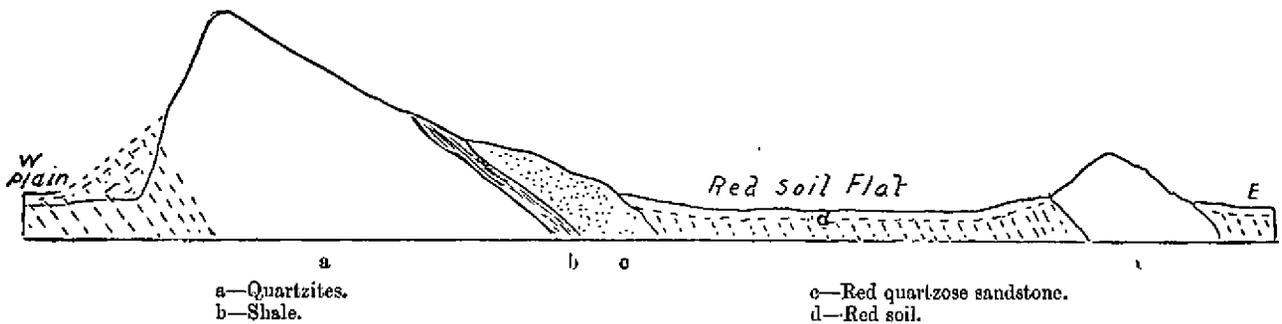
#### No. 1.—RAILWAY SECTION AT COOLABAH.

Scale—1 in. to 1 mile.

Vertical scale exaggerated.



No. 2.—SKETCH SECTION ACROSS SOUTHERN SPUR OF GUNDABOOKA MOUNTAINS.



## APPENDIX No. 13.

Sir, Department of Mines, Geological Survey Branch, Sydney, December 12, 1887.

In accordance with your instructions I have examined the country between Nyngan, Nymagee, Cobar, and Girilambone, in reference to its general geology, and particularly as to the portions of it which should be prospected for alluvial gold and other minerals.

In the neighbourhood of the Bogan River extensive plains occur, which to the westward are broken up into undulating country by the presence, at intervals, of low north and south ridges of Silurian slates; while around Cobar and Nymagee the country assumes quite a hilly character, some of the hills attaining to a considerable height.

The Pleistocene red soil covers all the low-lying and undulating country, except in the immediate vicinity of the river-courses and gullies, where the soil is of a dirty grey colour. There can be little doubt that the wind has been one of the chief factors in the very general distribution of the red soil. Since its deposition as a flood-loam over large areas in the neighbourhood of the rivers it has been universally distributed over the whole of the interior plains. Anyone who has experienced the periodical dust-storms which sweep over this flat country, not only sees the red soil in process of distribution but will easily realize the great transporting power which the wind possesses, particularly during a dry season when there is little or no grass to fix the surface soil.

The prevailing rocks of the district I examined consist of Silurian slates, sandstones, limestones, and conglomerates. These as a rule stand nearly vertically and have a general north and south strike. It is in fissures traversing these rocks that the copper lodes of Cobar and Nymagee occur, there being no igneous rock in the immediate neighbourhood of either lode. The limestones outcropping near the Rookery station between Cobar and Nymagee are abundantly fossiliferous. Fossils from these limestones have been examined by Mr. Etheridge, Palaeontologist to the Geological Survey, who regards them as being of Wenlock or Upper Silurian age.

The conglomerate outcrops in many places for high hills, such as Billagoe Mountain, to the north of Cobar, Narri Narri Mountain, and the range of hills running along the eastern boundary of the county of Mouramba, to the north of Nymagee. These conglomerates are of Silurian age, being interbedded with the slates and limestones.

There are, however, other conglomerates in this district as the conglomerate of Bobby Mountain, 30 miles east of Cobar, which may on examination be found to rest unconformably on the Silurian, and prove to be a Devonian outlier. To the west and south-west of Nymagee there is a large area covered with reddish sandstones and thin-bedded sandy shales, which, from the few surface dips I was able to observe, seem to rest unconformably on the Silurian rocks below. These are probably Devonian. Again, to the north-east of Nymagee, in the parish of Barrow, on Babinda run, a set of red coloured grits and sandstones occur, from which a few fossil remains have been obtained. These have been examined by Mr. Etheridge, who finds that one form is distinctly carboniferous while the other is decidedly an Upper Devonian form. From their petrological characters I think that these beds will prove to be rather Upper Devonian than carboniferous.

Of igneous rocks there occur in the district granite, quartz, felspar porphyry and leucite basalt.

In the immediate vicinity of Nymagee granite occupies a considerable area to the north and east. This mass of granite is partly intrusive and partly metamorphic. On its northern boundary, where it is crossed by the track from Cobar to Nymagee, there is no gradual transition from the slate into the granite, which is here a wholly crystalline ternary granite; but on the range of granite hills, which lies a few miles to the east of Nymagee, the metamorphism from the slate into the granite is clearly and beautifully seen. On the flat between the township and these hills, the slates are altered and hardened, but with no crystalline developments in them. On nearing the hills, however, crystals of quartz and felspar gradually begin to appear in them, and then these crystalline minerals become arranged in more or less irregular wavy lines, giving the rocks a gneissose structure, which by gradual transitions passes into a wholly crystalline ternary granite. I think there can be little doubt that this metamorphism of the slates has been produced along the edges of the intrusive mass of granite.

Granite crops out about 28 miles north of Cobar, on the Bourke road. It is seamed with quartz veins, and is probably a dyke running in an easterly and westerly direction.

About 7 miles from Nymagee, on the Nyngan road, a dyke of fine-grained elvanite occurs, running in an east and west direction. A few miles further on the road crosses a broad belt of quartz and felspar porphyry. From this point the porphyry can be traced northwards, till it crosses the Cobar and Nyngan road, about 30 miles from Cobar, where it terminates about  $\frac{1}{2}$  a mile to the north of the road.

Hitherto, the only locality in New South Wales, and probably in Australia, from which leucite basalt has been recorded, was Byrock Mt., about 50 miles south of Bourke. While examining the country to the north-west of Cobar, accompanied by the Rev. J. M. Curran, I visited a hill called El. Captain, situated near the northern boundary of Sussex run, in the north-east corner of the country of Camelego. Like Byrock Mt., these hills are perfectly bare of trees, and consist of leucite basalt. The most westerly ridge is about a mile in length, and of no great height. About half

way

way along its eastern edge, and at its southern end the basalt is seen to rest upon quartzite and calcareous conglomerate, which may be a consolidated river drift. About a mile to the south-east of this lies the main mass of basalt forming the heights known as "El Capitain." The highest of these is an isolated, precipitous, and somewhat conical knob, about 200 feet in height. Here the basalt shows a pseudo-lamination, which gives it a slaty character. It occurs in all degrees of textures, from scoriaceous with included pebbles of slate, to compact. Immediately to the north of this a ridge of basalt stretches for about 2 miles in an east and west direction, while some miles to the south several low hills could be seen which were bare of trees, and are no doubt composed of leucite-basalt. "El Capitain" lies in a straight line, about 33 miles due north from Byerock Mount. In the country between these two hills there is no evidence whatever of the presence of leucite-basalt, and consequently it is rather doubtful whether these two separate patches ever formed portions of the same lava flow.

In many parts of the district isolated patches of Cretaceous-Tertiary rocks occur. These are seen in the excavations made for tanks, and consist of hardened clays, quartzites, siliceous, sometimes calcareous grits and conglomerates. At the Brick-kilns, about a mile to the north of the Rookery Station, occurs a curious hill, formed of a considerable thickness of hardened white clay and grit, which is capped by a thin bed of quartzite. This is no doubt a remnant of a Cretaceous-Tertiary deposit which has resisted denudation owing to the capping of quartzite, which was probably a local spring deposit, such as we commonly find occurring elsewhere in the Colony in connection with Tertiary rocks.

The country in the neighbourhood of the intrusive quartz and felspar porphyry between Nymagee and Bobby Mt. appears favourable to the presence of metalliferous lodes.

Thirty miles to the south of Nyngan a largely porphyritic hornblende rock of the diorite type occurs. It is probably in the form of a dyke, and a quartz-reef, containing gold, silver, and copper occurs in connection with it. I would recommend that the alluvial ground lying within 1 mile north of the outcrop of this belt of dioritic rock be prospected for gold.

There is at the head of Trowel or Whitbarrow Creek an extensive flat situated about 10 miles to the north of Nymagee, where a certain amount of alluvial gold has been obtained, but further prospecting had to be abandoned on account of the scarcity of water. I should recommend that this part of the district be prospected by a Government party.

In this part of the Colony there is little to indicate the presence of former drainage channels, in the drift of which it might be expected that gold would occur wherever these channels had passed over auriferous reefs or lodes. Almost all the physical features which existed during late Tertiary and early Pleistocene times have been well nigh obliterated, not so much by local denudation as in other parts of the Colony, but by a very general levelling of the whole country, due to the distribution of the red soil. There can be little doubt that during the very moist Tertiary and Pleistocene Periods this large district was drained by a system of rivers and creeks, which must have worn channels for themselves, in some parts of their course through the Silurian rocks, and in others through the Cretaceous-Tertiary deposits. Such channels have, however, since then, been altogether obliterated by the universal distribution of the red soil and in consequence of the gradual drying of the climate. At the present time there are a few shallow watercourses, many of them hardly appreciable to the eye, but wonderfully persistent in their extent, which, however are almost always dry. It is I think quite probable that in some cases these may indicate the position of former channels; if this be the case the best means of testing these would be the prospect in the immediate neighbourhood of the present watercourses. While in the district, I heard of various places, where after a storm, the drainage in certain watercourses suddenly disappears underground at a certain spot. The reason for this I believe to be that at such places an old buried drainage-channel has been struck by the waters of the present creek, whose course, at this point, passes above an old channel. These buried channels no doubt carry off a large percentage of the surface water which is thereby lost to the pastoralist.

With regard to the water supply of this country, from a line between Nyngan and Nymagee north to the Darling, I would state that on the greater part of this country, where the Silurian rocks come near the surface and are covered only by a comparatively thin superstratum of red soil, the water supply will require to be conserved in superficial tanks. In such parts however where the Cretaceous-Tertiary clays and grits, &c., occupy depressions in the Silurian rocks, it is probable that a small local supply of water might be obtained by boring or sinking, while by the tapping of the old buried watercourses, no doubt large supplies of water could be got. But taken as a whole, this large tract of country will, in the future, have to depend for its water-supply chiefly upon its artificial tanks and dams.

In conclusion I beg to record my thanks to Mr. Prince, of Nyngan, and the Rev. J. M. Curran, of Cobar, for the kind assistance and information which they gave me during my examination of the district.

I have, &c.,

WILLIAM ANDERSON,  
Geological Surveyor.

The Geological Surveyor-in-Charge.

#### APPENDIX No. 14.

Report of the Palæontologist for a portion of the Year 1887.

Sir, Department of Mines, Geological Survey Branch, Sydney, 3 January, 1888.

I have the honor to hand you the following "Progress Report" of work performed since I commenced the duties of Palæontologist to the Geological Survey Branch of this Department, on 18th April, 1887.

After consultation with yourself, it was arranged that my attention should be mainly devoted to naming and preparing for publication an illustrated Monograph of the Carboniferous Fossils of New South Wales, to assist in working out the stratigraphy of the Coal Measures and other associated beds.

This has progressed as rapidly as circumstances will permit, and up to the present time, I have determined and described in manuscript the Corals and Echinoderms, so far as they are represented in the collection; and some progress has been made with the Crustacea. I regret to say, however, that the collection does not now contain a large number of species known to occur here, and described in the late Professor de Koninck's work,\* and other publications. It appears to me, therefore, most desirable that the description of the above groups (which may well form the first part of the proposed Monograph) should not be published, until as many as possible of the species mentioned have been procured.

You

\* Recherches sur les Fossiles paléozoïques de la Nouvelle-Galles du Sud, 8vo. and 4to., Bruxelles, 1876-77.

You were kind enough to authorize the carrying out of a suggestion of mine in relation to the future conservation of the surplus portion of the collection, or that part not exhibited in the Museum, by having a room specially fitted with shelves and portable trays for its reception. Up to the present time about one-third of the specimens have been sorted, and transferred from the old store-room.

A large number of miscellaneous determinations have been made, chiefly specimens presented or obtained by the surveyors during their field-work. The more important of these have been specially reported on under the general heading of "Miscellaneous Contributions to the Palæontology of Australasia," and are comprised in the following sub-report, Nos. 1-6 inclusive.

The fine collection of fish remains obtained near Gosford, were despatched to Mr. A. S. Woodward, of the Geological Department, Natural History Museum, London, who has undertaken their description. In view of this contemplated publication, and the second edition of Dr. O. Feistmantel's "Palæozoic and Mesozoic Plants of Australia," now on its way to you, I have prepared descriptions of the limited invertebrate fauna, known to occur in the Hawkesbury-Wianamatta Series. This is ready for the printer, and will require a lithographic plate for its illustration.

In addition to the above work, I assisted the Curator in preparing the latter part of the exhibits for the late Adelaide Jubilee Exhibition, and I have organized, and aided in the arrangement of the Departmental Library.

The Geological Surveyor-in-Charge.

I have, &c.,  
R. ETHERIDGE, JUNR.,  
Palæontologist.

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APPENDIX No. 15A.

Miscellaneous Contributions to the Palæontology of Australasia, by Robert Etheridge, jun., Esq., Palæontologist, Geological Survey of New South Wales.

No. 1.—Report on the supposed Fossiliferous Limestone from near Adelaide.

Sir,

I have the honor to inform you that I have examined both macroscopically and microscopically the block of limestone brought by yourself from near Adelaide, and I regret to say that I have failed to detect any trace of organic structure in it.

As seen in the block it presents a distinctly laminated, or concentric and somewhat waved appearance, especially on weathered surfaces, where some portions of the face have disintegrated more rapidly than others. Such layers from their difference in colour stand out in bolder relief than the general mass of the rock, and having a thin, hackly appearance, present a strong resemblance to the fossil known as *Stromatopora*.

On a large polished surface the limestone is seen to be seamed with thin layers, streaks, and lenticular masses of a greenish-yellow mineral, which on weathering forms the layers standing out in bolder relief. This is very apparent from the fact that the different degrees of hardness affect the height of the polish, the limestone polishing well, the harder layers remaining dull and unpolished.

Thin slides prepared for the microscope at once prove the non-organic structure of this rock, it becoming apparent that the greenish-yellow layers are not organic, but of mineral origin, in the form of wavy and feathery streaks, and irregular patches. The limestone is of an homogenous character, somewhat fractured here and there; it effervesces freely with acids, the insoluble portion, from experiments made by Mr. J. C. H. Mingaye, being only 25.7 per cent. The residuc consists of silicate of alumina with traces of lime and magnesia, and no doubt represents the darker and harder layers seen on the weathered surface of the limestone, and giving to it its organic appearance.

Lithologically the block on a fractured surface presented a strong resemblance to a travertine; so much so that one may hazard a conjecture as to its mode of deposition, viz., from a thermal spring, the siliceous layers being the result of after metamorphism. This is, however, a question for settlement in the field.

Mr. Mingaye remarks that this limestone "would be a very likely sample for the manufacture of Portland cement."

I have, &c.,  
R.E., 16/11/87.

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APPENDIX No. 15B.

No. 2.—Report on a Diatomaceous Earth from the Tertiary Beds of Warrumbungle Mountain, near Coonamble, county Gowan, New South Wales, forwarded by Mr. D. Vernon, Secretary for Railways.

THE specimen presents the usual appearance of diatomaceous earth, being white in colour, compact, homogenous, light and non-pulverulent, slightly soiling the fingers when touched. From the subjoined analysis by Mr. J. C. H. Mingaye, the earth will be seen to contain 82.62 per cent. of silica. The latter is derived from the skeletal remains of a diatom and a sponge, that of the former being largely in excess.

The frustules of the diatom are short-barrel or drum-shaped, with the extremities straight, or perhaps very faintly rounded. In transverse section these bodies appear to be globose, or almost circular, and without any definite keels or furrows around their centres. The junction surfaces are toothed, and the general surface of each frustule beautifully sculptured with dots, apparently arranged in linear series. These dots are believed by some microscopists to be punctured, by others to be elevations of the surface. The frustules are coherent in chains, as many as four still retaining their attachment. In a few cases the interposed connecting third segments are also visible. As well as the scattered frustules, the mountings (prepared by Mr. T. Whitelegge, of the Australian Museum) exhibit numbers of agglomerated masses freely distributed about, which appear to consist of broken up frustules, with a few entire cells intermingled with them. These are probably portions of the original earth not sufficiently broken up for minute examination, and would go to prove that the mass of the deposit is composed of comminuted frustules rather than entire cells. Under a  $\frac{1}{4}$ -inch power the field is seen to be clouded with minute siliceous particles, probably of this nature. The characters of this diatom correspond well with those assigned by Pritchard to the genus *Melosira*, and the frustules very closely resemble those of *Melosira orichalcea*, except that our examples do not show the two median furrows crossing each frustule transversely.

The

The sponge skeletal spicules accompanying the above diatom are of great interest from their close resemblance to those of the existing Australian fresh-water sponges. They are very slightly curved, and acute at both ends, or would probably come under the term *fusiform-acerate*, as used by the late Dr. Bowerbank, and minutely denticulated. Only one entire spicule has come under notice, the majority of the individuals occurring only as fragments. All, however, exhibit the axial canal in great perfection, which for the size of the spicules appears to be large and well developed.

In the living Australian fresh-water sponges the skeletal spicules are both plain and serrated. In *Spongilla Capewelli*, Bowerbank,† from Lake Hindmarsh, Victoria, they are plain, but in two Brisbane species, *S. sceptroides*, Haswell,\* and *S. botryoides*, Hasw., the spicules are covered with minute projecting points. On the other hand, in *Meyenia Ramsayi*, Hasw.‡, from the Bell River, Wellington, the spicules are perfectly smooth. For the present, it will be more convenient to regard the spicules under description as those of *Spongilla* simply.

Mr. Mingaye has furnished the accompanying analysis of the earth:—

Moisture at 105° C.	...	...	...	...	...	7.70
Combined moisture	...	...	...	...	...	3.49
Silica	...	...	...	...	...	82.62
Alumina, oxide of iron (trace)	...	...	...	...	...	5.20
Carbonate of lime	...	...	...	...	...	0.95
Carbonate of magnesia	...	...	...	...	...	trace
						99.96

R.E., 25/11/87.

#### APPENDIX No. 15c.

No. 3.—Report on supposed Corals forwarded by Mr. Geological Surveyor T. W. B. David from the Upper Marine Series (Permo.-Carboniferous) of Mount Vincent, near Minmi, County Northumberland, New South Wales.

THE blocks of supposed coral forwarded by Mr. Geological Surveyor David have, at the first glance, very much the appearance of a massive compound rugose coral, resembling the genus *Lithostrotion* or one of its allies. On close inspection, however, and especially when submitted to microscopic examination, the rock is at once seen to be of inorganic structure. The masses are oval, or irregularly elongate, measuring as much as 2 feet in diameter, and are in fact an impure carbonate of lime, assuming a peculiar form of crystallization.

On a fractured face the colour is blue-gray, the surface breaking up with a rough rubbly appearance. Surfaces exposed to the atmosphere, weather with a buff-yellow colour, and assume a more or less flattened-mammillated appearance, composed of nodular depressed elevations from  $\frac{1}{4}$  in. to 1 in. in diameter. These without doubt do present a likeness to a group of large corallites of a compound rugose coral, the interspaces between them representing the well-marked walls of the corallites. This deceptive appearance is heightened by a central depression to each of the mammillated eminences, and would represent the columella in such a coral.

Each of these mammillæ is composed of a series of radiating acicular crystals, the columella-like depression just spoken of, representing the centre of crystallization, from which the tapering crystals radiate.

When these projections are weathered to a common level, they assume a well-marked silky lustre resembling that of Arragonite.

Thin sections prepared for the microscope admirably reveal the radiate structure of the individual groups, and further show that the cementing medium, which is always of a lighter colour, contains minute, almost microscopic, tufts of similar crystals, and in this manner demonstrates the origin of the larger ones.

From experiments made by Mr. J. C. H. Mingaye, the rock would appear to be a carbonate of lime and iron, the former mineral in by far the greater proportion. It would also appear that the lighter coloured cementing medium contains much less iron than the groups of acicular crystals.

R.E., 25/11/87.

#### APPENDIX No. 15d.

No. 4.—On the age and contents of a Fossiliferous Limestone, discovered by the Rev. J. Milne Curran, between Cobar and Nymagee, New South Wales.

THE hand specimens forwarded by the Rev. J. Milne Curran, from between Rookery Station and Mount Narri Narri, half-way between Cobar and Nymagee, and those subsequently collected by Mr. Geological-Surveyor W. Anderson at the same locality, consist of a dark grey-blue fossiliferous limestone, with a more or less conchoidal fracture. The organic remains, of which it is so largely composed, indicate an Upper Silurian age, and a position probably near the Wenlock Limestone, if not absolutely representing that horizon.

The specific determination of all the fossils would take some time, and more material than at present to hand. A considerable portion of the limestone, however, seems to be composed of bivalved crustaceans, belonging to the Ostracoda, probably several species, but certainly amongst them is a *Beyrichia*. Fragments of Trilobites are also present, but too much broken up to be determinable. There are portions of Polyzoa, chiefly *Fenestella*; and one coral, a *Heliolites*, but only a fragment. But the indicative information is to be gathered from the mollusca. There is a *Chonetes*, allied to *Chonetes striatella*, Dalman, but possessing more upwardly-directed spines along the hinge margin. The genus *Spirifer* is well represented by a small form strongly resembling the characteristic Wenlock shell *S. plicatella*. This species passes through many varieties, two of which are certainly represented here.

There

† Proc. Zool. Soc., 1863, p. 447.

\* Proc. Linn. Soc. N. S. Wales, 1883: VII, Pt. 2, p. 209.

‡ Loc. cit., p. 210.

There is the simple condition of the shell with striae only, and no ribs, known under the varietal name of *lineata*; and there is one with broad, rounded costae, answering to the variety *interlineata*, Sby. The second species of *Spirifera* I am at present unable to distinguish from *S. crispa*, Linn., and it is the most prevalent shell.

The most important species is a small *Strophomena*, corresponding, in all but size, with the peculiar and characteristic *Strophomena corrugatella*, Davidson. The surface is longitudinally traversed by strong, narrow, thread-like riblets, the interspaces bearing concentric, irregular festoon-like wrinkles, giving to the shell a not easily forgotten appearance.

Amongst the specimens more particularly collected by Mr. Anderson, there is a single example of a shell having all the appearance of *Atrypa reticularis*, Linn., a fragment which I believe to be a *Pentamerus*, after the type *P. galeatus*, Dalman, and a *Rhynchonella*. The latter is of equal importance with the *Strophomena*, as it possesses all the characters of *Rhynchonella Wilsoni*, Sby., especially the five regular ribs, and the bold truncated and square front. The list is completed by a few fragments of an *Orthoceras*.

A single piece of another limestone, obtained by the Government Geologist at Troffs, north of Condobolin, corresponds in the plentitude of the Ostracoda with the previously described rock, but not otherwise. It is said to be detrital, and may be of Upper Silurian age, but confirmatory evidence is required.

R. E., 3/1/88.

#### APPENDIX No. 15E.

##### No. 5.—The further discovery of Plesiosaurian Remains in Queensland:

Plate, Fig 1-4.\*

In a brief preliminary notice before the Royal Society of New South Wales' attention was called to portions of two vertebrae, obtained by Mr. H. J. W. Crummer, Surveyor-General's Office, from the bed of a dry lake at Pitchery Creek, Barrington's Station, Central Queensland.

The fossils consist of the centrums of cervical vertebrae, without processes. They are transversely-ovate, or ellipsoidal in outline,  $2\frac{1}{2}$  inches long,  $4\frac{1}{2}$  inches wide, and  $2\frac{1}{2}$  inches high. The upper surface is depressed convex, but below the middle line is subangular. The venous openings are two, large and distinct, the surface of the vertebrae exterior to them, and between them and the pleurae more or less concave. The centrums have a well-marked, flattened, articular surface, half an inch wide, but with sharp, erect, non-rugose external edges. Within the articular surface each centrum is depressed, but not actually concave—in fact, more flattened than concave—3 inches by  $1\frac{1}{2}$  inch, smooth, and with but the faintest trace of a tubercle or prominence. The neurapophysial and pleurapophysial surfaces are contiguous to one another; and the last named, although lateral in position, are nearer to the upper than the lower surfaces of the centrums, and they in no way hide any part of the inferior surfaces of the latter. The neural arches were undoubtedly ankylosed to the centrums, and, notwithstanding that their disruption has much fractured the specimens, it is quite clear that the neurapophysial surfaces were long fore-and-aft, and somewhat narrow. Those of the pleurapophysial, on the other hand, were large, and obliquely elongated. To adopt a term of Sir R. Owen's, they have to some extent "risen" towards the parapophyses.

In the preliminary notice previously referred to these bones were by error compared to *Plesiosaurus macrospondylus*, M'Coy;<sup>1</sup> but as Professor M'Coy distinctly compares his species to the European *P. rugosus*, Owen, by reason of the rugosity of the centrum ends, it will at once be apparent that our fossils can have no connection with that species. The only other known species of Australian *Plesiosaurus* is *P. Sutherlandi*, M'Coy;<sup>2</sup> but, unfortunately, the description is so brief that I feel quite at a loss how to institute a comparison. The measurements given by Professor M'Coy accord fairly well with our specimens; but he states that his fossils resemble *Plesiosaurus Australis*, Owen,<sup>3</sup> but simply with different proportions. Now, in this species, the vertebral centrums "have two large and two small venous foramina beneath;" but it will be borne in mind that in the present vertebrae these apertures are only two, and both large. Amongst other New Zealand species is *Plesiosaurus crassicostratus*, Owen,<sup>4</sup> the centrums of which, according to Hector, "are deeply excavated beneath, with two venous foramina. The articular surfaces are elongated transverse, forming a contracted oval, and only moderately concave, with rounded margins."<sup>5</sup> In the case of the Pitchery Creek vertebrae the margins are flattened distinctly, and the ventral surface, instead of being excavated, is on the contrary convex. The concavity mentioned by Hector is visible in his figures, and gives a character to the vertebrae not to be mistaken or overlooked. Furthermore, the centrums in our specimens have no definite tubercle which is present in *P. crassicostratus*. So far as I can gather, Mr. Crummer's fossils do not correspond to any of the New Zealand Plesiosaurs described by Dr. Hector in his excellent paper "On the Fossil Reptilia of New Zealand."<sup>6</sup> In the absence of the tubercle, however, it does resemble his *P. Holmesi*, but has not the trigonal outline of the latter's vertebrae.

On the whole, the newly discovered remains from Queensland accord best with *P. Sutherlandi*, M'Coy, and from an inspection of the types, kindly lent me for the purpose of comparison by the Professor, I believe them to be this species. The transversely elongate or ellipsoidal outline of the vertebrae is a very important point in connection with the age of these remains. Although it is present in some Liassic species, as, for instance, *P. rostratus*, Owen,<sup>7</sup> the character appears to be much more a typically Cretaceous one, and is a vertebral feature both in *P. planus*, Owen,<sup>8</sup> and *P. latispinus*, Owen,<sup>9</sup> from that formation. The Enaliosaurian remains from Queensland hitherto described were obtained from rocks which appear to be of Cretaceous age; and it is logical therefore, in the absence of contrary evidence, and in the face of the above confirmatory facts, to assume that the present bones are also derived from that formation.

R. E., 6/1/88.

#### APPENDIX

<sup>1</sup> Journ. R. Soc. N. S. Wales, 1887, XXI, pt. 1, p. 57.

<sup>2</sup> Trans. R. Soc. Victoria, 1868, VIII, pt. 1, p. 42.

<sup>3</sup> Brit. Assoc. Report, 1861, p. 122.

<sup>4</sup> Geol. Mag., 1870, VII, p. 52.

<sup>5</sup> Trans. N. Zealand Inst., 1873 (1874), VI, p. 341.

<sup>6</sup> Mon. Foss. Reptilia Lias Form., 1865, pt. 1 to 10, f. 2.

<sup>7</sup> Ibid., t. 7, f. 3, t. 8, f. 2.

<sup>8</sup> Ibid., t. 7, f. 3, t. 8, f. 2.

<sup>9</sup> Ibid., t. 7, f. 3, t. 8, f. 2.

\* See page 216.

## APPENDIX No. 15F.

No. 6.—Diagnosis of an apparently undescribed Bivalve Shell from the Lower Marine Series, Permo-Carboniferous, of New South Wales.

Plate—, Fig. 5-10.

THE late Professor L. G. de Koninck very imperfectly described a bivalve shell from the Permo-Carboniferous rocks near Maitland, to which he gave the name of *Tellinomya Darwinii*,\* without the slightest evidence that it belonged to the genus *Tellinomya*, Hall. The entire absence of information relating to the structure of the hinge should have indicated the Carboniferous genus *Nuculana*, which it outwardly resembles, rather than a Silurian genus, with which the shell in question has very little affinity. In some points our present bivalve resembles *Tellinomya Darwinii*, De Kon., in others it curiously and essentially differs from it. De Koninck's species possesses an ovately triangular outline, a produced but broad posterior end, an evenly-rounded exterior, moderately prominent umbones, and a regularly concentric-lined ornament. Turning to the new shell, we observe, on the contrary, that the outline is triangularly deltoid, and obliquely produced towards the posterior end, becoming narrower and nasute. The umbones are much elevated, a posterior slope is present, and the shell possessed a very variable, and at the same time, peculiar and characteristic form of ornament. Either Professor de Koninck's is quite a distinct shell from the present one, or his description is very carelessly written, and the figure inaccurate. I have assumed the former to be the case. Internal casts of the hinge demonstrate the existence of anterior and posterior teeth and a central cartilage pit, characters, when united with that of a very feebly-situated pallial line, clearly indicate the genus *Nuculana*, Link.

Specimens were first brought under my notice by Mr. T. Waterhouse, of West Maitland, and subsequently Mr. Geological Surveyor David called my attention to some excellent internal casts collected under his supervision. As I believe the shell to be distinct from de Koninck's *Nuculana Darwinii*, I have much pleasure in describing it as *Nuculana Waterhousei*.

*Nuculana Waterhousei*, sp. nov.

*Sp. Char.* Shell obliquely triangular-deltoid, obliquely produced posteriorly, valves convex in the umbonal region, rapidly declining to the ventral margin, which is sharp and knife-edged, the flanks sometimes slightly sulcate posteriorly. The dorsal margin arched and much shorter than the length of the valves; hinge teeth less than twelve on either side; cartilage pit apparently semicircular. Ventral margin gently convex in the centre and in the direction of the anterior end, but slightly inflected towards the posterior. Anterior end small, much more gibbous than the posterior, the margin obliquely rounded below, and insensibly disappearing. Umbones sharp, inrolled, and anteally incurved, flattened from above; escutcheon wide and well marked; pseudo-lunule defined by anterior rounded slopes. Muscular impressions large, the anterior close to the margin and rather low down; posterior scars prominent, thick at their front ends. Ornament consisting of close, always more or less concentric, although variously directed, subimbricating, rather fluctuating, wavy, zig-zag, or V-shaped laminae, and at times abruptly faulted near the centre of each valve.

*Obs.*—The surface ornament, although very peculiar in itself, is not altogether foreign to this group of shells. It, however, varies much on individual specimens. In one example the lower half of each valve bears concentric wavy ridges; the upper portion carries others obliquely directed from before backwards as far as the diagonal sulcus traversing the flanks; here the ridges become practically horizontal and parallel to those of the lower halves of the valves. In another case only the ridges of the ventral third are concentric, the remainder on the anterior end of each valve being oblique; but at the sulcus on the opposite end a decided V-pattern is assumed. In a third example the ventral portions of the flanks are similarly marked, the remainder of the valves being ornamented with very oblique lines from before backwards. A fourth modification is perhaps the most peculiar of all; the sulcus acts as a fault, the whole of the anterior end bearing oblique striae from before backwards and downwards, whilst those on the posterior end are obliquely deflected from below upwards and backwards.

Some species of *Nucula* are ornamented with V-shaped, oblique, and divaricating lines, such, for instance, are *Nucula Meyeri*, Gardner, from the British Gault, *Nucula Cobboldiae*, S. Wood, of the European Post Tertiary Series, and *N. ornatissima*, d' Orb., a species occurring in the Chalk of Europe; but I am not acquainted with any form of *Nucula* marked like the fossils. For *Nucula*, with this peculiar and striking ornament, the sub-genus *Acila* has been proposed.

*Locality and Horizon.*—Wollombi Road Cutting, by Farley Railway Station, near West Maitland (Mr. T. Waterhouse and Mr. Geological Surveyor T. W. E. David), Lower Marine Series.

R.E., 6/1/88.

## APPENDIX No. 16.

Department of Mines, Geological Survey Branch,

Mining and Geological Museum, Sydney, December, 1887.

Sir,

I have the honor to submit the following Report for the year ending 31st December, 1887.

It having been decided that the assay work of the Department of Mines, should not be performed by the Government analyst after the end of 1886, a temporary stoppage for two months occurred, only a few of the more urgent cases being dealt with outside. Mr. Mingaye, assistant to the Government Analyst, having been transferred to this Department to carry on the above work in a laboratory on the premises, commenced his duties on the 1st of March. At the close of the year, out of 2,222 samples sent to the laboratory for treatment, 2,178 were completed, against 1,799 for the whole of the previous year.

The results of the 4,214 assays and fifty-four proximate and ultimate analyses to which the above samples were submitted are fully described in Mr. Mingaye's report, and in the returns furnished herewith for embodiment in the annual report of the Under Secretary for Mines.

During the year, and especially towards its close, in consequence of the great stir in mining, the applications to the Department for assays and examinations of specimens and advice pertaining thereto, largely increased, rendering absolutely necessary a more commodious laboratory, and increased assistance both professional and clerical.

The correspondence in connection with the above, naturally increased in proportion. In addition to numerous samples verbally reported on, the senders of several hundred others which did not require assaying, were officially informed of the results of examination.

My

\* Foss. Pal. Nouv.-Galles du Sud, 1877. Pl. 3, p. 285 to 1

My time being thus so largely occupied to the prevention of the performances of my other duties, I was forced to apply for clerical assistance which was granted, my present assistant—Mr. E. C. Whittel—being appointed in October.

The additions to the Museum registered during the year amounted to 1,353 specimens, but many others have been received which have not yet been entered owing to want of time and space to sort and arrange them. Many other large and valuable donations have been promised to the Museum at the close of the forthcoming Melbourne Centennial Exhibition.

The number of specimens which have been registered since the destruction of the Museum by the Garden Palace fire, is 20,770, but owing to many specimens being taken for collections, notably for the Colonial and Indian Exhibition, and the discarding of many others upon further examination by yourself and the Paleontologist, the register is but an imperfect record of the number of specimens in hand.

Proper registers have been obtained, and so soon as the work can be attempted, regular sorting and classification will be carried out. The best specimens being specially marked to be retained intact for the Museum, a working reference set selected, and the duplicates labelled and placed so as to be readily available for the purposes of exhibitions, collections, exchanges, &c. Such work is absolutely essential and should precede the preparation of any collections to be given away. Under the second category a room has been specially fitted up with shelving and covered trays of a uniform size into which this portion of the collection is being sorted.

During the year the necessity for proper book shelving for the books in the library was pointed out in a memorandum to you, which, having been approved, the Works Department was asked to carry out the desired improvements through the Colonial Architect, after considerable delay extending over several months, this was accomplished, and the books sorted and arranged by Mr. Etheridge and myself, in accordance with the system adopted in the Natural History Branch of the British Museum, and numbering and labelling commenced.

The donations to the Library during the latter part of the year largely increased in consequence of personal application by Mr. Etheridge to his scientific correspondents, and in response to official application to many institutions and individuals whose names were supplied by him. Several scientific periodicals bearing on the work of the branch have also been subscribed to.

I obtained from the registrar the list of scientific societies, &c., to whom he has been directed to forward the publications of the Department annually, and many additions having been officially made to it, the Annual Report for the year, and the Report on the Geology of Vegetable Creek, by Mr. T. W. E. David, Geological Surveyor, were despatched to them direct from this Branch, a proceeding which, if allowed to be carried out each year, will greatly expedite the despatch of publications, and relieve the registrar of work properly belonging to the Geological Survey Branch. I would beg to point out that the present system of distribution is very expensive.

The result of sending the above to kindred surveys, various societies and individuals, has already in many instances been achieved in the receipt of reciprocal donations, many of them of great scientific importance.

Cataloguing will be carried on as time will permit. The donations for the year number 330 vols. The total number of books in the library to date is 1,433.

During the early part of the year, I was largely occupied in arranging departmental and private exhibits for the Adelaide Jubilee International Exhibition, and at the latter end of May received instructions to proceed to Adelaide to plan out and arrange the space set apart as a Mining Court for New South Wales. The representation of the mineral wealth of the Colony therein displayed by the Department of Mines was acknowledged to be one of the features of the Exhibition.

Whilst in Adelaide I embraced the opportunity of soliciting donations for the Mining and Geological Museum, and upon my return submitted memorandums to you with reference to the private exhibits, and the show cases in the New South Wales Court, which resulted in obtaining for the Department, the bulk of the above-mentioned exhibits and the whole of the show cases. These will be available for museum purposes at the close of the Melbourne Centennial Exhibition; such being the case, I beg respectfully, but strongly to urge the absolute necessity for suitable provision being made for their reception by building a proper Museum and necessary work-rooms; ample material is at hand to make a display worthy of the Colony, and of increased usefulness to the community. The present Museum is altogether inadequate even for the specimens now in hand, and my time being so completely taken up with other duties, notably the examination and correspondence in connection with assay work, and exhibitions renders it impossible for me to cope with much necessary work appertaining to the Museum proper.

Attached are the lists of donors to the Museum and Library during the year.

In closing my report I desire to acknowledge the generous assistance and advice rendered me at all times by Mr. R. Etheridge, of whose valuable experience at the British Museum I have largely availed myself.

I have further to acknowledge the steady working capacity displayed by my recently appointed assistant, Mr. Whittel.

I have, &c.,

JOSEPH E. CARNE,

Curator.

The Geological Surveyor-in-Charge.

#### APPENDIX 16A.

#### DONATIONS to the Mining and Geological Museum, during 1887.

Donor.	Donation.	Locality.
Mr. R. Barton .....	Carbonate of lead and copper .....	Cooma District.
Mr. J. B. Beauregard .....	Sulphate of lead .....	Lewis Ponds Creek.
Lieut. G. R. Connor .....	Quartz, with free gold .....	Port Darwin.
Commissioner for Roads .....	Basalt .....	White Oaks.
Mr. A. Cooper .....	Tin ore .....	Table-land, New England.
Mr. B. Dunstan .....	Fossil fish .....	Gibb Tunnel, Bowral.
Mr. A. Dewherst .....	Glossopteris, &c .....	Gunnedah coal-seam.
Mr. P. Davies .....	Coal .....	Mittagong Coal Co.'s property, Nattai River, from lower 3 ft. of a 17 ft. seam.

## APPENDIX 16A—continued.

Donor.	Donation.	Locality.
Mr. J. G. Dickson .....	Collection of auriferous granite, and other specimens.	Tabletop, Timbarra.
Fitzhardinge & Sons .....	Iron ore .....	Dubbo District.
Mr. H. D. Gordon .....	Gold in calcite .....	Lunatic.
Mr. Hogarth .....	Fossil-wood, shells, bones from Cretaceous deposits.	Near Wilcannia, from depth 300 ft.
Mr. J. B. Hammond .....	Alumite .....	Bulladelah.
Mr. K. Hutchinson .....	Auriferous granite .....	Surface Hill, Timbarra.
Mr. W. Hazelhurst .....	Gold in quartz .....	Hazelhurst's reef, near Parkes
Mr. Hayes, M.P. ....	" .....	Little River.
Mr. W. H. Hazelton .....	Aboriginal's stone hatchet .....	Grenfell.
Mr. J. E. Kelly, M.P. ....	Agates, &c. ....	Kimberley.
Mr. C. King, J.P. ....	Cretaceous fossil .....	Well 150 ft. deep on Mount Sturt, 8 miles east from Milparinka.
Mr. G. Kennedy .....	Tin stone and bone-stone .....	Near Tenterfield.
Mr. C. M. A. King .....	Aboriginal's nardoo mill .....	Near Bouika Lake.
Mrs. S. Musgrave .....	Chromite .....	The Bland, 20 miles from Young.
Minnett & Co. ....	Auriferous quartz .....	True Blue No. 1, Croydon, North Queensland.
Mr. C. S. M'Glew .....	Tinstone in mispickel .....	Mount George, near Launceston, Tasmania.
Mr. Nicholas .....	<i>Spirifer disjunctus</i> and <i>Rhynchonella pluridon</i> . Devonian.	Hartley District.
Mr. M. O'Connor .....	Silver ore .....	Ivleean Silver-mine, 130 miles from Port Darwin.
Mr. Porter .....	Zeolites, &c. ....	New England District.
Mr. E. F. Pitman .....	Oxide of iron on quartz crystals .....	Fairfield.
Mr. H. Pryce .....	Ammonite .....	Mr. Coxton's Station at Olive Downs.
Mr. J. R. Peebles .....	Edible earth .....	Espiritu Santo.
Proprietors of the Gordon mine.	Auriferous quartz and copper ore .....	Gordon Mine, Buckingham.
Mr. Quodling .....	Fossil fish .....	Gosford.
Major Parrott .....	Collection of specimens of volcanic products from the recent eruptions at Tarawera.	New Zealand.
Mr. Rossiter .....	Fossil root .....	Stockton shaft, Newcastle.
Do .....	Coal nodules .....	do do
Do .....	Gossan with free gold .....	Mount Gladstone, Fairfield.
Mr. F. Richardson .....	Stalactitic iron ore .....	Bulga, Mount Orange.
Mr. Rimmer .....	Gold in quartz and jasperoid rock .....	M'Gregor's Reef, near Parkes.
Mr. J. B. Russell .....	Gold-bearing stone .....	Hill Grove.
Mrs. R. Selkirk .....	Iron ores and fossil wood .....	Cooma District.
Mr. R. Saddington .....	Tin Ore .....	Stannifer Biehoff Tin-mine, New England.
Do .....	Coal .....	Lake Macquarie.
Mr. T. Sullock .....	Tertiary fossils .....	Table Top, Tasmania.
Do .....	Specular iron and manganese oxides, silver ores .....	Penguin, Tasmania.
Mr. J. Sales .....	Block of tinstone .....	Lode near the Carrington mine, Emmurville.
Mr. H. L. Steel .....	Fossil wood .....	Wongrabel.
Mr. C. E. Squire .....	Quartz crystals with crystals of iron pyrites .....	Cornwall
Mr. W. C. Weeks, C.P.S. ....	Sapphires .....	Wee Jasper, near Tumut.
Mr. R. N. Williams .....	Collection of copper ores and an ingot of refined copper.	Cobar.

## APPENDIX 16B.

## DONATIONS to the Library of the Mining and Geological, Museum during 1887.

Donation.	Donor.
Bulletin of the Geographical Society of America .....	Secretary.
Annual Report of the Colonial Museum and Laboratory, 1885-6 .....	J. Hector, M.D., &c.
Do do do 1884-5 .....	do
Manual of the New Zealand Coleoptera .....	do
Memoirs of the Geological Survey of India. Palæontologia Indica. Series X, Vol. IV, Part III .....	Superintendent.
Viaggio di Circumnavigazione della Regia Corvetta "Caracciolo," Commandante C. De Amegaza, Negli Anni 1881-2-3-4. Vol. III.	Italian Consul.
Fifth Annual Report of the United States Geological Survey, 1883-4 .....	Director.
Monographs of the United States Geological Survey. IX. Whitfield, Branchiopoda and Lamellibranchiata of the Raritan Clays and Greensand Marls of New Jersey.	do
Bulletin of the United States Geological Survey, No. 24, 1885 .....	do
Do do do No. 25, 1885 .....	do
Do do do No. 26, 1885 .....	do
Atte della Regia Accademia dei Fisiocritici de Signa. Vol. III .....	Secretary.
Do do do Fasc II. ....	do
Do do do do 12. do .....	do
Do do do do 13. do .....	do
Records of the Geological Survey, India. Vol. XX, 1887 .....	Superintendent.
Mining and Mineral Statistics of the United Kingdom of Great Britain and Ireland, &c., for 1885 .....	do
Catalogue of the Remains of Siwalik Vertebrata, contained in the Geological Department of the Indian Museum, Calcutta. Part II. Aves, Reptilia, and Prehistoric.	do
Catalogue of the Remains of Pleistocene and Prehistoric Vertebrata contained in the Geological Department of the Indian Museum, Calcutta.	do
Catalogue of Remains of Siwalik Vertebrata, contained in Geological Department of the Indian Museum, Calcutta, Part I, Mammalia.	do
Palæontologia Indica. Title page and contents of No. 1 Upper and Tertiary Cretaceous Fauna of W. India.	do

## APPENDIX 16B—continued.

Donation.	Donor.
Palaeontologia Indica. Series XIII Salt Range Fossils, Part I. Productus Limestone Fossils. 6 Comenterata.	Superintendent.
Palaeontologia Indica. Series XII. The Fossil Flora of the Gondwana System. Vol. IV., Part II, The Fossil Flora of some of the Coal-fields in Western Bengal.	do
Palaeontologia Indica. Series I. The Fossil Cephalopoda of the Cretaceous Rocks of Southern India.	do
Proceedings of the Canadian Institute, Nov. 1886. Vol. XXII	Secretary.
Sixth Annual Report of the State Mineralogist. Part I, for year ending June 1, 1886, California State Mining Bureau.	State Mineralogist.
Sixth Annual Report of the State Mineralogist. Part II.	do
Bulletin of the American Geological Society, No. 3, 1885	Secretary.
Do do No. 4, 1885	do
Do do No. 5, 1885	do
Official Record of the New Zealand Industrial Exhibition, 1885.	Director.
Records of the Geological Survey of India. Vol. XIX, Part I.	do
Do do Vol. XIX, Part II	do
Journal of Proceedings of Royal Society of N.S.W., 1885	Secretary.
Note on the occurrence of Petroleum exploration at Khatan, by R. A. Townsend	do
Journal of the Iron and Steel Institute, 1886, No. 1	do
Do do No. 2	do
Smithsonian Report, 1884.	do
Do Part II	do
Brief Sketch of the Tasmanian Fishing Industry	Govt. Statistician, Hobart.
Prodromus of the Palaeontology of Victoria, Decade IV. By Prof. McCoy.	Secretary for Mines and Water Supply.
Do do do VI. do	do do
Do do do VII. do	do do
Report of Progress—Geological Survey of India, 1876	do do
Microscopical Petrography, by Ferdinand Zerkel, United States Geological Exploration of the 40th Parallel.	United States Geo. Sur. Office.
Mining Records of South Australia. By H. Y. J. Brown, F.G.S., Govt. Geologist	Author.
Selwyn (A. R. C.) Maps to accompany Annual Report (new series). Vol. I, 1885.	Geo and Nat. Hist. Sur. of Canada.
Records of the Geological Survey of India. Vol. XVIII, part 1. 1885	India Geo. Sur. Office.
Do do Vol. XX, part 2. 1887	do
Report of the Board of Technical Education of N. S. Wales, 1885	Secretary.
Geological Society of Australia List of Members and Catalogue of Books, 1886-7	do
Bulletin of the American Geographical Society. Vol. XIX, No. 1, 1887	Society.
Geological and Natural History Survey of Canada. Annual Report (new series). Vol. I, 1885, and Maps to accompany same	Canada Geo. Sur.
Bulletin of the American Geographical Society, No. 3, 1886	American Geo. Soc.
Clarke (Rev. W. B.) On the Occurrence and Geological Position of Oil-bearing Deposits in New South Wales. (2 copies.)	M. Clarke.
Clarke (Rev. W. B.) On the Occurrence of Fossil Bones in the Auriferous Alluvial of Australia.	do
Do Effects of Forest Vegetation on Climate.	do
Do On the Discovery of Gold in Australia	do
Do Address to Royal Society of N.S. Wales, 22 May, 1872, with appendix.	do
Do do do 12 May, 1869.	do
Do do do 12 May, 1875.	do
Do Notice of a new Fossil Extinct Species of Kangaroo. (Sthenurus minor, Owen).	do
Do On deep Oceanic Depression of Moreton Bay	do
Do Notes on Deep Sea Soundings	do
Do On Dromornis Australis. (Owen).	do
Proceedings of the American Academy of Arts and Sciences. New Series, Vol. XIII. Part II. October, 1885, to May, 1886.	Secretary.
Proceedings of the Davenport Academy of Natural Science. Vol. IV. 1882-84	do
Bulletin of the United States Geological Survey. No. 27. 1884-85	Director.
Do do No. 28.	do
Do do No. 29.	do
Remarks regarding the coal seam opened out by Mr. Brock at Compton, Old Beach, &c.	Govt. Statistician.
Contribution to the Palaeontology of the Upper Palaeozoic Rocks of Tasmania.	do
Notes on the Geology of King River, &c.	do
General observations regarding the classification of the Upper Palaeozoic and Mesozoic rocks of Tasmania, &c.	do
Fresh contributions to our knowledge of the plants of the Mesozoic age in Tasmania	do
Notes and descriptions of Crinida from the Upper Palaeozoic rocks of Tasmania.	do
Notes on the Geology of Bruny Island	do
Observations on New Vegetable Fossils of the Auriferous Drifts. By Government Botanist, Victoria.	Secretary for Mines and Water Supply.
Moore (Charles) On Australian Mesozoic Geology and Palaeontology, and on a Plant and Insect Bed on Rock River, New South Wales.	M. Clarke.
Clarke (Rev. W. B.) On Causes and Phenomena of Earthquakes	do
Adelaide Jubilee Exhibition, 1887. Official Catalogue of N.S. Wales Exhibits	N.S.W. Commission.
New South Wales Progress and Resources, 1887	do
Transactions of the Cornwall Mining Association and Institute. Vol. I. Part III. 1887	Secretary.
Victoria Mines and Water Supply. Reports of Mining Surveyors and Registrars for quarter ending Mar. to Dec., 1886.	do
Do do do do do do do	do
Mar. to June, 1867.	do
Do do do do do do do	do
June to Dec., 1869.	do
Do do do do do do do	do
June to Dec., 1869.	do
Do do do do do do do	do
March to Sept., 1870.	do
Report of Department of Mines, Queensland, for 1881	Department of Mines, Queensland.
Do do 1882	do

## APPENDIX 16B—continued.

Donation.	Donor.
Report of Department of Mines, Queensland, for 1883.....	Department of Mines, Queensland.
Do do 1885 .....	do
Report to accompany Geological map of City of Brisbane and its environs. By W. H. Rands, Assistant Govt. Geologist.	do
Report on the Cobalt Lode at the Black Snake, near Kilkivan. By W. H. Rands, Assistant Govt. Geologist.	do
Report on the Geology and mineral deposits of the country in the vicinity of Clermont. By W. H. Rands, Assistant Govt. Geologist.	do
Report on gold and silver deposits in the neighbourhood of Mount Shamrock. By W. H. Rands, Assistant Govt. Geologist.	do
Report on the geology and mineral resources of the districts of Kilkivan and Black Snake. By W. H. Rands, Assistant Govt. Geologist.	do
Report on the gold deposits in the neighbourhood of Manango. By W. H. Rands, Assistant Govt. Geologist.	do
Report on the Argentine (Star) Silver-mine, Kennedy District. By W. H. Rands, Assistant Govt. Geologist.	do
Société Royale Malacologique de Belgique. Procès Verbal, 1886, pages 9 to 13 .....	Soc. Roy. Mal. de Belgique
Colonial and Indian Exhibition, 1886. Catalogue of N.S.W. Exhibits .....	N.S.W. Commission.
Queensland; its resources and institutions .....	Queensland Government.
Viaggio di Circumnavigazione delta Regia Corvetta Caracciolo Negli Anni 1881-2-3-4. Vol. IV.....	Comandante C. de Amezaga.
Gregory (J. R.) A report on minerals and gems, Colonial and Indian Exhibition, 1886 .....	Author.
Carpenter (P. H.) D. Le, &c., &c. On Crinoids and Blastoids .....	do
Do do The Generic Position of Solanocrinus .....	do
Annual Report, Dept. of Mines, Queensland, for 1886.....	Secretary for Mines.
American Institute of Mining Engineers. Vol. XV. May, 1886, to Feb., 1887 .....	Secretary.
American Geographical Society's Bulletin, vol. XIX, No. 2. June 30, 1887 .....	do
Victoria Mines and Water Supply. Reports of Mining Surveyors and Registrars, for quarters ending Juno to December, 1871.	Secretary for Mines and Water Supply.
Victoria Mines and Water Supply. Reports of Mining Surveyors and Registrars, for quarters ending March to September, 1872.	do
Victoria Mines and Water Supply. Reports of Mining Surveyors and Registrars, for quarter ending March, 1873.	do
Victoria Mines and Water Supply. Reports of Mining Surveyors and Registrars, for quarter ending March, 1878.	do
Victoria Mines and Water Supply. Reports of Mining Surveyors and Registrars, for quarter ending June, 1875.	do
Victoria Mineral Statistics, 1874 .....	do
Do do 1881 .....	do
Do do 1882 .....	do
Do do 1883 .....	do
Annual Report of the Acting Secretary, 1885-86 .....	do
Geological Survey of New Zealand. 17th Annual Report, 1881-82.....	Director.
Do do 19th do 1883-84 .....	do
Do do 20th do 1884-85 .....	do
Do do 21st do 1885-86 .....	do
Manual of Indigenous Grasses of New Zealand .....	do
Plates do do .....	do
Do do do .....	do
Do do do .....	do
Annual Report of the Conservator of Forests, Tasmania, 1886-87.....	Conservator.
Mines Department of Victoria. Reports of Mining Registrars, for quarter ending 30th June, 1887	Secretary.
Handbook for the Jubilee International Exhibition of South Australia, 1887 .....	do
Results of Meteorological observations in N. S. Wales, during 1885.....	Government Astronomer.
IX Jahresbericht des Vereins für Erdkunde zu Metz, 1886 .....	Dr. G. Raithel.
Royal Society of Victoria. Philosophical Institute. Vol II, 1857 .....	Secretary.
Do do Transactions and Proceedings. Vol. XII, 1858 .....	do
Do do do Vol. IV, 1859 .....	do
Do do do Vol. V, 1860 .....	do
Do do do Vol. VII, 1865-66 .....	do
Do do do Vol. VIII, Part II, 1867 .....	do
Do do do Vol. IX, Part II, 1868.....	do
Geological and Natural History Survey of Canada, "Contributions to the Canadian" Palaeontology, Vol. I.	Director.
Geographical Survey of New Zealand, Manual of New Zealand Mollusca.....	do
Do do Palaeontology of New Zealand, Part IV. ....	do
Do do Corals & Bryozoa (Rev. Tenison-Woods) .....	do
Do do Catalogues of N. Z. Diptera, Orthoptera and Hymenoptera (Hutton). ....	do
Do do Appendix to Official Catalogue, N. Z. Court, at Sydney International Exhibition, 1879.	do
Do do Reports of Geological Explorations, during 1879-80, with maps & sections.	do
Do do do do 1881.....	do
Do do do do 1882.....	do
Do do do do 1883-4.....	do
Do do Meteorological Report for 1873.....	do
Do do do do 1875.....	do
Do do do do 1877.....	do
Do do do do 1880.....	do
Do do do do 1883.....	do
Do do Catalogue of the Stalk-and-essle-eyed Crustacea of N. Z.	do
Do do Fishes of N. Z. ....	do
Do do Manual of the Birds of N. Z. ....	do
Do do do do N. Z. Coleoptera, parts 1-4 .....	do
Do do Handbook of N. Z. ....	do
Do do 9th Annual Report of the Colonial Museum and Laboratory	do

## APPENDIX 16B—continued.

Donation.	Donor.
Geographical Survey of New Zealand, 11th Annual Report of the Colonial Museum and Laboratory	Director.
Do do 12th do do do 1876-77...	do
Do do 13th do do do 1877-78...	do
Do do 14th do do do 1878-79...	do
Do do 15th do do do 1879-80...	do
Do do 16th do do do 1880-81...	do
Transactions and Proceedings of the New Zealand Institute. Vol. XIX. 1886	do
Memoirs of the Geological Survey of India. Palaeontologia Indica, Ser. X, vol. IV	Sup. Geo. Survey, India.
Proceedings of the New South Wales Linnæan Society, Vol. I, 1875-6	Secretary.
Do do do Vol. I. Part 1. 1876	do
Do do do Vol. II. " 1877-8	do
Do do do Vol. III. " 1878	do
Do do do Vol. IV. " 1879-80	do
Do do do Vol. V. " 1880-1	do
Do do do Vol. VI. " 1881-2	do
Do do do Vol. VII. " 1882-3	do
Do do do Vol. VIII. " 1883-4	do
Do do do Vol. IX. " 1884-5	do
Do do do Vol. X. " 1885-86	do
Do do do Vol. I. Part III. July, August, Sept., 1886	do
Bollettino della Società Africana d'Italia, 1876. Anno VI, fasc VII e VIII Luglio Agosto, 1887	do
Proceedings and Journal of the New South Wales Royal Society. Vol. XX. 1886	Secretary.
Geological Observations of the North of Queensland. 1886-7	Government Geologist.
Mineral Statistics of Victoria for 1886	Secretary.
Charter and By-laws of the Linnæan Society of London, May 1881	do
List of do do do 1883	do
Do do do do 1884-5	do
Do do do do 1885-6	do
Proceedings do do do 1880-2	do
Do do do do 1882-3	do
Journal of the Linnæan Society. Vol. XIX. No. 120. 1882	do
Do do Vol. XIX. " 121. 1882	do
Do do Vol. XIX. " 122. 1882	do
Do do Vol. XX. " 123-4. 1882	do
Do do Vol. XX. " 125. 1883	do
Do do Vol. XX. " 126. 1883	do
Do do Vol. XX. " 127. 1883	do
Do do Vol. XX. " 128. 1883	do
Society Royal of Victoria, Transactions and Proceedings, Vol. X, 1874	do
Do do do Vol. XI, 1874	do
Do do do Vol. XII, 1875	do
Do do do Vols. XIII to XXI, 1878 to 1885	do
Journal of the Linnæan Society of London, Vol. XX, Nos. 129 to 131, 1883-4	do
Do do Vol. XXI, Nos. 132-3, 1884	do
Do do Vol. XVI, Nos. 95-96, 1883	do
Do do Vol. XVII, Nos. 97-106, 1883-4	do
Transactions of the Linnæan Society of London. Vol. II. Part 2. 1882	do
Do do do " " " 3. 1883	do
Do do do " " " 4. " "	do
Do do do " " " 5. " "	do
Do do do " " " 6. " "	do
Do do do " " " 7. " "	do
Do do do " " " 8. " "	do
Do do do " " " 9. " "	do
Do do do " III. " 1. " "	do
Do do do " II. " 10. 1884	do
Do do do " " " 11. " "	do
Do do do " " " 13. " "	do
Do do do " III. " 2. " "	do
Do do do " II. " 12. 1885	do
Über Neue Cephalopoden, aus den Marmorschichten von Hallstadt, in Aussee von Franz, Ritter von Hauer.	Dr. C. von Ettingshausen.
Cryptobranchius Japonicus Schediasma Anatomicum quod Almac et Antiquissimum Universitatis Vindobonensis, Joseph Heffrit.	do
Die Blatt. Skelete der Dikotyledonen	do
Royal Society Malacologique de Belgique. Procès verbaux des Séances. 1887. Tome XVI	Society.
Annual Report of Dept. of Mines, Victoria, for 1886	Secretary.
Report of the Intoxicating Drink Inquiry Commission of N. S. Wales, 1887	do
British Museum (Nat. Hist. Branch) Catalogue of Blastoidea	Director.
Do do Fossil Sponges	do
Do do Mammalia. Part 1	do
Do do do " 2	do
Do do do " 3	do
Do do do " 4	do
Do do Palæozoic Plants	do
Do do Fossil Foraminifera	do
Do do Guide to Exhibits	do
Do do Dept. of Geo. and Pal. Museum	do
Do do Guide to Collection of Fossil Fishes	do
Bulletin of United States Geological Survey. Nos. 30 to 33	do
Monographs of United States Geological Survey Vols. X and XI	do
Mineral resources of United States, 1885	do
American Academy of Arts and Sciences. New Series Vol. XIV. Part 1	do
Königlichen Min. and Geo. and Præ. Hist. Museum in Dresden. Die Insecten aus dem lithographischen Schiefer.	do
Victoria. Reports of Mining Registrars, for quarter ending 31st March, 1887, and 30th June, 1887.	Secretary.
Royal Society of Victoria—Transactions and proceedings. XXII, 1886	do
Do do do XXIII, 1887	do

APPENDIX 16 B—continued.

Donation.	Donor.
Geographical Society of Australasia (South Australian Branch)—Proceedings, 1st Session. 1885-86	Secretaries.
Do do Victorian Branch—Transactions and Proceedings. (Vols. III and IV).	do
Do do Queensland Branch, 1st Session. 1885-86.....	do
Do do do 2nd do 1886-87.....	do
Do do N.S.W. and Victorian Branches, 1st Session. 1883-84.....	do
Do do do 2nd Session. 1884.....	do
Journal and Proceedings of the Royal Society of N.S.W. Vol XXI. Part II. Sept., 1887.....	do
Journal of Iron and Steel Institute. No. 1. 1887.....	Secretary.
Mining Records of S. Australia. By H. Y. L. Brown, F.G.S., Government Geologist S. Australia	Mineral Court (Exhibit.)
South Australia in 1887. By H. G. Scott. 8 copies. ....	Jubilee Exhibition Authorities.
Do Its History and Resources. By J. F. Conigrave .....	Author.
British New Guinea; with illustrations of scenery; issued by Burns, Philp, & Co. 6 copies ..	Burns, Philp, & Co.
Illustrated Hand-book of Victoria. For Colonial and Industrial Exhibition, 1886 .....	Exhibition Authorities.
Victorian Exhibits at the Jubilee International Exhibition, Adelaide, 1887 .....	do
Descriptive Catalogue of the Minerals, Rocks, and Fossils in Victoria, in Indian and Colonial Exhibition, 1886 .....	do
Catalogue of Kerosene Oil and Mineral Co. of N. S. Wales (Limited).....	Company.
The Sebastopol Plateau, being section of the Ballarat Gold-field proper. By W. Lupton. 2 copies.	Author.
Queensland Geological Survey—Report on the Argentine (Star) Silver-mines, Kennedy District. By R. L. Jack.	do
Descriptions of some remains of Fishes from the Carboniferous and Devonian formations in the United States.	Dr. C. Von Ettingshausen.
Description of some remains of Extinct mammalia .....	do
Annual Report of the Ballarat School of Mines, for 1883 .....	Secretary.
Norfolk Island, outline of its history, from 1788 to 1884 .....	do
Sammlungen des Geologische Reichs-Museum, in Leiden No. 14, 1887 .....	Curator.
Do do do do 15, do .....	do
Natural History of Victoria. Decade I.....	Secretary for Mines and Water Supply, Victoria.
Do do II .....	do
Do do III.....	do
Do do IV .....	do
Do do V .....	do
Do do VI.....	do
Do do VII .....	do
Do do VIII .....	do
Do do IX.....	do
Do do X .....	do
Do do XI.....	do
Do do XII .....	do
Do do XIII.....	do
Do do XIV .....	do
Records of the Geological Survey of India, Vol. XX. Part 3, 1887.....	Sup. Geo. Sur. India.
Translations of the Edinburgh Geological Society, Vol. V. Part 3, 1887 .....	Secretary.
British Museum, Nat. Hist. Branch, 1887. An Introduction to the Study of Minerals .....	Director.
Do do do do do of Meteorites .....	do
Do do do The Student's Index of the Collection of Minerals.....	do
Paleozoic Corals, Monticulipora. By H. A. Nicholson, M.D.....	Author.
Paleozoic Tabulate Corals do .....	do
Monograph of Silurian Fossils of the Girvan District in Ayrshire, fasc. I. By H. A. Nicholson and R. Etheridge, Junr.	Authors.
Do do do fasc. II. do do	do
Do do do fasc. III. do do	do

APPENDIX No. 17.

Report to the Geological Surveyor-in-Charge on the Analyses and Assays of Minerals, Waters, &c., received in the Laboratory for 1887.

Department of Mines, Geological Survey Branch, Laboratory,  
Sydney, 28 February, 1888.

Sir,

I have the honor to furnish you with the following report respecting the various analyses, assays, &c., performed in the Laboratory connected with the Geological Survey Branch during the year 1887:—

On the 1st of March, I was transferred from the Government Analyst's Department to the Geological Survey Branch, to start a Laboratory and perform the various analyses and assays required, before this the work having been carried on by me for many years under the supervision of the late Government Analyst.

On the latter part of the month the Laboratory was fitted up with chemicals, apparatus, etc., under my supervision, the work being in the meantime carried on by me at the Laboratory of the Government Analyst (Wm. Hamlet, Esq., F.C.S.), who kindly placed his premises at the disposal of this Department for that purpose.

The Laboratory contains all the latest appliances, apparatus, &c., of the best description, capable of carrying on the large amount of work required, which has so largely increased as to necessitate the building of larger premises, and extra assistance being given.

I applied for an Assistant, which you were good enough to recommend, and I would urge that, with the large amount of analytical work and complicated minerals received in the Laboratory, that an Assistant be appointed who has had some experience in this direction, as also in the assaying of all description of minerals and metals.

2,222 numbered examples were received during the year for assay and analyses, of these 2,178 were completed by the end of the year, leaving forty-four samples on hand, the results of which were furnished by the 7th January, 1888.

4,214 assays for various metals were made, and fifty-four proximate and ultimate analyses of minerals, waters, &c., which necessitated a large amount of time and careful work.

In addition to these analyses, many of the samples were submitted to a qualitative analysis with the view of ascertaining the composition of various minerals, &c., also the specific gravity of many gemstones were taken.

I would call your attention to the large increase of work from the years 1883 to 1887.

Year 1883 .....	242 Samples.	Year 1886 .....	1,807 Samples.
" 1884 .....	664 "	" 1887 .....	2,222 "
" 1885 .....	1,428 "		

The following assays were made during the year :—

ANTIMONY.

Three samples.

BISMUTH.

Twenty-one samples.

COPPER.

Forty-eight samples.

COBALT.

Nine samples of Manganese ore were assayed for Cobalt, and in all cases the Nickel estimated, which invariably accompanies the Cobalt, yielding from traces up to 2 per cent.

In nearly every case these minerals were found to contain Copper, yielding from traces up to 2 or 3 per cent., and in one or two samples lead and arsenic were detected.

Some of these ores should prove payable to work for the extraction of the Cobalt and Nickel, especially a few of those obtained from the Bungonia District, which were found to yield much gangue (quartz grit), and a fair percentage of Cobalt, there being very little Iron or Manganese present.

CHROMIUM.

One sample of Chrome iron ore was received for assay. This ore, to be of any commercial value, should not contain less than 50 per cent. of Sesquioxide of Chromium.

MANGANESE.

Two samples received.

This ore to be of any commercial value should contain not less than 80 per cent. of Binoxide of Manganese. There is a fair demand for an ore of good quality, it being largely used in the manufacture of spiegelisen in the Bessemer process. Worth from £4 to £5 per ton.

IRON.

Three samples assayed for the percentage of ferric oxide (F<sub>2</sub> O<sub>3</sub>)

LEAD.

Forty-eight samples assayed. Many of these specimens were Galena, and in some cases rich in silver.

NICKEL.

Four assays made.

MERCURY.

One assay made.

PLATINUM.

One assay made.

TIN.

Fifty-four assays made.

TUNGSTEN.

One sample assayed for percentage of tungstic acid. There is a fair demand for an ore of good quality, it being used in the manufacture of steel for the purpose of hardening it. There are many other uses for this mineral.

ZINC.

Eight samples assayed for Zinc. Some of the specimens assayed were *Calamine* (Carbonate of Zinc), which I believe to be the first discovered in the Colonies.

MISCELLANEOUS ANALYSES, &c.

Analysis of a sample of mineral water obtained from a diamond drill bore, near Dubbo (No. 731)—

Total fixed residue.....	224.62 grains per gallon,
Consisting of—	
Bicarbonate of sodium .....	183.10 "
" potassium .....	12.83 "
" lithium .....	.05 "
" calcium .....	11.38 "
" magnesium .....	9.36 "
" strontium .....	trace "
" iron.....	.70 "
Chloride of sodium.....	6.92 "
Alumina .....	trace "
Silica.....	.28 "
	224.62

No bromides or iodides present. No sulphates. Phosphates, a trace.  
 Free ammonia..... .052 parts per 100,000 parts.  
 Albuminoid (or organic) ammonia..... .003     "  
 Specific gravity of the water taken at 65° F. ....1.00359.     "

Remarks.

*Remarks.*

The water was clear and free from odour, highly charged with carbonic acid gas, and contained a small amount of sediment which on analysis was found to consist of Silica, with a small quantity of organic matter and iron oxide.

On evaporating a large quantity of the water to dryness (6 gallons used), traces of Bismuth, Lead, and Copper, were found. These traces, I have every reason to believe, owe their presence in the water to the action of the water on the metallic drums in which it was received for analysis.

The free ammonia is excessive; this is probably due to the shale-measures through which the water has percolated, but taking the albuminoid ammonia, and the other constituents into consideration, it will not condemn the water.

The quantity furnished was small, and necessitated small quantities being used for the different determinations. At least 10 or 15 gallons of the water should have been received.

The carbonic acid was not determined. If this is required it will be necessary to furnish a sample in two or three soda-water bottles securely corked.

On the whole this is a good mineral water, and will compare favourably with many of the English and Continental waters, being rich in the bicarbonates of sodium and potassium, and containing Lithia.

Since this analysis was made I have seen a sample of mineral water, taken from a spring at Cooma, which promises to be of a good quality and valuable as a mineral water. I believe no analysis has yet been made of a sample.

The following analysis was made of the ash of some coal obtained from a diamond drill bore put down at Mittagong:—

Sample marked No. 727.

Silica .....	07·10	} Insoluble in acids = 88·42.
Alumina .....	21·32	
Alumina .....	6·37	
Peroxide of iron .....	4·01	
Protoxide of manganese.....	trace	} Soluble in acids = 11·58.
Lime ..	·81	
Magnesia .....	trace	
Phosphoric anhydride (P <sup>2</sup> O <sup>5</sup> ) .....	·22	
Sulphuric anhydride (S O <sup>2</sup> ) .....	traces	
Alkalies, loss, &c. ....	·17	
	100·00	

## LIMESTONE.

Three analyses of Limestone were made with a view of ascertaining if suitable for the manufacture of Portland cement, which I have no doubt in time will be made in the Colony. In making this article I would recommend that the stone be calcined before mixing with the right proportion of clay, and burning.

The following are a few of the analyses made:—

No. 748.

*Analysis.*

Moisture .....	·47
Silica .....	2·57
Alumina .....	·72
Carbonate of lime .....	94·32
Lime (CaO).....	·62
Carbonate of magnesia.....	1·22
Alkalies, loss, &c. ....	·08
	100·00

No. 1,726.

Carbonate of lime .....	96·26
"    magnesia .....	1·63
Oxide of iron and trace of alumina .....	·00
Silica (and insoluble in acids).....	1·45
Phosphoric anhydride (P <sup>2</sup> O <sup>5</sup> ) .....	trace
Moisture .....	·24
	100·18

## COAL.

The following Analyses were made for the Bulli Colliery Commission:—

*Proximate Analyses.*

Number.	Moisture.	Volatile Hydro-carbons.	Fixed carbons.	Ash.	Sulphur.	Sp. Gravity.	Coke, per cent
554	2·15	19·02	48·92	29·39	0·52	1·52	78·31
555	2·40	16·30	50·43	30·24	·63	.....	80·67
556	2·25	16·45	51·27	29·50	·53	.....	80·77
557	1·40	19·00	53·37	23·70	·53	.....	79·07
558	1·46	19·14	51·94	26·91	·55	.....	78·85
559	1·40	20·25	51·90	25·81	·64	1·48	77·71
560	1·98	16·87	57·32	23·25	·58	.....	80·57

NOTE.—All the samples were received in fine powder, and contained much dirt. In one or two of the samples pieces of wood and cut tobacco were visible. This will account for the high percentage of ash obtained. The colour of the ashes were from white to grey.

The samples received were rather small for analysis.

## Analyses of four samples of coal from Mittagong.

*Proximate Analyses.*

Number.	Moisture.	Volatile hydrocarbons	Fixed carbon.	Ash.	Sulphur.	Sp. Gravity.	Coke per cent.
(1) 627	1.35	25.77	60.06	12.24	.56	1.347	72.30
(2) 628	1.40	24.61	59.22	14.08	.69	1.376	73.30
(3) 629	1.65	27.87	52.30	17.40	.78	1.420	69.70
(4) 630	1.17	19.25	47.59	31.42	.57	1.538	79.01

Nos. 1 and 2 were bright bituminous coals.

No. 3, bright bituminous coal and splint coal.

No. 4, Splint coal and bituminous bands.

Samples marked Nos. 627, 628, and 629, yielded a fair coke, which was swollen and firm. The colour of the ashes were gray.

No. 630 yielded a coke which was firm and compact, but the large percentage of ash found will render it not of much value. The colour of the ash was gray.

## SHALE.

The following are the analyses of some of the samples of shale (Australian Bog-head mineral) received:—

*Proximate Analyses.*

Number.	Moisture.	Volatile hydrocarbons.	Fixed carbon.	Ash.	Sulphur.	Sp. gravity
396	.70	62.98	8.67	27.20	.46	1.207
870	1.22	50.60	8.63	38.63	.92	1.379
990	.35	84.02	10.10	5.00	.53	.....
1,415	.62	64.49	9.31	25.10	.48	1.224
1,542	.80	55.27	14.36	29.57	.....	1.228
1,787	.65	78.17	11.52	9.66	.70	1.072

## IRON ORE.

The following analysis was made of a sample of Hematite containing Titaniferous Iron Ore:—

Moisture .....	4.15
Ferric oxide .....	64.64
Ferrous oxide .....	3.74
Manganese oxide .....	trace.
Alumina .....	13.72
Silica .....	6.59
Lime .....	.37
Magnesia .....	.32
Titanic acid .....	6.50
Phosphoric Anhydride .....	trace.
	<u>100.03</u>

Ore from Captain's Flat: Yielded fine silver, 16 oz. 18 dwt. 21 gr. per ton; fine gold, 4 dwt. 1 gr. per ton  
A qualitative analysis was made of this ore with the view of ascertaining if suitable for treatment by one of the well known wet methods.

The Silver was found to be combined with Chlorine and Bromine (Chlorobromide of Silver); traces of Antimony and Lead were detected.

There is nothing in this ore to prevent its being treated by one of the wet methods.

## LEUCITE-BASALT.

Analyses of two samples of Leucite-basalt:—

*Ultimate Analyses.*

	No. 1.	No. 2.
Silica .....	46.43	47.31
Alumina .....	16.72	19.06
Oxide of iron (Fe <sub>2</sub> O <sub>3</sub> ) .....	15.04	14.56
Lime (Ca O) .....	9.27	7.57
Magnesia (Mg O) .....	1.74	2.28
Potash (K <sub>2</sub> O) .....	6.93	6.14
Soda (Na <sub>2</sub> O) .....	.51	.98
Moisture .....	3.20	2.31
	<u>99.84</u>	<u>100.21</u>
Sp. gravity of mineral .....	2.890	2.910

Both these samples were partly decomposed by hydrochloric acid with the separation of granular Silica.

The following are the analyses of some of the foreign Leucite-basalts:—

Silica .....	43.72	44.83
Alumina .....	27.34	12.21
Oxide of iron (Fe <sub>2</sub> O <sub>3</sub> ) .....	11.66	23.61
Lime (Ca O) .....	7.49	8.98
Magnesia (Mg O) .....	1.70	2.45
Potash (K <sub>2</sub> O) .....	7.37	3.08
Soda (Na <sub>2</sub> O) .....		2.34
Moisture .....		.72
	<u>99.28</u>	<u>98.22</u>
		Undetermined... 1.78

Sample marked No. 1, was obtained from Byerock No. 2, from "El Capatain," near Cobar.

It will be seen, on referring to the various analyses given, that the Alkalies vary greatly in the mineral, in some instances giving as high as 20 per cent. I believe this is the first discovery of Leucite-basalt in this Colony, therefore the analysis made should prove of value from a scientific point of view.

A small bottle said to contain the stomach and contents of a rabbit was handed to me for analysis with the view of ascertaining if Arsenic was present, a salt of that metal having been used in the rabbit infested district to poison them.

A careful analysis was made and no Arsenic, Mercury, or any of the poisonous metals detected.

On the 14th November, a specimen of Sea Urchin from Lord Howe Island, named by Robert Ethridge, Esq., "Centrostephanus Rogersi" and which exuded a pink colouring matter staining the teeth of the sharks who feed on them was received, and the following report given:—

The pink colouring matter has been examined and found to be some organic colour, probably derived from vegetable matter on which the specimen has fed. To ascertain and describe the nature and properties of this organic colouring matter would take up a large quantity of my time, and more of the specimens would have to be obtained.

On the 8th of December, a specimen was received for qualitative analysis with a view of ascertaining if it were Meteoric iron. Finding strong traces of Copper, Cobalt, and Nickel, I am of opinion that the sample is Meteoric iron.

Two samples of Infusorial earth (Tripolite) were received which I prepared for the Palæontologist, who has undertaken the microscopical examination of the specimens.

These earths are chiefly used for polishing, the Silica being in a fine state of division and free from grit, also in the manufacture of dynamite by Noble's patent, which consists of 75 per cent. of Nitroglycerine, with 25 per cent. of the earth as an absorbent, to enable it to be made up into cartridges.

Many of the samples received for assay showed free gold, and it was found in some cases impossible to get a thoroughly reliable assay. A treatment in bulk would be very advisable—by crushing and the ordinary method of amalgamation, &c.; also the concentration and treatment of the Pyrites. The plant used by Messrs. Park & Lacy seems to be a good one, having all the latest improvements as you are aware of, having inspected and reported on the plant and works.

In concluding my report I have to acknowledge the ready help given to me by the assistant, Mr. Neilson and C. Hildebrandt, junior, for their able assistance in carrying out the large amount of work received in the Laboratory for the year.

I have, &c.,

JOHN C. H. MINGAYE, F.C.S.,

Analyst and Assayer.

The Geological Surveyor-in-Charge.

## SUPERINTENDENT OF DRILLS' REPORT.

Superintendent of Drills to The Under Secretary for Mines reporting on the working of the Diamond-drills and Water-augers for the year 1887.

Sir,

Department of Mines, Diamond-drill Branch, Sydney.

In submitting my annual report on the working of the Diamond-drills and Water-augers for the year 1887, I do myself the honor to attach to said report the following Appendices:—

*Diamond-drills.*

*Appendix A.*—Return showing the locality, strata, depth bored, percentage of core extracted, value of diamonds used during the year, and rate per foot, exclusive of office salaries, store wages, and rent; also Superintendent of Drills' travelling expenses.

*Appendix B.*—Summary of diamond-drills, showing the number of feet bored, total working cost to the Department, average cost per foot, and amounts receivable for the year 1887.

*Appendix C, Nos. 1 to 9.*—Sections of borings during the year 1887.

*Appendix D.*—Return showing the expenditure of Clarence Siding bore, without office expenditure.

*Appendix E.*—Return showing the total expenditure of Clarence Siding bore, including office salaries, &c.

*Water-augers.*

*Appendix F.*—Return showing the locality, depth bored, and rate per foot, exclusive of office salaries, store wages, and rent; also Superintendent of Drills' travelling expenses.

*Appendix G.*—Summary of water-augers showing the number of feet bored, total working cost to the Department, average cost per foot, and amounts receivable during the year 1887.

*Appendix H, Nos. 1 to 11.*—Sections of borings during the year 1887.

*Appendix I.*—Map of New South Wales, showing positions of wells and bores, as published last year, with additions.

*Appendix J.*—Index to wells and bores.

*Appendix K.*—Balance-sheet for diamond-drills.

*Appendix L.*—Balance-sheet for water-augers.

By first appearance it may seem as if the diamond-drill work has not progressed so favourably as in the previous year; this would be the case if only the cost at per foot is considered, and difficult works and results not taken into consideration; but whenever I have recommended the use of a diamond-drill I have looked to beneficial results as much, and at times even more than to the actual cost or number of feet bored, as I consider that the diamond-drill should be made use of in difficult country such as drifts, basalt, granite, diorite, &c., &c., as well as in some of the comparatively easy boring country of our coal measures; hence the cost at per foot has exceeded that of last year.

For instance, I recommended a diamond-drill bore to be put down at Bundanoon, within a few feet of a diamond-drill bore formerly put down by a private drill Company, where core-barrel and several rods had been lost in the bore-hole, that Company considering it too dangerous to try and recover their rods, or to bore a fresh hole near the bore-hole which was lost. The Government drill, however, commenced work within 6 feet of the lost bore-hole, and continued boring through heavy drifts, loose conglomerates, &c., &c., which almost daily choked the bore, and jammed the core-barrel, the recovery of which caused delay in boring and extra expenditure at per foot. The work was, however, completed satisfactorily, and a valuable seam of coal discovered. Had a different policy been adopted the discovery of coal would not have been made, and the diamond-drill would have been condemned as not being able to cope with difficult country. Again, at Sunny Corner very difficult country has been passed through with creditable results to the Drill Branch.

During the year a diamond-drill was also forwarded to Broken Hill, where the boring has been very slow and costly owing to the size of bore—3 inches in diameter—having to pierce through very tough granite, gneiss, quartzite, and diorite; the great toughness of the latter can be seen by the polished appearance of the core, being as smooth as glass. Here the results so far obtained overbalance the cost at per foot, although the latter seems high in comparison of the rate per foot published in former annual reports; but those reports have only shown the cost at per foot bored in comparatively easy country, whereas as stated above I have endeavoured to introduce the diamond drill in all stratas, so as to bring them into greater favour and make them more beneficial to the general public.

The Fullerton Cove bore has also proved costly, and an unusual loss of diamonds took place. The facts of the case are these: A company made application to put down a bore at Fullerton Cove to a depth of about 1,000 feet; they stated that they had already forced down tubing through the drift 221½ feet, where the hard strata was met with, and that being the case, the tubes put down by them need not be further reduced, although they would only admit of a 2-inch drill to pass through them. A drill was accordingly forwarded to bore with 2-inch bit through the tubes already down to the depth as stated above; 35 feet 7 inches more of drift was passed through, but the drift still continuing, and not being able to reduce the bore any further, the company requested that work may be stopped. Had the company forced down tubing to admit of a 3-inch instead of a 2-inch bit, the difficulties could have been surmounted and the work brought to a successful issue. At Clarence Siding the operations have been costly, only 20 feet 6 inches have been bored at the beginning of the year, and the rest of the time has been one continual difficulty; rods after rods and reamers after reamers were lost in the bore-hole, the recovery of which has been very costly. Several diamonds were also lost in the bore-hole; but I have good reasons to think that I will be able to report that all difficulties have been overcome, and most, if not all, the diamonds lost will be recovered.

Six diamond-drills were in the field at the end of the year: No. 3 drill at Red Head, No. A. and No. 7 drills at Clarence Siding, No. 10 drill at Ballimore, No. 11 drill at Broken Hill, and No. 13 drill at Fullerton Cove. A bore was also put down with No. 11 drill at Mittagong, 657 feet 6 inches in depth, piercing

piercing through a seam of coal 38 feet 5 inches in thickness with small bands of clay and shale. At Bundanoon a bore was put down during the year with No. 3 drill 380 feet 1 inch in depth, piercing a seam of coal with bands 7 feet 3½ inches in thickness, one part of the seam being solid coal 3 feet 7 inches.

No. 13 drill bored at Sunny Corner to a depth of 401 feet piercing through a lode which proved to be of little value.

The total depth bored by diamond drills during the year, is 3,097 feet 5 inches or 3,442 feet 2¼ inches less than in the year 1886. This is due as stated above to the slow boring in the granite diorite and quartzite rocks of Broken Hill, and the difficult operations at Bundanoon and Clarence Siding.

The average cost per foot of boring exclusive of office salaries, store wages, and rent, also of Superintendent of Drills travelling expenses is 18s. 1d. per foot, or 3s. 1½d. more than during the year 1886.

Total working or field cost exclusive of office salaries, store wages, and rent, also of Superintendent of Drills travelling expenses amounts to £2,800 16s. 2d., and the total earnings during the year amounts to £2,574 19s. 7d., but the total cost inclusive of all office salaries and all other expenditure in connection with the Diamond Drill Branch, amounts to £3,460 17s. 7d., or at the rate of 22s. 4½d. per foot, which is 4s. 7½d. per foot more than for the year 1886.

The loss and wear of diamonds in the bore-hole, and the cost of diamonds at per foot bored, has been greater than for the year 1886. Due to the same causes as slowness of boring, some of the diamonds were ground into mere pulp by the tough diorites, granites, and quartzites of Broken Hill. In 1886 the loss and wear of diamonds at per foot bored amounted to 8½d., but during the year 1887 the loss and wear of diamonds in the bore-holes amounts to 1s. 6½d. This includes the diamonds lost in the Clarence Siding bore-hole, which I hope to recover.

Messrs. M'Neil, Dalrymple, and M'Culloch, clerks of the Diamond-drill Branch, and Mr. J. S. Leigh, the storeman of diamond-drill store, have left no stone unturned to further the interest of the diamond-drill work, and by their unremitting attention have greatly assisted me to give more attention to my other official duties.

Percentage of core saved during the year is 64 per cent., against 80 per cent. for the year 1886. I, however, place no great importance on this, if facts in connection therewith are considered. In the hard sandstone no doubt a good percentage of core can be obtained, such as was met with at Mittagong; but at the Fullerton Cove, for instance, the drill was forced through 35 ft. 7 in. of drift, and not 1 inch of core was obtained. At Bundanoon a great deal of drift and conglomerates were pierced through, it being impossible to obtain any core. The same may be said of Ballimore, Sunny Corner, and Broken Hill. The strata at Sunny Corner consisted of slates, with a sharp underlay, which splits the core into small fragments, although the rods were raised and lowered very frequently. The same occurred at Broken Hill for the first 150 feet.

Considering the above stated facts, including the policy adopted by the Department during the year of sending diamond-drills to any kind of difficult country, which was avoided in former years, but nevertheless is more beneficial to the public, and tends to the development of the mineral resources of this rich Colony to a far greater extent than hitherto.

#### *Water-augers.*

The results obtained on the stock road Bourke to Wanaaring by the tapping of artesian water at 75-mile, at a depth of 960 feet, with a flow of water 33,000 gallons per diem, which flows through a pipe 8 feet above the surface, and again at the 101½-mile on the same road at 950 feet, with a flow of excellent water at the rate of 21,600 gallons per diem, are of such importance and beneficial character to the Colony generally, that their true value cannot be estimated at the present juncture. It may, however, be considered as certain that it will enhance the value of all the Crown lands and pastoral holdings which are within the area of the cretaceous formation. It will cause the settlement of population in these arid parts of New South Wales; townships are likely to spring up near some of the artesian wells. The numbers of the latter will no doubt increase through private enterprise, and will greatly lessen the misery, privation, and desolation caused by droughty seasons.

When once artesian wells flow between Wanaaring and Milparinka (the Mount Browne district) a distance of 136 miles in the country known as the dry track to Mount Browne (one of the driest parts of Australia even in average seasons) which work is to be commenced immediately, by bores for artesian water being put down 15 miles apart from each other, and of the successful issue I have very little doubt, as the country is known, and has been personally travelled over by me; then it is most likely that a large and new territory will be added to New South Wales; as the stock and wool which is now forwarded by Adelaide, would find its way from the Mount Poole and Cooper's Creek districts, to the Bourke Railway Station, and Sydney and as a natural consequence merchandise would be taken in return from Sydney by that route. The Government has proved by practical results, through the agency of the Diamond Drill Branch, that artesian water exists along the cretaceous formation; and it now remains for private enterprise to vigorously prosecute the boring of artesian wells.

The following is a summary from the commencement of the work from Bourke to Wanaaring up to the present time.

Soon after the opening of the Mount Browne Gold-field Mr. Geological Surveyor H. Y. L. Browne, was instructed to proceed to that gold-field for the purpose of reporting on its permanency; also on his return trip to report on the mud-springs, and the geological formation of the Paroo, Warrago, and Culgoa districts, north of the Darling River—especially with reference to the existence of artesian water—to which subject reference had been made in Mr. C. S. Wilkinson's Annual Report of the Department of Mines for the year 1880, on page 242, where he describes that an important discovery of artesian water had been made in the flat country between the Darling and Paroo Rivers, by Mr. David Brown, manager of Messrs. Officers Brothers at the Woe Wattah and Mullyes Runs, in the Albert district. Several other wells were also discovered by boring in the same district; they were, however, one and all, near mud-springs, and of comparatively shallow depths; the deepest being 110 ft.

After Mr. Geological Surveyor Browne's return from those districts, and on the receipt of his report, Mr. C. S. Wilkinson, Geological Surveyor-in-charge, advised the Government that boring for artesian water, might be undertaken by the Department of Mines on the road from Bourke to Wanaaring, and towards Milparinka. This advice was acted upon, and three water augurs—two "Tiffin,"

and

and one "Wright & Edwards," were forwarded, and active operations commenced. The work of boring was very slow, owing to the droughty seasons and consequent scarcity of water and grass, to enable teams to move about. Commencement was made 18 miles from Bourke, where several bores were put down in close proximity to each other; in some of these bores water was obtained, but not artesian, as they were not put down deep enough, and the result, therefore, to the public was nil. Several bores were also put down at the 51-mile, near Goonery Station, with the exact same result as at the 18-mile; the deepest bore only being 200 ft. 8 in., and ought to have been bored deeper, as the object should be to obtain artesian water at whatever depth, but not merely to show that a number of shallow bores could be put down at a certain cost at per foot. Results, more than the cost, must be the watchword to lead work of this kind to a successful issue. In 1884 a bore was put down at the 51½-mile, near some mud-springs at Goonery Station, and within less than half a mile from the Goonery artesian well, the result being that artesian water was tapped at a depth of 200 ft. 8 in., yielding about 15,000 gallons per diem. This well is still flowing, and is a great boon to the travelling public in those parts. A bore was also put down at the 57-mile to a depth of 545½ ft. and artesian water tapped, but the salt and fresh water flowing together to the surface, and the supply being very limited, the bore is of no public benefit, but might, before the machinery was removed, be bored deeper, but as it is within 6½ miles of the 51½-mile artesian well it is doubtful whether the cost should be incurred now. As two wells within 6½ miles of each other would not be required.

A bore was also commenced at the 75-mile and one at the 94-mile, the former was 266 ft. and the latter 321 ft. in depth. When I took charge as superintendent on September 15th, 1885, those two were the only bores in progress on that line of road, but no sooner had I taken charge than the foreman sent in his resignation, stating he could not go on any further with the work, as the machinery was too small and gave no satisfaction; also that he suffered from illness, the effects of climate. After this juncture foreman D. C. Carmichael was placed by me in charge of the work, the 94-mile bore was stopped, and the 75-mile commenced afresh from the surface so as to obtain a larger diameter, after which it was successfully carried down to a depth of 960 ft. as stated above, and obtaining a supply of artesian water equal to 33,000 gallons per diem, flowing 8 ft. above the surface. The diameter of bore at the bottom being 5 inches.

I watched and supervised this interesting work with the keenest interest and anxiety, having to contend against many difficulties and oppositions. A great outcry was raised by tank-sinkers and others, even before the depth of 600 ft. was reached, and it was publicly stated that boring for artesian water at the 75-mile would be a failure as no water would be obtained at such distance from the Goonery mud-springs, and that the cost of borings was too great, but I proved that the cost of boring at per foot was actually less than the shallow bores near the 18 and 51-miles. I urged in face of all opposition and scarcity of funds that as the bore was in the cretaceous formation and the bed rock had not been reached there were great hopes that even a larger supply of artesian water would be obtained than that in the shallow bore near the Goonery mud-springs. Results since obtained speak for themselves. Nevertheless had it not been for the support obtained from the Under Secretary for Mines, who was in sympathy with the work, the encouragement given me by Mr. C. S. Wilkinson, combined with the perseverance of foreman D. C. Carmichael, who had to undergo many hardships and privations appertaining to his work, the bores would have been abandoned in an unfinished state, the money expended on them become a mere waste, and the results to the public would have been nil.

Encouraged by the splendid results obtained at the 75-mile, I recommended that as the Kalkine Tank had been bought by the Government that the 94-mile bore which was only 4 miles from said tank, and which was only 4 in. in diameter from the surface may be stopped, and instead a bore might be put down on a site marked out by me at the 101½-mile west of Bourke, or 11½-mile east of Wanaaring (the Paroo). This received Ministerial approval, a bore was started on the 22nd June (Jubilee day) with 7-inch diameter on the surface, which was carried down with a 5-inch diameter at the lowest level. By latest report this bore has also proved successful at the depth of 952 ft., the flow of water 8 ft. above the surface was at the rate of 21,600 gallons per diem, ample for all purposes required.

During the month of May I started from Sydney, via Bourke and Wanaaring to Milparinka, for the purpose of examining the country west of the Paroo, as to its indication of an artesian water supply; I had Carmichael with me, and we took a track known as the old peg line, which had been travelled over by very few white persons. The track is generally known as the dry track to Mount Brown, and it is known that several persons have perished on this track for want of water. We successfully reached Milparinka, to which the stout heart of D. C. Carmichael contributed considerably, and I marked off eight different boring sites along that route, about 15 miles apart from each other, and it is on three of these sites nearest to Wanaaring that active operations will be commenced immediately, and I have good reason to believe with results equal, if not superior, to those obtained at the 75 and 101½-mile, between Bourke and Wanaaring. Before I close this part of my report I cannot refrain from stating that foreman D. C. Carmichael has always been willing and ready to assist me in all matters in connection with the boring operations under his immediate charge, and to whose ability, energy, and perseverance a good deal of the success obtained is due.

The machinery I am now using between Bourke and Wanaaring was only guaranteed to bore 450 feet, but by several alterations and additions in the plant and tools they have successfully bored to a depth of 960 feet.

At Gunbar Road, 13 miles from Hay, the auger has not been successful in tapping artesian water, but a large supply of excellent water, for domestic and stock purposes, was obtained, which rose from a depth of 400 feet to within 70 feet of the surface. Two wells, one at each bore, were sunk and timbered up, which now contains sufficient water for all purposes required.

As there was no likelihood that artesian water was likely to be tapped at a shallower depth than from 800 feet upwards; and, as the machinery at Moongulla Reserve was small and defective, cost and delays in forwarding articles or machinery very great, I thought it advisable to recommend that the boring for artesian water at Moongulla Reserve be discontinued, and the plant removed to Sydney; which recommendation was approved of.

In the beginning of the year there were seven water augers in the field, three on the road Bourke to Wanaaring, two at Moongulla Reserve, one near Hay, and one prospecting for gold near Forbes; the latter did a good deal of work in boring, but not successful in striking a payable lead.

The

The total number of feet bored during the year was 2,566 ft. 10 in. or 381 ft. 7 in. more than during the year 1886.

The total cost of boring at per foot, inclusive of carriage, but exclusive of office salaries, &c. &c., is 16s. 2½d.; but inclusive of all office salaries, carriage, and all other expenditure to the Government, is £1 2s. 3¼d. per foot, or 18s 9¼d. less than in the year 1886.

Glancing over the returns of the boring operations on the Bourke to Wanaaring Road, it will be seen that at the 75-mile the rate, at per foot, between the 845 feet and 960 feet depths, has been noted as £3 9s. 10¾d. This, without explanation, appears large; but this cost includes the fencing-in of the bore, the erection of tubes both in the bore and above the surface, the sinking and timbering of a shaft at the bore 20 feet in depth, the throwing across of an embankment for conservation of water, and wages paid during time of removal. If these items had been kept separately, the cost, at per foot, would have been reduced by more than half. The bore at the 101½-mile, which at the end of the year was 674 feet 5 inches in depth, cost the Government, without carriage, office salaries, &c., £1 4s. 11¼d. per foot; but inclusive of office salaries, carriage, and all expenditure whatever, £1 15s. 3¾d. per foot.

At Moongulla Reserve only 30 feet have been bored during the year; the expenditure having been mainly caused through waiting for teams, and the carriage of plant to Sydney.

The bore at Gunbar Road, near Hay, although estimated at the total cost to the Department as £1 16s. 0¼d. per foot, has not cost that amount in reality for boring alone; but this includes the sinking and timbering-up of two wells 6 feet by 3 feet 70 feet each in depth, which was necessary to conserve the water obtained by boring.

Taking, therefore, the auger work separately or collectively, the price of per foot is less than that of 1886. But the results are better still, as during the year the deepest bores in New South Wales for artesian water have been brought to a successful issue; and I have great hopes that the boring for artesian water will be still further reduced in cost, as I have had to add during the year many new tools which will come in for the next bores. But as I stated above, the results, after all, should have a keener consideration than the actual cost at per foot.

I have, &c.,

W. H. J. SLEE,

Superintendent of Drills.





**Section of Bore  
No. 3 Diamond Drill  
at Bundanoon**

APPENDIX C!

Borehole 3 1/2" diam <sup>c</sup>	Nature of Strata	Thickness of Strata		Depth from Surface		Enlarged Sections
		ft.	in.	ft.	in.	
	Tubing.....	3	0			
	Sandstone.....	62	1			
	Sandstone with ironstone bands.....	28	6			
	Yellow & white Sandstone with shale band.....	14	6			
	Sandstone with ironstone band.....	112	7			
	White sandstone.....	8	0			
	Conglomerate.....	1	0			
	Chert.....	1	3			
	Cavity.....	1	5	231	4	
	Coal & bands (see enlarged section) shale and sandstone.....	7	3 1/2			
	Conglomerate.....	2	10			
				1		
	Fine Sandstone.....	41	0 1/2			
	Fine Conglomerate.....	2	6			
	Fine Sandstone.....	16	7			
Conglomerate.....		7				
Grey sandstone.....	1	0				
Blue Sandstone.....	41	8				
Grey Sandstone.....	35	2				
Total depth.....				380	1	

**Coal & bands  
at 231 ft. 4 in.**

	ft.	in.
Coal.....	5	
band.....	1	
coal.....	1	2
band.....	1 1/2	
coal.....	1	
band.....	3 1/2	
Coal.....	3	7
slate with coal pipes.....		6 1/2
slate with coal pipes.....	1	0
<b>Thickness.....</b>	<b>7</b>	<b>3 1/2</b>

(Sig 665-2A)

*Section of Bore  
No. 3. Diamond Drill  
at Redhead  
(in course of progress)*

APPENDIX C<sup>2</sup>

Borehole 3' diam <sup>r</sup>	Nature of Strata	Thickness of strata		Depth from Surface	
		ft	in.	ft	in.
	Stand pipe.....	13	0		
	Chert rock.....	30	2		
	Chert rock with coal pipes.....	5	4		
	Chert rock.....	8	0		
	Ironstone.....	2	0		
	Hard blue shale with fossil leaves.....	18	1		
	Blue shale with clay bands.....	3	3		
	Ironstone.....	7	2		
	Blue shale.....	2	2	84	9
	Black shale.....	1	0		
	Coal with bands.....	2	8 1/2		
	Coal.....	2	0 1/2		
	Coal with bands.....	3	7		
	Blue shale.....	7	0		
	Sandstone.....	3	6		
	Fine Conglomerate.....	4	6		
Sandstone.....	6	0			
Shale with Ironstone bands.....	4	2			
Sandstone.....	24	0			
Chert rock.....	6	3			
<i>To 31<sup>st</sup> December 1887.....</i>				143	9

*Section of Bore  
No 7 Diamond Drill  
at Clarence Siding  
(in course of progress)*

APPENDIX C<sup>3</sup>

Borehole 2" diam <sup>r</sup>	Nature of Strata	Thickness of Strata		Depth from Surface	
		ft.	in.	ft.	in.
	<i>Depth bored to 31<sup>st</sup> Decr 1886.</i>			1020	0
	<i>Shale and Sandstone.....</i>	20	6		
	<i>To 31<sup>st</sup> December 1887.....</i>			1040	6

*Section of Bore No 1  
No 10 Diamond Drill  
at Ballimore*

APPENDIX C<sup>4</sup>

Borehole 2' diam <sup>2</sup>	Nature of Strata	Thickness of Strata		Depth from Surface	
		ft.	in.	ft.	in.
	Depth bored to 31 <sup>st</sup> Decr 1886.....			561	6
	Soft Sandstone with pebbles.....	16	5		
	Sandstone.....	7	3		
	Dark shale.....	1	6		
	Dark shale with ironstone bands	8	2		
	Sandstone, dark shale and Conglomerate.....	57	3		
	coal (dull).....		11		
	Muddy Sandstone.....	3	5		
	Conglomerate, shaly Sandstone and shale.....	49	9		
	Blue shale.....	2	0		
	Shaly Sandstone.....	8	1		
	Coaly shale.....	2	0		
	Sandstone.....	2	2		
	Coaly shale.....	1	9		
	Conglomerate.....	14	10		
	Coaly shale.....		7		
	Shaly Sandstone.....	16	0		
	Conglomerate.....	4	8		
	Coaly shale.....		11		
	Conglomerate.....	3	0		
Shaly Sandstone.....	3	2			
Conglomerate.....	2	5			
Shaly Sandstone.....	20	8			
Whiteish Sandstone.....	6	1			
Total depth.....			794	6	

*Section of Bore No 2  
No 10 Diamond Drill  
at Ballimore  
(in course of progress)*

APPENDIX C.5

Borehole 2" diam <sup>r</sup>	Nature of Strata	Thickness of strata		Depth from Surface	
		ft.	in.	ft.	in.
	Surface clay.....	7	0		
	Sandstone with ironstone bands...	77	1		
	Shaly sandstone.....	11	3		
	Coal and band.....	6	2		
	Coaly shale.....	37	11		
	Shaly sandstone.....	9	6		
	Conglomerate.....	4	0		
	Coal and bands.....	5	1		
	Dark shale with coal veins, from 1 in. to 5 in. in thickness.....	32	2		
	Shaly sandstone.....	84	0		
	Coal.....		6		
	Soft blue shale.....	12	2		
	Sandstone.....	11	1		
	Chert.....		4		
	Conglomerate.....	2	10		
	Soft shaly sandstone.....	14	7		
	Chert.....	1	3		
	Grey shaly sandstone.....	139	10		
	Blue shale with sandstone partings.....	46	6		
	Soft blue shale.....	12	5		
	Sandstone and shale.....	49	6		
	Conglomerate.....	17	2		
	Dark shale.....	3	10		
Dark shale with coal pipes.....	8	8			
Dark shale.....	5	5			
To 31 <sup>st</sup> December 1887.....			600	3	

# Section of Bore No. 11 Diamond Drill at Mittagong

APPENDIX C<sup>6</sup>

Borehole 3' diam	Nature of Strata	Thickness of Strata		Depth from Surface		Enlarged Sections	
		ft.	in.	ft.	in.		
	Shaft.....	8	0				
	Sandstone.....	129	0				
	Sandstone with iron bands and pebbles.....	106	0			<i>Coal &amp; bands at 613 ft. 6 in.</i>	
	Blue Shale.....	18	0				
	Sandstone with pebbles.....	3	0				Coal..... 9
	Conglomerate with iron bands.....	66	3				fireclay & dk shale 1
	Grey Sandstone with shale bands.....	33	2				fine sandstone 7
	Conglomerate.....	1	0				dk shale & fireclay 1
	Sandstone & shale.....	140	0				Coal..... 2
	Sandstone with fine conglomerate.....	68	1				Dark shale..... 2
	Sandstone with fine conglomerate & coal pipes.....	32	6				fireclay..... 1
	Coal.....			3			Dark shale..... 4
	Dark shale.....			2	0		Coal..... 1
	Dark sandstone.....			5	11		band..... 1
	Dark shale.....			4	5 13		Coal..... 4
Coal and bands (see enlarged section)			38	5	band..... 1		
Dark Shale.....			5	7	Coal..... 4		
Total depth.....					Coal & dark shale..... 6		
					Thickness 38 5		

*Section of Bore  
No 11 Diamond Drill  
at Broken Hill  
(In course of progress)*

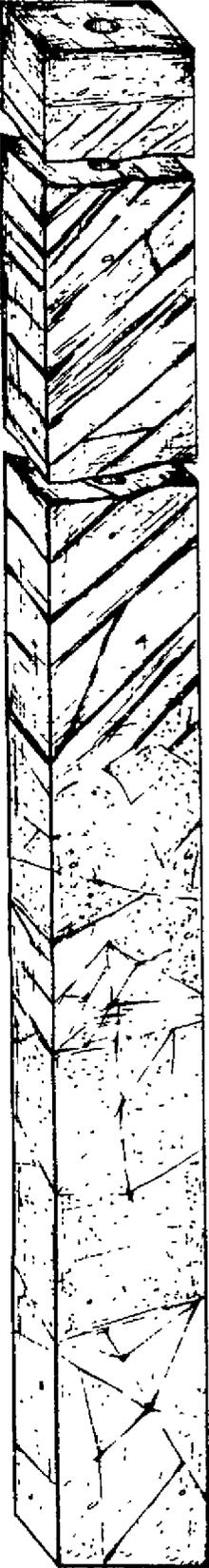
APPENDIX C?

Borehole 3' diam <sup>r</sup>	Nature of Strata	Thickness of Strata		Depth from Surface	
		ft.	in.	ft.	in.
	Gneiss.....	7	1		
	Gneiss with quartz pebbles.....	26	0		
	Gneiss with quartz veins.....	3	8		
	Quartz.....	3	0		
	Hard granite.....	134	9		
	Dark granite with pyrites.....	9	1		
	"Dark Quartzite" eurite?.....	6	6		
	Dark granite.....	10	0		
	To 31 <sup>st</sup> December 1887.....			200	1

*Section of Bore N<sup>o</sup> 1 APPENDIX C<sup>o</sup>  
 N<sup>o</sup> 13 Diamond Drill  
 at Sunny Corner*

Borehole 3' diam <sup>r</sup>	Nature of strata	Thickness of Strata		Depth from Surface	
		ft.	in.	ft.	in.
	Depth bored to 31 <sup>st</sup> Decr 1886.....			296	0
	Hard grey shale.....	10	6		
	Do Do with quartz.....	14	9		
	Hard grey shale.....	30	3		
	Blue quartz.....	6	9		
	slate.....	4	6		
	quartz.....	4	9		
	Slate.....	33	6		
	Total depth.....			401	0

*Section of Bore No 2  
No 13 Diamond Drill  
at Sunny Corner*

Borehole 3' diam <sup>s</sup>	Nature of Strata	Thickness of Strata		Depth from Surface	
		ft.	in.	ft.	in.
	<i>shaft</i> .....	11	7		
	<i>slate</i> .....	234	5		
	<i>Blue Slate</i> .....	17	0		
	<i>Black Slate</i> .....	15	6		
	<i>Blue slate</i> .....	146	6		
	<i>Slate</i> .....	43	0		
	<i>Porphyry</i> .....	36	0		
	<i>Do. Do with Quartz</i> .....	29	6		
	<i>Porphyry</i> .....	62	0		
	<i>Quartz</i> .....	61	6		
	<i>Total Depth</i> .....			657	0

(Sig665-2B)



## APPENDIX D.

REAMING work, showing cost, exclusive of office salaries, store wages, rent, and Superintendent's travelling expenses to Department.

No. of drill.	Locality.	Days occupied.							Cost.	Remarks.
		Moving.	Erecting.	Repairing.	Reaming.	Delays.	Holidays.	Total.		
7	Clarence Siding.....	.....	0	51	100	10	7	240	£ s. d. 920 16 11	This is reaming work for the purpose of recovering core-barrel, hence it cannot be charged as boring.

J. S. McNEIL.  
D. McCULLOCH.W. H. J. SLEE,  
Superintendent of Drills.

## APPENDIX E.

SUMMARY of Reaming work, showing total cost to Department and amount receivable in connection therewith for 1887.

No. of drill.	Locality.	Wages.	Carriage.		Travelling expenses.	Repairs.	Diamonds used.	Stores issued.	Fuel, water, and sundries.	Proportion of balance of general account.	Proportion of balance of general stores issued.	Office salaries.	Store wages.	Rent.	Superintendent of Drills' travelling expenses.	Total.	Amount receivable inclusive of Ministerial concessions.	Amount conceded.	Total amount receivable exclusive of concession.	Remarks.
			Railway.	Other.																
7	Clarence Siding....	£ s. d. 594 12 0	£ s. d. 24 18 7	£ s. d. 0 3 0	£ s. d. 8 0 8	£ s. d. 40 5 9	£ s. d. 64 14 0	£ s. d. 82 13 8	£ s. d. 35 10 1	£ s. d. 03 15 2	£ s. d. 0 10 6	£ s. d. 74 0 8	£ s. d. 27 10 11	£ s. d. 15 18 0	£ s. d. 3 4 0	£ s. d. 1,048 1 0	£ s. d. 603 18 10	£ s. d. 488 13 2	£ s. d. 175 6 8	This work has been very expensive, owing to the continual loss of core-barrels in the drift and conglomerate formations.

J. S. McNEIL.  
D. McCULLOCH.W. H. J. SLEE,  
Superintendent of Drills.

APPENDIX F.

REPORT of Water-aulger Work for the year 1887, exclusive of office salaries, store wages, rent, and Superintendent's travelling expenses.

No. of Machine	No. of Bores put down.	Locality.	Days occupied.								Depths			Rate bored per day.	Cost of Carriage.	Working cost, exclusive of carriage.	Working cost, inclusive of carriage.	Cost per foot.		Remarks.
			Moving-Erecting.	Boring.	Reaming.	Repairing.	Holidays.	Tank-sinking.	Constructing for storing water.	Total.	At 31st December, 1888.	Bored during year 1887.	Total.					Exclusive of carriage.	Total.	
1, 2, 3	75 mile	Bourke to Wanaaring Road (a).		83	16	5	2	22	20	103	ft. in.	ft. in.	ft. in.	ft. in.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	<p>(a) The 30s. 10½d. per foot includes the expenditure caused in fencing in the bore-hole or artesian well, fixing tubing in bore and above surface, sinking and timbering shaft 20 ft. in depth, putting up embankments to conserve water, and waiting for and loading teams for removal.</p> <p>(b) Layers of hard quartzite on one side of the bore-hole, which caused extra work and expenditure.</p> <p>(c) The delay and extra expenditure was caused in waiting for teams to remove plant to Sydney.</p> <p>(d) This expenditure would have been considerably lower but the cost of sinking and timbering two (2) wells, 70 feet each in depth, is included, to conserve water obtained in boring.</p> <p>(e) Colours of gold were obtained but no payable lead of gold.</p>
4 & 6	10½ mile	Moongulla (c).	28	9	117	56	19	57	79	210	84 2	115 10	115 10	3 0½	53 11 10	177 8 3	231 0 1	1 10 7½	1 19 10½	
11	1	Hay (d).	8	8	150	50	31	5	4	48	.....	385 1	385 1	2 5	60 13 3	453 13 2	519 16 5	1 3 10	1 7 0	
			36	18	316	66	111	64	4	70	.....	.....	1,205 4	3 10	293 8 1	1,405 9 10	1,793 12 11	1 4 9½	1 9 9½	
Gold prospecting—																				
10	1	Forbes (e)									58 0	47 0	.....	.....	.....	.....	.....	.....	.....	
	2	"									.....	80 6	.....	.....	.....	.....	.....	.....	.....	
	3	"									.....	151 6	.....	.....	.....	.....	.....	.....	.....	
	4	"									.....	144 0	.....	.....	.....	.....	.....	.....	.....	
	5	"									.....	146 0	.....	.....	.....	.....	.....	.....	.....	
	6	"									.....	123 0	.....	.....	.....	.....	.....	.....	.....	
	7	"									.....	164 0	.....	.....	.....	.....	.....	.....	.....	
	8	"									.....	127 6	.....	.....	.....	.....	.....	.....	.....	
	9	"									.....	184 6	.....	.....	.....	.....	.....	.....	.....	
	10	"	19	21	167	3	6	3	6	215	.....	193 6	1,361 6	8 8	15 4 0	272 19 3	288 8 3	0 4 0½	0 4 2½	
			55	39	473	69	117	67	10	70	.....	.....	2,566 10	5 5	313 7 1	1,768 9 1	2,051 16 2	0 18 9½	0 18 2½	

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J. S. McNEIL.  
D. McCULLOCH.

W. H. J. SLEE,  
Superintendent of Drills.

APPENDIX G.

SUMMARY of Water-augers, showing number of feet bored, total working cost to Department, and average cost per foot, for 1887.

No. of Auger.	Locality.	Feet bored.	Wages.	Carriage.		Travelling expenses.	Repairs.	Stores issued.	Sundries.	Proportion of balance of general account.	Proportion of balance of general stores issued.	Office salaries.	Stores wages.	Rent.	Superintendent of Drills' travelling expenses.	Total.	Cost per foot.	
				Railway.	Other.													
1, 2, & 3	Bourke to Wannaring Road at 76-mile. (a)	ft. in.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
1, 2, & 3	Bourke to Wannaring Road at 101½-mile. (b)	674 5	570 1 0	21 0 0	52 8 5	21 9 6	25 2 6	31 5 6	12 13 11	103 2 7	2 6 4	213 7 2	70 15 5	44 18 0	9 5 2	1,189 16 6	1 15 3½	
4 & 6	Moongulla (c) .....	30 0	150 19 8	.....	0 15 6	.....	10 17 0	2 10 0	9 0 4	25 12 5	0 11 0	53 6 1	10 18 8	11 4 3	2 6 3	287 1 11	9 11 4½	
11	Hay (d) .....	385 1	428 10 8	10 5 1	1 1 6	.....	3 7 6	10 4 8	7 8 9	61 6 1	1 9 2	106 13 3	30 17 8	22 0 0	4 12 7	693 8 11	1 10 0½	
	Gold-prospecting—	1,205 4	1,280 3 0	40 4 7	61 16 4	25 11 0	41 7 0	63 17 11	44 11 10	230 16 9	5 4 6	480 0 0	179 9 4	101 0 3	20 16 6	2,574 19 0	2 2 8½	
10	Forbes (e).....	1,361 6	207 14 8	5 17 1	9 6 11	1 2 7	.....	4 2 0	.....	.....	.....	.....	.....	.....	.....	282 3 3	0 4 2½	
		2,568 10	1,547 17 8	40 1 8	71 3 2	26 13 7	41 7 0	67 10 11	44 11 10	230 16 9	6 4 6	480 0 0	179 9 4	101 0 3	20 16 6	2,863 2 3	1 2 3½	

(a) Although set down as £3 9s. 10½d. per foot, more than half of that expenditure was caused by fencing in the bore, sinking and timbering shaft 20ft. in depth, fixing tubing below and above the surface, and putting up embankments for the conservation of water. (b) This bore passed through thick layers of quartzite, also through drift. (c) The principal part of the expenditure was caused through delay waiting for teams to remove plant to Sydney. (d) Two wells were sunk, one at each bore, 70 ft in depth, and timbered for conservation of water, which expenditure is included in the cost of boring at per foot. (e) Colours of gold were obtained, but no payable lead discovered.

J. S. McNEIL.  
D. McCULLOCH.

W. H. J. SLEE,  
Superintendent of Drills.



Water Auger Sections-

Section of Bore No 6  
 No 10 Water Auger  
 at Forbes.  
 (Gold prospecting bore)

APPENDIX H.

Thickness of strata		Nature of strata	Borehole	Height water rose from point of tapping	Quality	Depth water tapped		
ft.	in.					ft.	in.	
Surface								
16	0	Yellow clay						
4	0	Yellow clay & sand						
6	6	Clay and sand						
2	0	White sand						
3	6	Red & white clay						
6	0	Fine drift sand						
10	0	Coarse drift						
3	6	Fine drift						
5	6	Coarse drift			Rose 15 ft.	Fresh	60	0
8	0	Red clay with stones						
5	6	Blue clay with stones			Rose 30 ft.	Brackish	80	0
6	6	Red & white clay						
6	6	Red clay & rotten slate						
3	0	Rotten slate						
80	6	Total depth						

Note.- Rate of water supply not given.

(Sig. 665-2 D.)

*Section of Bore No 7  
No 10 Water Auger  
at Forbes  
(Gold prospecting bore)*

APPENDIX H<sup>2</sup>

Thickness of strata		Nature of strata	Borehole	Height water rose from point of tapping	Quality	Depth water tapped		
ft.	in.					ft.	in.	
			Surface					
1	0	Black soil						
12	6	Yellow clay						
3	6	Do. Do. with sand						
15	6	Blue clay						
1	6	Hard conglomerate						
7	6	Clay with sand						
2	6	Fine drift						
5	0	White clay			Rose 18 ft. good supply	Fresh	49	0
12	0	Coarse drift						
5	6	Yellow clay with stones						
6	6	Red clay & gravel						
12	0	Red & blue clay						
13	0	Red & white clay			Rose 105 ft. good supply			
14	0	Red & blue clay						
9	3	Yellow clay with stones				Brackish	116	0
8	9	Red & blue clay						
3	6	Red clay with stones						
5	0	Stiff red clay						
9	6	White clay						
1	0	Rotten slate						
1	6	White clay with rotten slate						
1	0	slate						
151	6	Total depth						

Note.- Mud spring at 90 ft. rose 18 ft. in bore.

*Section of Bore No 8  
No. 10 Water Auger  
at Forbes  
(Gold prospecting bore)*

Thickness of strata		Nature of strata	Borehole	Height water rose from point of tapping	Quality	Depth water tapped		
ft.	in.					ft.	in.	
			Surface					
15	0	Yellow clay						
2	6	Yellow clay with sand & stones						
9	6	Blue clay						
7	0	Yellow clay with sand				Fresh	31	6
6	6	Coarse drift						
1	6	Yellow clay with sand						
16	0	Coarse drift						
39	0	Red clay with stones						
11	6	Do. Do. and slate						
22	0	Red clay with stones						
9	6	Red & white clay with stones						
1	0	White clay with rotten slate						
2	0	Rotten slate						
144	0	Total depth						

Note.- Rate of water supply not given.

*Section of Bore No 9  
No 10 Water Auger  
at Forbes  
(Gold prospecting bore)*

APPENDIX H<sup>4</sup>

Thickness of strata		Nature of strata	Borehole	Height water rose from point of tapping	Quality	Depth water tapped	
ft.	in.					ft.	in.
			Surface				
21	0	yellow clay					
3	0	Do. Do. with sand					
7	0	Hard yellow sand					
5	0	yellow clay with sand				Fresh	31 0
21	6	Fine & Coarse drift					
1	6	yellow clay					
69	0	Red & white clay with stones					
3	0	Red clay					
11	0	Red & white clay with stones					
1	6	rotten slate					
2	6	Red clay with rotten slate					
146	0	Total depth.					

Note.- At the finish of bore, mud & clay rose 14 ft.

*Section of Bore No 10  
No 10 Water Auger  
at Forbes  
(Gold prospecting bore)*

APPENDIX H<sup>5</sup>

Thickness of strata		nature of strata	Borehole	Height water rose from point of tapping	Quality	Depth water tapped	
ft.	in.					ft.	in.
			Surface				
16	0	Red & yellow clay					
3	0	yellow sand					
17	0	yellow clay with sand					
				Rose 18 ft. good supply	Fresh	42	0
22	0	Fine & coarse drift					
51	0	Red clay with stones					
6	0	Red clay					
6	0	Red clay with rotten slate					
2	0	rotten slate					
123	0	Total depth					

*Section of Bore No 11  
No 10 Water Auger  
at Forbes  
(Gold prospecting bore)*

APPENDIX H.<sup>6</sup>

Thickness of strata		Nature of strata	Borehole	Height water rose from point of tapping	Quality	Depth water tapped	
ft.	in.					ft.	in.
			Surface				
22	0	Yellow clay					
20	6	Hard yellow sand with clay					
16	6	Coarse drift		6 ft	Fresh	49	0
27	0	Yellow clay with stones					
7	0	Yellow & blue clay					
13	0	Red clay with stones					
11	0	Red clay with pieces of slate					
6	0	Yellow clay					
41	0	Red & yellow clay with stones & robbins slate					
164	0	Total depth					

*Note - Fresh water rose 110 ft. at finish of bore.  
Rate of supply not given.*

*Section of Bore No 12*    *APPENDIX H?*  
*No 10 Water Auger*  
*at Forbes*  
*(Gold prospecting bore)*

Thickness of strata		nature of strata	Borehole	Height water rose from point of tapping	Quality	Depth water tapped	
ft.	in.					ft.	in.
			Surface				
1	6	Black soil					
19	0	Yellow clay					
4	6	Do. Do. with sand					
15	0	Hard yellow sand					
20	0	Coarse drift				Fresh	48 0
23	0	Yellow clay with gravel					
15	6	Yellow clay					
14	0	Do. Do. with stones					
2	0	Blue clay					
11	0	Red clay with gravel					
2	0	yellow clay					
127	6	Total depth					

Note:- Rate of water supply not given.

APPENDIX H<sup>B</sup>

*Section of Bore N<sup>o</sup> 13  
N<sup>o</sup> 10 Water Auger  
at Forbes  
(Gold prospecting bore)*

Thickness of strata		Nature of strata	Borehole	Height water rose from point of tapping	Quality	Depth water tapped	
ft.	in.					ft.	in.
			Surface				
19	0	Yellow clay					
10	0	Do. Do with sand					
5	0	Yellow sand					
15	0	Coarse drift					
				Rose 12 ft. good supply	Brackish	46	0
97	6	Red & yellow clay with stones					
13	6	stiff red clay with stones & slate					
20	0	stiff red & white clay					
4	6	Pipe clay & rotten slate					
184	6	Total depth.					

Note.- Mud spring at 157 ft. rose 105 ft. in bore



## Section of Bore No 2 No 11 Water Auger at Gunbar Road Hay

Thickness of strata		Nature of strata	Borehole	Height water rose from point of tapping	Quality	Depth water tapped	
ft.	in.					ft.	in.
Surface							
70	0	Shaft.....		Fresh	70	0	
10	0	Fine sand drift.....		Rose 16 ft.	Fresh	86	0
4	0	Clay.....					
23	0	Fine & coarse sand.....					
13	0	Grey & brown clay.....					
35	0	Stiff grey clay.....					
34	0	Clayey sand & drift.....		Rose 118 ft.	Fresh	180	0
12	0	Sand drift.....					
9	0	Conglomerate.....					
32	0	Stiff white clay.....		Rose 134 ft., rate 12,000 Gals. per day.	Fresh	240	0
41	0	Yellow sand drift.....					
2	0	White clay.....		Rose 125 ft., rate 6,000 Gals. per day.	Fresh	280	0
16	6	Sand drift.....					
8	0	Brown sand, cement & gravel.....					
8	8	Sand, gravel and ironstone.....					
11	7	White sand & cement.....					
25	0	White sand.....					
20	1	Blue sand & iron mica.....					
10	3	Do. Do. with small pieces of timber.....					
385	1	Depth 31 <sup>st</sup> Decr 1887					

Note:- Fresh water tapped at 70 feet, rate of supply 9600 Gals. per day.

Do.	Do.	240	Do.	Do.	12000	Do.
Do.	Do.	280	Do.	Do.	6000	Do.

# Section of Bore No. F

## Nos 2 & 3 Water Augers

### at 10 1/2 Mile Post

### on road Bourke to Wandaring

Thickness of strata		Nature of strata	Borehole	Height water rose from point of tapping	Quality	Depth water tapped	
ft.	in.					ft.	in.
			surface	↑ ↑ ↑			
35	0	Red sand clay, Marly limestone & drift sand.					
15	0	Brown clay & boulders of ironstone.					
9	0	Tight ironstone.					
3	0	Light blue stone					
79	6	Sandstone & clay & Tight sandstone.					
57	6	White drift and salt water					
38	0	Drift & stiff blue clay & grey rock & ironstone.					
7	0	Quartzite					
9	6	Tight white clay					
6	6	Blue clay					
7	0	Light grey clay & gypsum.					
3	6	Tough blue clay					
25	6	Tight light cold clay					
9	0	Grey sand & black clay					
9	9	Quartzite					
27	3	Greenish tight sandy loam					
8	9	Tight fine sand & mud.					
5	8	Quartzite					
12	1	Greenish sandy clay with spots of vegetable matter.					
		Black clay & sand 3-5, rock 1-0, black clay with thin layers sand 6-0, blue black clay 35-10, rock 0-9, blue black clay 8-10, rock 0-8, blue black clay 6-11, sandstone 4-6, rock 2-0, sand & clay 9-9, fine sand & layers of rock 27-2 and light grey rock 1-7.					
253	5						
3	0	Black blue clay & sand.					
12	8	Fine sand & clay in layers					
4	2	Sandy water worn stones					
6	0	Decomposed vegetable matter & small piece of bone					
6	6	Light grey sand & clay					
	10	Rock					
5	3	Sandy clay with vegetable matter & bones much cut up.					
8	0	Sandy clay in thin layers					
14	0	Brownish blue clay & sandstone with layers of rock.					
1	3	Dark grey rock & limestone					
	6	Limestone rock					
3	0	Blue & light grey clay					
56	3	Brownish blue clay					
	8	Gypsum					
9	6	Blue clay					
48	9	Black clay					
	10	Green sandstone					
	3	Boulders					
	6	Green sandstone					
	3	Limestone rock					
	4	Clay					
	22	Clay with sand seams					
	1	Tight grey sandstone					
	1	Very tight clay					
	7	Blue clay with sand seams					
	2	Limestone rock					
	30	4 Brown clay & sand layers					
	7	0 Sandstone					
	7	0 Limestone rock					
	7	7 Sandstone & sand.					
	15	2 sand & clay with decomposed vegetable matter					
	4	1 Limestone					
	21	7 Light sandy clay.					
	7	6 Limestone					
	17	1 Blue clay with thin layer of limestone.					
965	10	Total depth					

Flowed over surface at the rate of 7,400 Gallons per day.

Flowed over surface at the rate of 21,600 Gallons per day.

Flowed over surface at the rate of 22,464 Gallons per day and increasing.

Fresh 851 0

Fresh 900 0

Fresh 965 0

Note:- Fresh Artesian water tapped at 851 feet, flowing over surface at the rate of 7,400 Gals. per day  
 At 900 feet the Artesian supply increased to 21,600 Galls. per day.  
 At 946 feet the fresh Artesian water, flowed over at the rate of 22,464 Gals. per day  
 At 965 feet the water was flowing over the surface at the rate of 22,464 Galls. per day and by latest reports the supply was increasing.

Salt water was tapped in this bore at from 28 to 42 ft. and at from 140 ft. to 164 ft.  
 291 ft. 5 in. of this bore put down in 1888.







## APPENDIX J—continued.

## INDEX to Wells and Bores—continued.

No.	Locality.	District.	Strata.	Remarks.
200	Youngarrina Springs .....	Albert .....	.....	Well 6 ft. deep; estimated 800 to 1,000 gals. good water per diem.
201	M'Crae's Well, Baongum-yarra.	" .....	.....	Well 27 ft. deep; 8 or 9 ft. in rock; good supply for stock; too brackish for domestic purposes.
202	Buckley's Well, Yantabulla	" .....	Bottom on sandy drift	Well 40 ft. deep; water fairly good, but slightly impregnated with soda; daily yield about 150 gallons.
203	Rudder's Well, Warroo Station.	" .....	.....	Well 20 ft. deep; water rose 10 ft.; very salt.
204	Tynganic Spring .....	" .....	.....	Well 40 " excellent water; estimated at about 10,000 gallons per diem.
205	Brindingabba, Moolort Block.	" .....	.....	Well 94 ft. deep; watered 12,000 sheep through drought; excellent quality.
206	" .....	" .....	.....	Well 120 ft. deep; water excellent; rose 90 ft. in shaft.
207	Kilfera, on Kilfera Block ..	" .....	.....	Well 150 " supply 100 gals. per diem; good water.
208	Kenmare Block .....	" .....	.....	Well 38 " bore 197 ft.; water salt.
209	" .....	" .....	.....	Well 35 " water very salt; very bitter; no supply.
210	Kilfera Block .....	" .....	.....	Well 100 " said to contain powerful mineral poison.
211	Polygonum Hut .....	Darling .....	.....	On road Booligal to Wilcannia.
212	Barrigan Well .....	Albert .....	.....	On the "Border Run."
213	Wanganilla .....	Murrumbidgee .....	.....	On South Wanganella Block.
214	Pretty Pine .....	" .....	.....	Lower Deniliquin Run.
215	Beefwood Well, on "The Wells" Block.	County Yungnulgra, Albert District.	.....	
216	New Well, on Block Byjerk South, Paroo River.	County Landsborough, Albert District.	.....	
217	Well .....	County Yungnulgra, Albert District.	Coolawundy .....	Well 157 ft. deep; good water.
218	Well, Block Germano East	County Yungnulgra ..	Coparto .....	Well 50 " water rises to 20 ft.
219	Junction Well, Germano East	Albert .....	.....	Well 80 " good water rises to 50 of surface.
220	Danbery Well, Danbery North Block.	" .....	.....	Good stock-water.
221	Minamithoo Well, Dilkoorba North Block.	.....	.....	300 ft. deep; good water rose to 65 ft. from surface.
222	Parkungi Block .....	Albert .....	.....	298 " good water rose to 80 ft. from surface.
223	Well .....	.....	Poolamacca .....	236 " good water.
224	Thackaringa Well .....	Albert .....	.....	236 " "
225	Wanga Well .....	" .....	.....	270 " "
226	North Ita Well .....	.....	.....	240 " "
227	Melang West Well .....	.....	.....	20 " "
228	Moredevil Station .....	Liverpool Plains .....	.....	Artesian fresh water.
229	Myalmundi .....	Narromine .....	.....	194 ft. deep; good water.
230	Gap Well (45 miles west of Cobar).	South Warrego .....	.....	Salt.
231	Top Well, Newcombe .....	Muggare Back B Block	.....	70 ft. deep; good water.
232	Dungle Well (5 miles north of previous well).	.....	.....	70 ft., good for stock; at 75 ft., salt.
233	Walgett Wells .....	Town of Walgett .....	.....	40 to 50 ft.; good water in black-soil flats.
234	Triangi Well .....	Narromine .....	.....	350 ft.; good water; equal to 5,000 to 6,000 gals. per day.
235	Chapman's Well .....	" .....	.....	350 ft.; water brackish.
236	Randwick Asylum .....	Randwick .....	.....	Fresh water.
237	Bingugong Well .....	Yanko Creek .....	.....	120 ft. deep; fresh water rose 52 ft. in shaft.
238	Gorce Well .....	" .....	.....	172 " good water rose 105 ft.
238A	Packsaddle .....	Albert .....	Blue clay on drift ..	102 " 14,000 gals. in twenty-four hours, brackish.
239	" .....	" .....	.....	Supply unlimited; 250 ft. deep.
240	Tarella .....	" .....	Shaly clay and slate	250 ft. deep; water obtained by driving 10,000 gals. in twenty-four hours.
241	" .....	" .....	Conglomerate cement	Untested fresh; rose 60 ft. in shaft.
242	Packsaddle .....	" .....	.....	Trial shaft 40 ft., salt, large supply.
243	Cobham .....	" .....	.....	Supply large; fresh water.
244	Big Plain Well .....	.....	.....	Fresh water.
245	Bulgrandra Well .....	.....	.....	Fresh water.
246	Old Gunbar Well .....	.....	.....	Salt water.
247	Gunbar Road (13 miles from Hay).	.....	.....	Fresh water.
248	Gunbar Road (13 miles from Hay).	.....	.....	Fresh water.
249	75 miles west of Bourke ..	.....	.....	Artesian water, 950 feet deep.
250	101½ miles west of Bourke..	.....	.....	Artesian water, 952 feet deep.

W. H. J. SLEP,  
Superintendent of Drills.





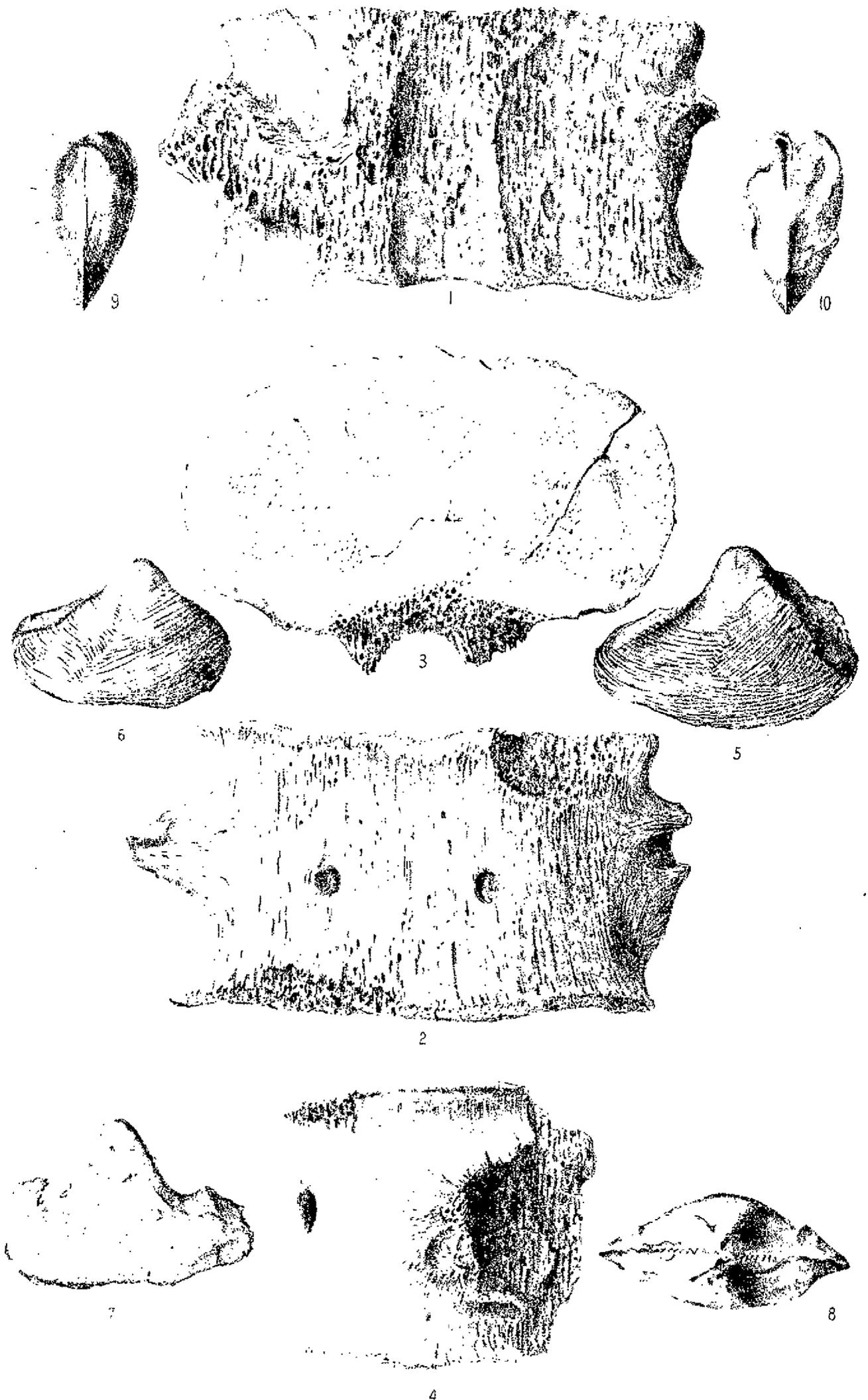
## EXPLANATION OF PLATE.

PLESIOSAURUS SUTHERLANDI, *M. Coy.*

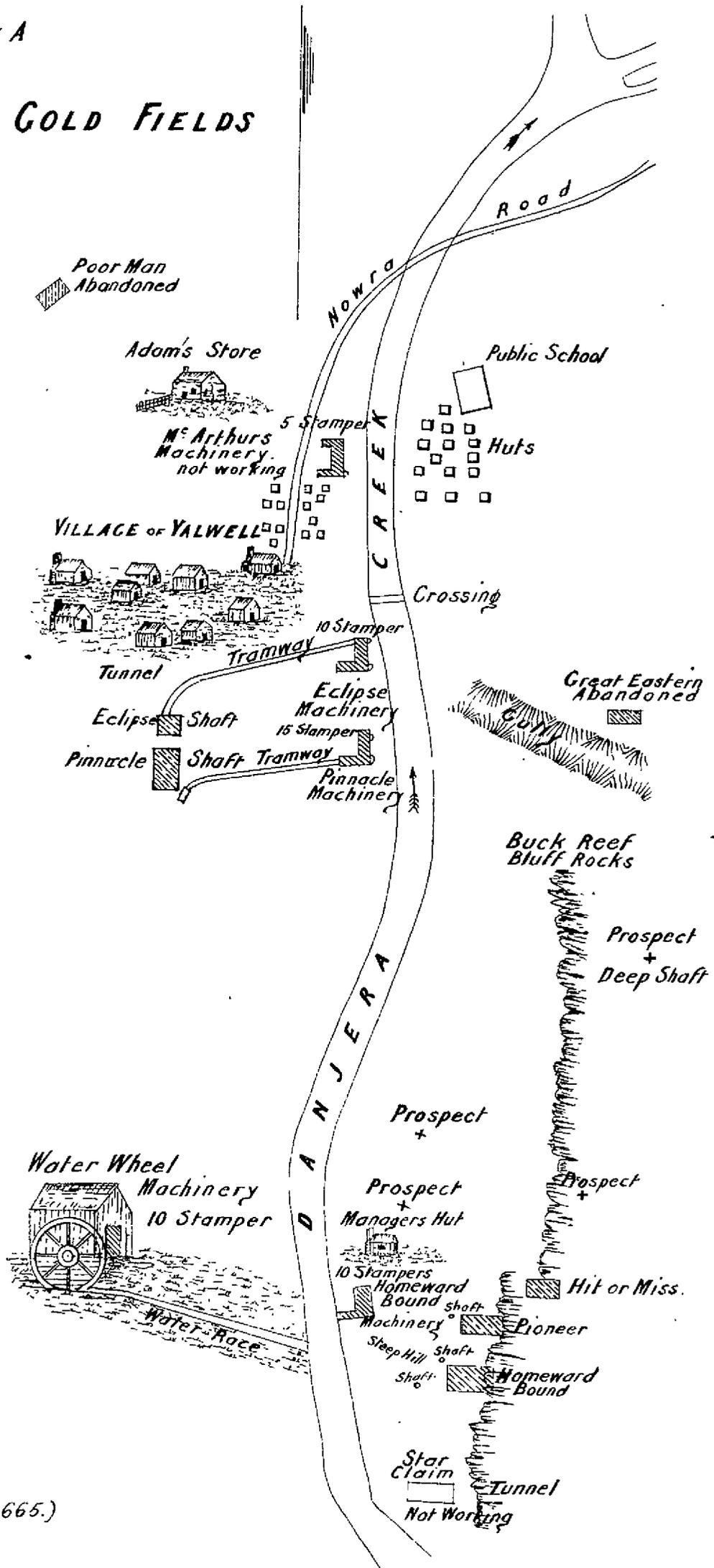
- Fig. 1. Centrum of a curvical vertebra, seen from above, with the neural arch removed.
- „ 2. Another specimen, seen from below, showing the venous foramina.
- „ 3. End view of Fig. 1, showing the broad articular surface, and the flattened median portion. (By an oversight this centrum has been reversed, and the dorsal portion made to appear ventral.)
- „ 4. Lateral end view of Fig. 2.

NUCULANA WATERHOUSEI, *Eth, junr.*

- Fig. 5. Side view, showing the deflected ornament ... .. x2
- „ 6. Side view of another specimen, showing a portion of the ornament deflected, and another portion concentric ... x2
- „ 7. Internal cast, side view, with the large posterior muscular scar exposed ... .. x2
- „ 8. View of the hinge, with both the anterior and posterior muscular scars; the hinge teeth and the central cartilage pits under the beaks ... .. x2
- „ 9. View of the posterior end, showing the large escutcheon x $\frac{1}{4}$
- „ 10. View of the anterior end ... .. x $\frac{1}{4}$



# YALWAL GOLD FIELDS



(Sig 665.)



**NEW SOUTH WALES  
HYDROGRAPHICAL MAP  
SHEWING POSITION OF WELLS**

SCALE  
MILES 20 30 40 50 60 70 80 90 100 MILES

Compiled from information furnished by the Government Geologist, the Chief Inspector of Public Watering Places, and the Superintendent of Diamond Drills.

- EXPLANATION OF COLORS**
- Shows Fresh Water
  - Shows Salt Water
  - Shows Brackish Water
  - ★ Shows Fresh Artesian Water
  - Shows where no quality of water is given
  - Shows Mineral Artesian Water

Appendix to Annual Report of W.H.J. Slee  
Superintendent of Drills. 1887

WR 414

Notified 23<sup>rd</sup> April 1875

WR 616

Notified 30<sup>th</sup> August 1876

Bingara Gold Field Further Extended

Res. From CP Proclaimed 7<sup>th</sup> July 1884

Further Extended

7<sup>th</sup> July 1884

# North Western Extension to Bingara Gold Field

Reserved from CP Proclaimed 4<sup>th</sup> January 1882

## PLAN of the BINGARA DIAMOND FIELDS COUNTY OF MURCHISON NSW.

Scale of Chains

TO ACCOMPANY GEOLOGICAL REPORT BY

M<sup>r</sup> W. ANDERSON, GEOLOGICAL SURVEYOR

May 10<sup>th</sup> 1887

NOTE

Partial Boundaries shown thus  
Res<sup>d</sup> Gold Field do do  
Reserve do do

- Upper Basalt.
- Lower Basalt. } Tertiary.
- Drift.
- L. Carboniferous or Devonian.

Peel and Uralla Mining District

NOTES. (1) The Tertiary Basalt consists of 2 beds each about 300 feet thick and separated by finely comminuted sand varying in thickness up to 120 ft. Neither payable gold nor gemstones of any value occur in this fine drift. (2) The auriferous and diamondiferous wash occurs in places below the lower Basalt, from which it is separated by considerable thickness of pipeclays. Many of the richest patches of drift occur, uncovered by Basalt, to the N.E. and S.W. of the Basalt plateau on which Butler's & Smith's selections are situated, that below this Basalt we have a portion of the diamondiferous lead. On its eastern edge is an outcrop of pipeclay and drift which either represents the principal channel or a tributary channel passing into it. (3) There is evidence, from the presence of high slate ridges to the N.E. and S.W. of the Basalt plateau on which Butler's & Smith's selections are situated, that below this Basalt we have a portion of the diamondiferous lead. On its eastern edge is an outcrop of pipeclay and drift which either represents the principal channel or a tributary channel passing into it. (4) In the neighborhood of Craddock's Claim, M.L. 126, where good gold and diamonds have been got, there is a large body of wash under the Basalt, and the probability is that a portion of a lead exists between Craddock's and the southern boundary of the Basalt Range, south of M.L. 142 & 143. (5) Payable gold has been got in the Pleistocene alluvial of Gympie Flat. This is a redistribution of the denuded portions of the Tertiary diamondiferous lead mixed with Pleistocene and Recent detrital materials. The gold is quite of a similar character to that got in the Tertiary lead.

(Sigs. 665)

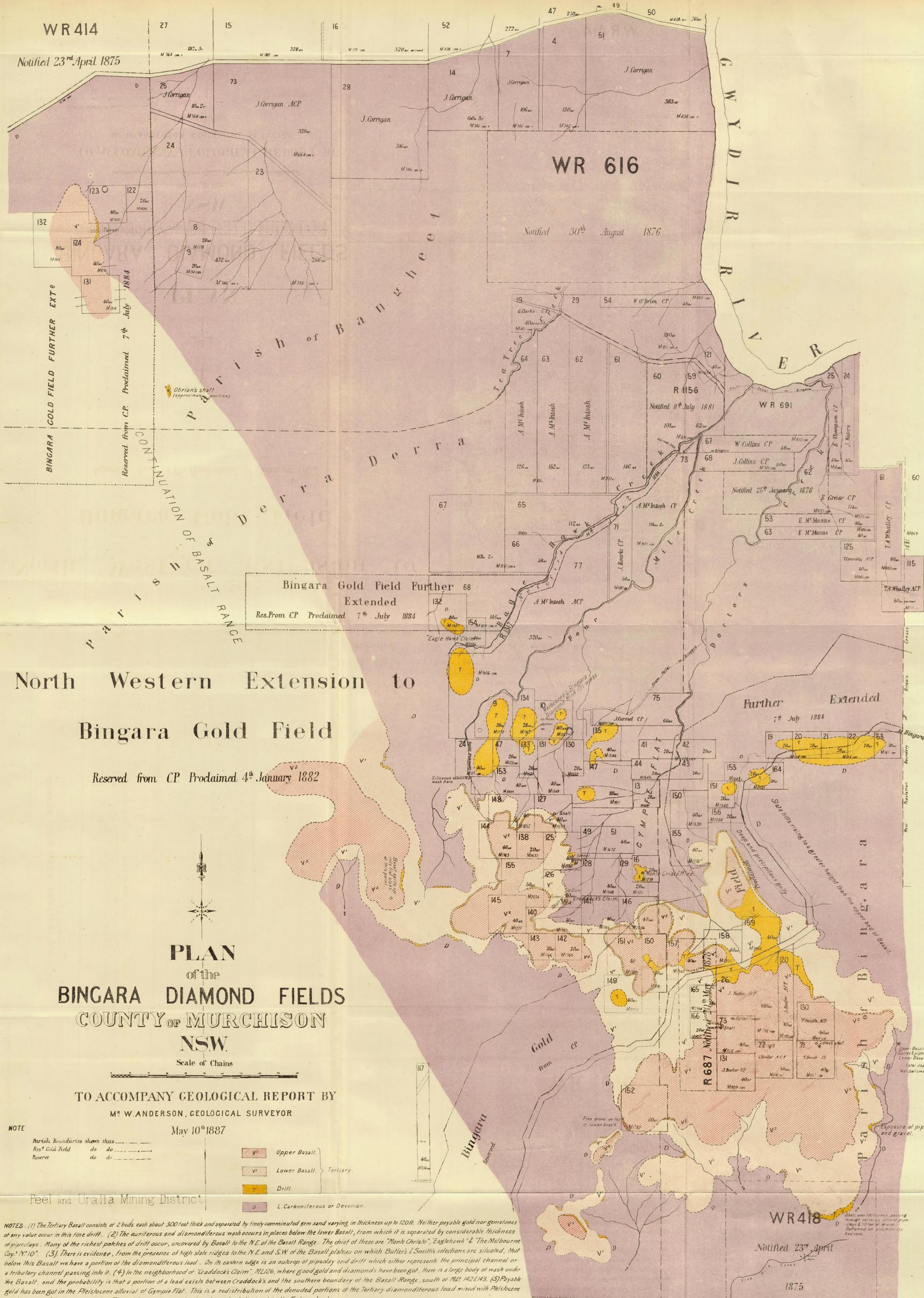
PHOTO-LITHOGRAPHED AT THE GOVT. PRINTING OFFICE, SYDNEY, NEW SOUTH WALES.

Prepared by A.H. Taylor. Geological Survey Branch.

WR 418

Notified 23<sup>rd</sup> April

1875



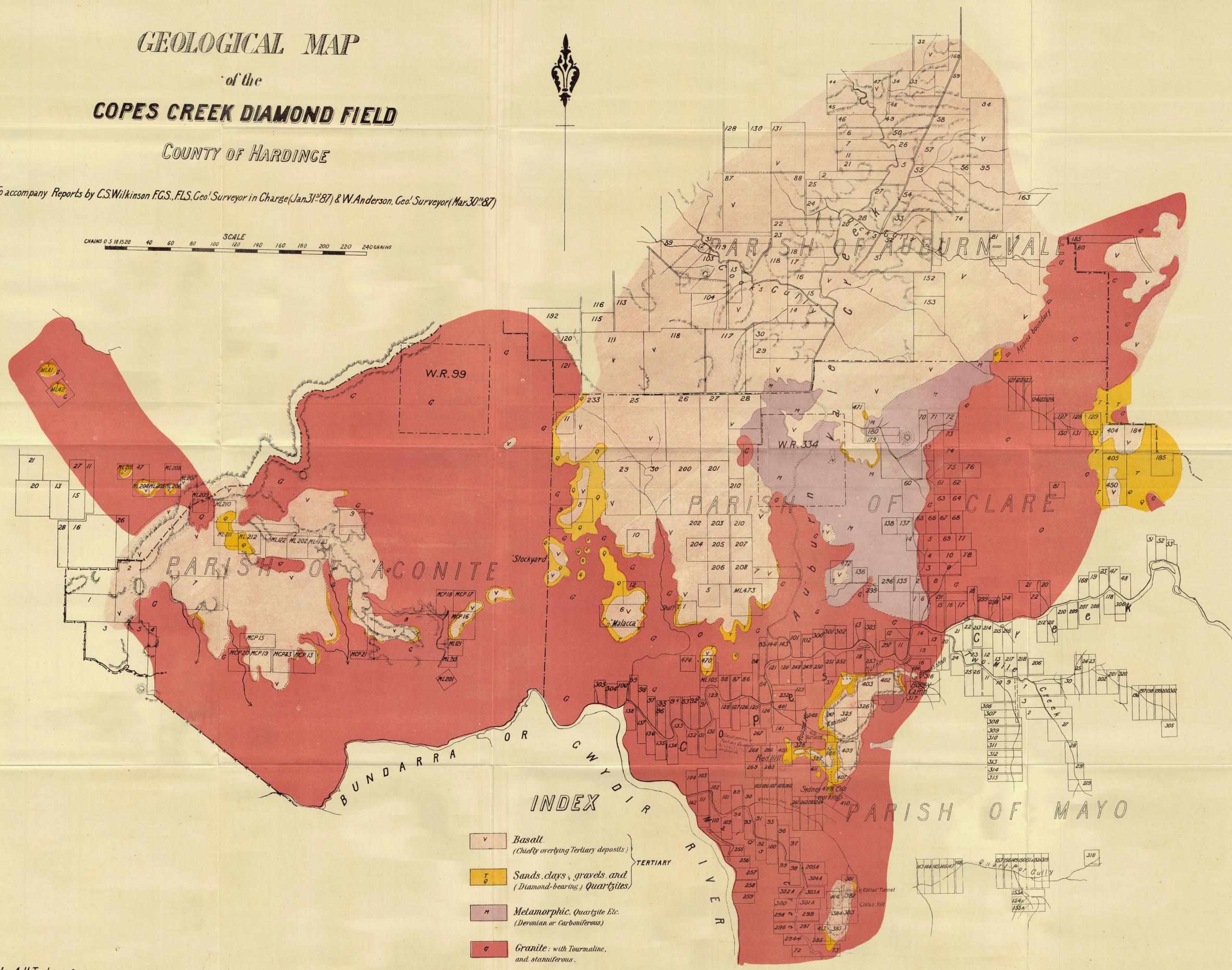
# GEOLOGICAL MAP

of the

## COPE'S CREEK DIAMOND FIELD

COUNTY OF HARDINGE

To accompany Reports by C.S. Wilkinon FGS., FLS., Geo. Surveyor in Charge (Jan. 31<sup>st</sup> 87) & W. Anderson, Geo. Surveyor (Mar. 30<sup>th</sup> 87)



- V Basalt.  
(Chiefly overlying Tertiary deposits)
- T Sands, clays, gravels and  
(Diamond-bearing) Quartzites
- M Metamorphic, Quartzite Etc.  
(Devonian or Carboniferous)
- G Granite: with Tourmaline,  
and stanniferous.

Drawn by A.H. Taylor. Geological Survey Branch.

(Sig. 665)

1887-8.

LEGISLATIVE ASSEMBLY.  
NEW SOUTH WALES.

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**EXAMINER OF COAL-FIELDS.**

(REPORT OF, IN CONNECTION WITH CERTAIN CHARGES MADE AGAINST HIM IN THE LEGISLATIVE ASSEMBLY)

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*Ordered by the Legislative Assembly to be printed, 14 February, 1888.*

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No. 1.

Minute by The Secretary for Mines.

Calling upon the Examiner of Coal-fields for report in connection with certain charges made against him in the Legislative Assembly, 1st December, 1887.

MR. MACKENZIE'S attention should be called to statements made in the Legislative Assembly on Thursday evening last, by two of the Members for Northumberland, Mr. Creer and Mr. Melville.

The first gentleman stated that hundreds of letters had been written to Mr. Mackenzie by miners complaining of non-fulfilment of the law by mine-owners, and no attention was paid to them by the Examiner of Coal-fields. The other gentleman stated that Mr. Mackenzie had been drunk while trying to perform his duties. I would like Mr. Mackenzie to carefully read the *Hansard* report of what took place, and send me any reply he may desire to make to the direct charges then made against him.

F. ABIGAIL, 5/12/87.

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The Examiner of Coal-fields.—H.W., 5/12/87. As desired by the Minister, I have carefully read the *Hansard*, and now forward my report thereon —J.M., 16/12/87. The Under Secretary for Mines, B.C., 16/12/87. Report submitted herewith.—H.W., 16/12/87. Seen, 19/12/87.

No. 2.

Report by The Examiner of Coal-fields to The Under Secretary for Mines.

Sir,

Department of Mines, Sydney, 13 December, 1887.

With reference to your blank-cover communication of the 5th instant, forwarding me the Minister's minute directing that my attention should be called to statements made in the Legislative Assembly by Messrs. Creer and Melville, and requesting that I would carefully read the *Hansard* report of what took place, and send to him any reply I might desire to make to charges made against me, I have the honor to submit that I have read the *Hansard* report, and find that the indictment made by Messrs. Creer and Melville against me contains fifteen counts, as follows:—

1. That every miner in the Northern District with whom I have been brought into contact complains of me.
2. That the highest authority outside a court of justice has declared my statements are not to be relied upon.
3. That in consequence of the unreliability of my statements on oath I am unfit to be Examiner of Coal-fields.
4. That my accusers are very much afraid my theory of the Bulli explosion was brought about by the excessive use of brandy, which my accusers allege I drank freely at Bulli.
5. That the late Royal Commission on the Bulli disaster charge me with contributory negligence.
6. That I know very little about my profession.
7. That I grossly neglect my duties.

8.

8. That, although I have received letters complaining of illegal modes of working certain mines, I have not called upon my inspectors for reports.
9. That, on account of the many charges made against me, and my conduct generally, the late Minister for Mines removed me from Newcastle to Sydney.
10. That I tell deliberate falsehoods.
11. That I attempt to fasten most detestable crimes on innocent people.
12. That I am always three-parts drunk.
13. That I am a blatant fool.
14. That I am a scoundrel; and, finally,
15. That I am a murderer.

I hardly know whether it is expected that I should seriously answer charges so vague, reckless, untruthful, slanderous, and violent; but I think the ninth charge sufficiently lights up the whole case, as Parliament is asked to believe that the late Minister for Mines, who is a practical miner, and able to judge of the gravity of such charges, removed me from Newcastle to Sydney on account of my improper conduct, yet, nevertheless, allowed me still to retain my position as Examiner of Coal-fields.

The reason for my removal from Newcastle is explicitly stated in a minute of the late Minister for Mines, under date 17/9/86, as follows:—"In view of the large number of collieries that are now, and are about to be, opened out in the Southern and Western Districts of the Colony, I am of opinion that the Examiner of Coal-fields should be located in Sydney, which is about equi-distant from the Newcastle, Wollongong, and Lithgow coal-mining districts." And in a letter from the Under Secretary, referring to this decision of the Minister, it is stated that the object of my removal was "in order more effectually to carry out the alterations he (Mr. Fletcher) purposes for the interest of the coal trade."

With regard to the charges generally, I think it will be sufficient to quote the remarks made by Mr. Fletcher, on the 27th January, 1886, when introducing a deputation of colliery managers to his predecessor in office, Mr. Vaughn.

In the course of his remarks, Mr. Fletcher, referring to the statements made by a previous deputation of miners, characterized them as "extravagant in the extreme, and in many cases absolutely untruthful."

Further on, in connection with an attack that had been made principally upon me by the former deputation, he said: "He would also refer to the charges made against the officers of the Department. He was not there in defence of those officers, but as far as he knew of the disputes which had occurred, the proper administration of the Act—so far as the colliery proprietors were concerned—was insisted on, and he had invariably found that the Inspectors and the Examiner had done their duty without regard to either the colliery manager or the working miner. It was only fair to state this, in answer to the onslaught that had been made on an important, and, he believed, an able and efficient officer."

Mr. Croudace, colliery manager for the Scottish Australian Company, who was a member of the deputation introduced by Mr. Fletcher, also said: "The officials, in the most just and reasonable way, had, so far as he was concerned, always laid any matter of complaint before him, and begged of him to have it remedied as quickly as possible; and when that has not been done they had justly followed up by a second complaint, and insisted on the thing being attended to. When the matter had not been remedied it had been referred to the Examiner of Coal-fields, a gentleman with whom they did not come so much into contact, but who was the head of the Department; and in every instance Mr. Mackenzie had done his duty as an honorable man and a gentleman and an efficient officer."

Mr. J. Y. Neilson, the Newcastle-Wallsend Company's colliery manager, bore this testimony: "As to the officers of the Department, the Minister would find that they had been what he considered extremely harsh with him, and some very strong letters had passed between them and him; and as far as doing their duty was concerned, they rather exceeded it in the majority of cases."

Mr. Ross, the Newcastle Coal Company's manager, expressed this opinion: "The Inspectors' visits were more careful and frequent than in any other collieries in the world; they took place every eight weeks, and oftener. Any complaint by the miners brought the inspectors on the spot within forty-eight hours, to get at the root of the matter, and the managers afforded them every assistance. Altogether, the charges made by the miners' deputation against the officials and the late Minister (Mr. Abbott) were really unfair and uncalled for. He had always found the Examiner very strict in everything, and he could speak highly of that officer, and of the former and the present Inspectors, whose reports would show that the Act was carried out, and that in the spirit of the law."

Mr. Croft, colliery manager for Messrs. J. and A. Brown's Minni and Brown's collieries, who also formed a member of the deputation, said: "He concurred with the other managers in their statements, that the Government officers had always done their duty, and were rather hard on the managers than otherwise."

I think I need say nothing further in defence of the general charges of neglect of duty and incompetence urged against me than point to the above independent testimony, coming spontaneously from the lips of gentlemen who admittedly stand at the head of the coal-mining profession in New South Wales. As a commentary, however, upon the general estimation in which my detractors are held, it would perhaps be as well to add here the opinions expressed by Mr. Croudace with respect to them. He said: "Mr. Melville had made a serious charge against the Examiner of non-fulfilment of duty; but when the Minister asked him to put it in writing he did not do so, and this showed the value of it. It was a wicked, dastardly, and cowardly charge of a Member of Parliament to bring against a Government official."

The foregoing testimony, I submit, is a sufficient answer to the charges of incompetency and neglect of duty, at all events up to 1886; and as to the hundreds of letters which it is affirmed have been written to me (I suppose since), and to which I have paid no attention, I can only say that their existence is either imaginary or fictional. At all events, if they have been written I have never received more than a fractional part of them, and to all that have come to hand I have given such attention as they required. The remainder of the charges appear to be consequent upon the utterance of my convictions as to the origin of the Bulli disaster, and because my opinion in respect thereto is distasteful to the miners' unions. With regard to this matter, I desire still to say that my views are unchanged. It is not from any obstinate conceit of my own opinion that I reiterate my belief, but because nothing has ever been elicited which disproves my hypothesis. My conviction is that the whole mischief

at

at Bulli was caused by the big fall at the tunnel mouth, and that that fall was brought about by the use of some explosive. My critics have fallen into an error of exaggeration, and from their own forced and unnatural interpretation of my meaning, discountenance and condemn my views. A confusion has arisen over cause and effect. The tremendous extent of the fall seems to have created the impression that a large quantity of explosive material would be required to produce it; and because, in the process of clearing away the debris, no evidence of such destructive force (as a large quantity of explosives would produce) were discovered, it is considered that my opinion is untenable. I never supposed for an instant that any large quantity of the destructive agent employed was used, because a comparatively trifling amount was all that was required to cause not only the fall but to set light to the very large quantities of inflammable "upper dust" on the main haulage road, and cause the singeing of the horse on the highest part of his body (just as was subsequently found to be the case), and yet, from the insignificant amount of explosive force, leave no more trace of its presence than blacken such portion of rock as it came in contact with. All that was necessary to create the fall was to dislodge some sets of timber, and a force too insignificant to leave traces of its presence would be sufficient for the purpose. The Royal Commission in their report (p. 31) admit that the destruction of one or two sets of timber might bring about the damage, there being nothing to bind the sets of timber together, and I claim this opinion in support of my theory. To qualify this admission the Commission then advance a statement which has a positively reverse bearing to the meaning it is intended to convey. They say the "suggestion of explosives infers malice of no ordinary kind; it also means that they were placed there, and fired in a busy road during the busiest part of the day." With all respect I desire to point out that the most lonely part of a mine "at the busiest part of the day" is its main heading. With the exception of the men passing rapidly in and out with skips, no other living individual may be met with sometimes for hours. The miners and officials are at such times engaged far away at the face workings, and it is precisely at "the busiest part of the day" that the roadways leading into the mine are most deserted.

The remarks that my theory suggests "malice of no ordinary kind" hardly requires comment. Our goals are filled with criminals who have given play to "malice of no ordinary kind"—ships have been sunk, buildings have been burnt and blown up, railway trains have been upset, murders of all kinds have been committed, and collieries have been set on fire and subjected to other disasters, all from malice aforethought time out of mind, and the like will happen again until the Millenium arrives. And with regard to arson in connection with coal-mining, it was found necessary to pass an Act in England, in 1736, providing that any person who "wilfully and maliciously set on fire, or caused to be set on fire, any mine, pit, or delph of coal, or cannel coal, and being thereby lawfully convicted, shall be adjudged guilty of felony, and shall suffer death, as in cases of felony, without benefit of clergy."

And there have been instances which favour the presumption that the particular crime which necessitated this drastic legislation in England has been attempted in New South Wales. Now, why, because I have expressed my suspicion of some one or two persons' villainy, it should be assumed, as it appears to be, that I have maligned the whole mining community I cannot comprehend. When a murder is committed no one dreams of charging the entire community with the crime, and it is just as absurd to suppose that I charge all miners with the production of the disaster at Bulli.

Before I leave the vexed subject of the Bulli disaster, I desire to point out how very much at variance are the opinions expressed by the Commissioners with the sworn testimony of two of their leading members—Messrs. Neilson and Croudace—who appeared as witnesses for the defence in a prosecution under the Coal Mines Regulation Act, brought against Messrs. J. and A. Brown, of Newcastle, in May, 1882. The Commission (at p. 15) say that "the practice of working with naked lights after the intake air was more or less fouled by the gas exuding from Nos. 1 and 2 was, in the absence of bratticing or some means of sweeping off the gas as it escaped from the coal, reprehensible. In the absence of bratticing the space between the face of these headings and the last stenton of the ventilation must have been a magazine, so to speak, for the stowage of gas. It would also appear that Mr. Ross had given instructions to fire no shot in the actual presence of gas. So far, this was as it ought to have been; but to remove the gas the ancient and perfunctory method of beating it out with a garment into the air current was resorted to. While the management gave orders to remove the gas they provided no effectual means, such as bratticing, for doing so." Let me say I entirely agree with the dictum of the Commission in the matter, for it happens to be upon those identical points, and the neglect pointed out, that I brought the prosecution against the Messrs. J. and A. Brown. My object in instancing the case is to show how colliery managers will blow hot and cold as the occasion suits, or occurrences demand. For at the inquiry in question, before the Newcastle Police Court, it was proved that precisely similar carelessness to that commented upon above had prevailed at Brown's Colliery, and resulted in many men being burnt, and yet Messrs. Neilson and Croudace appeared and averred on oath that they "failed to see that any action was left untaken under the circumstances which the most experienced man would have taken." Let this be contrasted with opinions expressed by these gentlemen when clothed with the authority of a Royal Commission. Accompanying this, I annex report of all proceedings in connection with the case against Messrs. J. and A. Brown of Brown's Colliery, Minmi, near Newcastle.

In conclusion, I wish to point out that there is a peculiarity in reference to the administration of the Coal Mines Regulation Act which does not appear to be realized or understood by the general public. In no branch of the Civil Service are officials subjected to such direct and persistent criticism from outside sources as the Examiner and Inspectors of Collieries. By the very nature of their duties they are thrust between two contending elements that are ever wrangling and jarring with each other—capital and labour. Do what they may, it is impossible for them to escape animadversion, for in every dispute which they are called upon to investigate they are met with the consciousness that whatever decisions they may pronounce they must give dissatisfaction to one side or the other. The records of the office constantly show this. If they challenge malpractices on the part of owners or managers, appeals are constantly made to the Minister, coupled with passionate remonstrances, sometimes suggesting improper motives, and nearly always charging officers with unnecessary interference and officiousness. If complaints come from the miners, and upon investigation some of them are found to be frivolous, and not deserving of any serious notice, the officers are denounced with either neglect of duty, incompetence, or corruption, in language plentifully sprinkled with the vilest epithets which insolence, ingenuity, or malice can invent. There is no organization of labour which is knitted together, and which has such special privileges, as that of the coal-miners. No other class of artisans are able, as they are, through the inevitable concentration of their numbers,

numbers, to return Members of Parliament specially to represent them, and no other mechanics are able to maintain such internal organization as they possess. It seems to be an idea among them that the only way to keep Government officials at the highest pitch of tension in the performance of their duties is to be perpetually finding fault with them, and so officials are subjected, with or without reason, to a never-ceasing carping criticism. Every mine has a recognized coterie of its own, whose business it is to settle petty details. These coteries join in forming district councils, and the whole merge in a combined association, with paid officials, whose business in life is to show the necessity of their employment by exhibiting real or pretended vigilance in the interest of those who employ them. Their paid mission is to find fault and stir up every conceivable form of agitation, and he is naturally accepted as the most worthy of confidence who can hunt up most subjects of dispute, and scold in the strongest language and with the loudest lungs.

Nearly every colliery, too, has miners' inspectors, who are ever on the watch in the endeavour to find the Government officials tripping, and such are unhappily the vicissitudes of coal-mining—the constant liability to misfortune in the wear and tear of appliances, the sudden appearance of dangerous gases, the accidental hindrances to ventilation caused by our often very sudden changes of atmosphere, and the carelessness and recklessness of men grown familiar with danger which it is impossible to provide against—such are the unhappy conditions of the pursuit of mining that it would be wonderful indeed if cases did not frequently transpire in which opportunity is afforded, no matter how unjustly, to find fault with somebody, and lay the principal blame upon the want of vigilance on the part of the Government officers. There are only myself and three Inspectors to carry on the administration of the Act, and on all sides we are exposed to the lynx-eyed supervision of a host of critics, whom the experience of my life shows it is hopeless to expect to please.

Born, bred, and educated to my profession in the heart of one of the great coal-mining districts of England (Lancashire), I am acquainted with the idiosyncracies of miners, and it is perhaps because I know them so well, and they are aware that I know them, that I am so frequently subjected to evidences of the disfavour of their leaders here. In the Colony, however, Government coal-mining officials have a much more trying ordeal to undergo than is felt in England, because in the growth of our enterprise in this direction we have not the added experience of centuries that has been acquired in England. Our many political changes give frequent opportunity for the vagaries of professional agitators, who re-hash all subjects of complaint, and air them as fresh grievances before every new occupant of the Ministerial chair of the Mines Department. This comedy has been going on for years, and will continue until, in the fulness of time, the records and traditions of the office will point out the true nature and value of a majority of the complaints made against Government officials. It is only in justice to myself and the Inspectors that I point out these matters for the consideration of the Minister.

Surrounded on all sides, as we are, by streams of adverse criticisms, it is perhaps in keeping that I, to whom has been confided the chief position under the law, should be singled out as the principal object of attack in Parliament, and charged with every species of incompetency for the office I hold, and with a base betrayal of the trust reposed in me.

Perhaps, however, I may be permitted to suggest whether—in the face of these extraordinary charges, persisted in in face of the clearest rebuttals, and indulged in time after time with all the accessories of violent language, and notwithstanding that they have been met and disproved again and again\*—it should not be the duty of the Government to uphold the honor and fair fame of their officers; and, as I am precluded from replying myself to attacks made under the shield of Parliamentary privilege, whether the Government should not insist upon any further charges being made in writing, and supported by clear evidence, and insist upon their substantiation or their complete withdrawal.

As my professional status has been challenged, and adversely contrasted with that of Dr. Robertson, the President of the late Royal Commission on the Bulli disaster, I enclose herewith a copy of my English testimonials, the genuineness of which can be easily tested, and respectfully ask that I may be furnished with a copy of those of Dr. Robertson.

I have, &c.,

JOHN MACKENZIE, F.G.S.,  
Examiner of Coal-fields.

\* *Vide* Parliamentary Papers:—"Pitfall at Wallsend Colliery, May 13, 1879"; "Coal-fields—Undermining of Government roads at Tighe's Hill, Newcastle, June 18, 1884"; "Mining under Railways at Anvil Creek, Greta, and Wickham Collieries, November 20, 1884"; "Ventilation of Coal-mines—Correspondence and Reports thereon, April 1, 1887."

[Enclosures.]

Testimonials of John Mackenzie, Wigan, Lancashire, England, Mining Engineer, Surveyor and Inspector of Land, Mineral, Railway, and other properties.

From Peter Higson, Esq., Her Majesty's Inspector of Mines for West Lancashire and North Wales.

Manchester, 26 November, 1861.

THE bearer hereof, Mr. John Mackenzie, of Wigan, in Lancashire, is a Mining and Civil Engineer of extensive experience and considerable merit, having learned his profession under the late William Peace, Esq., at the collieries of the Earl of Crawford and Balcarres, in Haigh, Aspull, and Holland, during which time he acted under that gentleman as a resident engineer, besides acquiring great information and good practice on the estates of the Earl of Derby, and many other noblemen and gentlemen in various districts, not in coal-mining only, but in iron and other metallic ores, besides railway and other engineering works. In leaving this country for Australia, for the benefit of his health, he carries with him the best wishes of his countrymen, who sincerely hope he may meet with that success in his profession which he so well deserves.

PETER HIGSON,

Her Majesty's Inspector of Mines for West Lancashire and North Wales.

From General the Honorable James Lindsay, M.P.

Haigh Hall, Wigan, 5 December, 1861.

As you are about to leave England for Australia, I have much pleasure in bearing testimony to the high character you bear as a Mining Engineer and Land Surveyor. This is amply proved by the employment you have from time to time received from the most distinguished of those who conduct the great mining operations of this district.

The integrity with which you have carried on your business, and the moral character you bear in the town of Wigan, and the esteem you receive from those who have the pleasure of your acquaintance, will, I trust, be the means of securing you employment in the country to which you are about to proceed. I have much pleasure in enclosing you a letter to Sir John Young, the Governor of New South Wales, which I trust may be useful to you.

I remain, faithfully yours,

JAMES LINDSAY, Major-General, M.P.

From

Dear Sir,

From Henry Woods, Esq., M.P. for Wigan.

The Larches, Wigan, 19 November, 1861.  
At the request of your friend, Mr. Roodcroft, I have very much pleasure in adding my testimony to that of your other friends and neighbours, on the occasion of your leaving Wigan to go to Australia, by saying that from my knowledge of your position and character, and from my acquaintance with your mode of conducting your business as a Mining Surveyor, I doubt not you will obtain an appointment in the Colonial Service, for which I am well assured your education, professional attainments, and personal character eminently fit you, and I shall be willing to support your views at the Colonial Service should it be requisite to do so.

I remain, dear Sir, yours truly,

HENRY WOODS, M.P., Wigan.

From the late William Peace, Esq., F.G.S., Manager to the Right Honorable the Earl of Crawford and Balcarres Collieries.  
My Dear Sir, Astley Hall, Chorley, 5 March, 1887.

In answer to your request that I would give you a testimonial, I have great pleasure in saying that during the time you were serving your clerkship to me you conducted yourself with exemplary steadiness; and that I consider you qualified to discharge satisfactorily the duties of your profession.

Believe me to remain, very faithfully yours,

WILLIAM PEACE.

From Thomas Part, Esq., Solicitor, Wigan.

(This gentleman is at the head of his profession in Wigan, and holds several public appointments.)

Dear Sir,

Astley Hall, Chorley, 9 December, 1861.

I have much satisfaction in furnishing you, on your contemplated departure for Australia, with a testimonial of your ability and trustworthiness as a Land and Mineral Surveyor. My extensive practice as a solicitor in connection with the mining operations of the district has afforded me, during the several years you have been in business, ample opportunities of forming a correct judgment; and I have much satisfaction in stating that I have always found you to be prompt, industrious, very accurate, and in every way to be relied upon, and trustworthy, whether acting as Check Surveyor or in any other branch of your business. I may add that, as a pupil of the late Mr. Peace (than whom, as a practical and scientific Mining Engineer and Geologist, no one stood higher), you had peculiar advantages in the opportunity of seeing and acquiring a practical knowledge of mining operations carried on upon the most improved principles.

Whilst wishing you every success in the distant field of your contemplated labours, I cannot but regret that the state of your health should oblige you to relinquish your promising prospects here, and deprive myself and others of the advantage and satisfaction we derived from your professional services.

With best wishes for your restoration to perfect health, and success in your business.

I am, dear, yours truly,

THOMAS PART.

From Isaiah Booth, Esq., M.E., and President of the South Lancashire and Cheshire Coal Association.

Manchester, Tuesday, 22 October, 1861.

This is to certify that I have known Mr. John Mackenzie, of Wigan, Mining Engineer, Colliery Viewer, and Land and Mine Surveyor, for more than five years. He served his apprenticeship with my late friend, Mr. William Peace, of Haigh, near Wigan, Fellow of Geological Society, and principal manager of the collieries of the Earl of Crawford and Balcarres. Mr. Mackenzie was afterwards with Mr. Peace for two years as his paid assistant; after that he commenced business in Wigan on his own account. During the time he has been in practice I have met him on questions involving Land and Railway Surveying, Colliery and Mine Engineering, and Arbitration business. He thoroughly knows his profession, and his integrity is beyond a doubt. He leaves a good business in Wigan to go to Australia, solely on account of his health.

ISAAH BOOTH,

Mining Engineer, and President of the above Association.

From Robert Daghish, junior, Esq., Civil Engineer.

St. Helen's Foundry, St. Helen's, 20 November, 1861.

My Dear Sir,  
I am exceedingly sorry to hear you contemplate leaving England for Australia, but sincerely hope the more genial climate there may restore you to robust health, and enable you to pursue the practice and profession you have pursued whilst in your native land with so much ability and satisfaction to your clients. It certainly seems a great pity that the respectable business you have established for yourself in Wigan during the five years you have been resident there should be left for others to reap the benefit of; but I feel very sure, if your health be spared to you, the country and climate you have selected for your future home possesses all that can be desired for the exercise of your talents as a Mining Engineer and Land Agent or Surveyor. Your experience and practical knowledge of these matters will also be of service to you in having young gentlemen confided to your care and education when you become known in your new field of labours, and the fact of your late master and other townsmen having entrusted their sons to your care and keeping is the best test you can carry with you of their confidence in your ability, industry, and integrity. If, during your sojourn in Australia, I can be of any service to you or your brothers, it will give me much pleasure. And with my best wishes to you and them,

I remain, yours faithfully,

ROBERT DAGLISH, junior.

From Henry Woodcock and N. Eckersley, Esqs., Bankers, Wigan.

Wigan, 18 November, 1861.

We beg to state we have known and employed Mr. John Mackenzie as a Mining Engineer and Land and Mine Surveyor, and have been quite satisfied with what he has done for us. He is a steady, respectable, and trustworthy man.

HENRY WOODCOCK, } Bankers, Wigan.  
N. ECKERSLEY, }

From the Smelting, Reduction, Lime, and Coal Company (Limited), Mold, North Wales.

My Dear Sir,

5 November, 1861.

As present Chairman of the Board of Directors of the above Company, I have, individually, much pleasure in testifying to the satisfactory manner in which, in the years 1858-9, you completed a surface survey of about 520 acres for this Company, and also surveyed, levelled, and set out a line of railway for the Company. I can also at the same time congratulate you on the accuracy of your report as to the great probability of finding the cannel coal above 2 ft. 8 in. in thickness, a seam of which, 3 ft. 4 in., this Company has just reached, as well as a lower seam of 4 ft. coal, confirming the soundness of your deductions (in opposition to prevailing opinions in the district), derived from surveys of the district, and sections thereof, presented by you to this Company in 1859-60. It will afford myself and co-directors, as well as the shareholders generally, satisfaction to learn that on reaching a warmer climate your health has been restored, and that you have had an early opportunity of resuming your professional avocations, in which you appear calculated to attain a deserved and distinguished success.

Remaining, my dear Sir, yours faithfully,

FRANCIS OWEN, Chairman.

I have great pleasure in confirming the foregoing statement.—JOSEPH WILSON, Director.

From

From Thomas Lawn, Esq., Mining Agent to the Duke of Devonshire, Earl of Derby, and Lord Muncaster.  
Ulverston, 18 November, 1861.

Dear Sir,  
It is with great regret I have heard from Mr. Hodgson that your health compels you to leave England for a more genial climate; but wherever you go you carry with you my warmest and sincere wishes for your welfare and happiness. Mr. H. says that you wish to send abroad a few testimonials as to your abilities and knowledge of mining surveying; and, as a practical miner of 20 years experience, I have great pleasure in testifying to your qualifications. Your surveys in Furness were most admirably effected, and the plans you completed for us were proved in every instance to be correct.

I am, Sir, yours faithfully,  
THOMAS LAWN,  
Mining Agent to the Duke of Devonshire, Earl of Derby, and Lord Muncaster.

From the Rev. Henry J. Gunning, M.A., Rector of Wigan.  
Wigan, 16 November, 1861.

I HAVE been asked by Mr. John Mackenzie to furnish him with a testimonial, and I have much pleasure in complying with his request. Mr. Mackenzie has been known to me for several years, and is a member of my congregation. I have always considered him a well-principled and a well-conducted young man. I have had frequent opportunities of watching his conduct and of testing his ability. As a Civil Engineer, he stands high in public estimation, and his constant employment in this mining district is a strong proof of the opinion thus formed of him.

HENRY J. GUNNING,  
Rector of Wigan.

From Captain Charles Hutchinson, R.N., and the Rev. Thomas Rigbye Baldwin, Vicar of Leyland.  
Leyland, 28 October, 1861.

WE, the undersigned, hereby certify that we have employed Mr. John Mackenzie as our surveyor and measurer for various coal mines during several years, and we have found him not only skilful in his business, but also most vigilant and attentive to our interests; we therefore consider that we are only doing him justice by confidently recommending him to any one having occasion for his services, ourselves greatly regretting that we are deprived of his assistance in consequence of the failure of his health in this climate.

CHARLES HUTCHINSON, Captain, R.N.  
T. RIGBYE BALDWIN, Vicar of Leyland.

From the St. Helen's Canal and Railway Company.  
12 November, 1861.

THE bearer, Mr. John Mackenzie, surveyed and made plans of a large portion of this railway, including levels and all details required for an unusually large scale. The plans are accurately and beautifully made, and I consider Mr. Mackenzie quite fit to undertake any kind of surveying.

JAMES CROSS,  
Engineer-in-Chief.

From Francis H. Thicknesse, Vicar of Deane.  
Deane Vicarage, near Bolton-le-Moors.

I HAVE much pleasure in stating, in favour of Mr. John Mackenzie, of Wigan, that he is a gentleman of highly respectable family and connections, whom I have employed for several years in reporting upon mineral property in that neighbourhood, making surface and underground surveys, and acting as a check agent against lessees of coal estates. Mr. Mackenzie has always done this business with satisfaction to myself and to others who have had intimate communication with him in my interests; and I only regret that this important mineral neighbourhood should, through his unfortunate ill-health, be deprived of the services of a young man of whom those best able to give an opinion of his professional merits have reason to think so highly. On every account I sincerely wish Mr. Mackenzie success in Australia.

FRANCIS H. THICKNESSE.

From the Sovereign Mills Company.

Dear Sir,  
Sovereign Mills, Wigan, 18 November, 1861.

We much regret the cause which is forcing you to leave England for a warmer climate. We hoped to have had the benefit of your skill and ability to carry our case to an end. Your report of the workings, and the surveys, both above and under ground, gave us such great satisfaction that we fear we shall feel your loss if we have to go into court. Wishing you every success in business, and that your health may be fully restored,—

We remain, yours very respectfully,  
WOODS & CO.

From J. K. Hodgson, Agent to the Earl of Crawford and Balcarres, at Ulverston.

My dear Sir,  
Ulverston, 18 November, 1861.

I am very sorry to learn that you are about to leave England, but far more so because your failing health compels you to go.

I well remember the testimony Dr. Huddleston bore to your accurate survey of the mines he held under Lord Derby; and Mr. Brogden is now carrying out your suggestions as to the working of the Stainton Main Vein of iron ore, and which, though some miners considered it as *worked out*, is giving prospect of abundant deposits, never but by yourself supposed to exist in the direction the workings are now progressing. If I can see Mr. Lawn I will ask him to write you a few lines as a parting farewell; he and I have had many a chat about you, and the dismal holes you had to creep down and in when in Furness. And now let me beg that you will sometimes send me a short epistle from Australia. I do assure you I will at all times be happy to contribute my mite towards giving you passing news of the old country; and with every good wish from my self and family,—

Believe me, your sincere friend,  
J. K. HODGSON,  
Agent here to the Earl of Crawford and Balcarres.

From George Gilroy, Esq., M.E., Manager to the Ince Hall Coal and Cannel Company.

My dear Sir,  
19 November, 1861.

I was extremely sorry to learn that you were driven to the necessity of going to a distant part of the world for the benefit of your health, but I trust the change may be beneficial, and result in the permanent restoration of your usual vigour. Having for a length of time had professional business with you in connection with this and other collieries, I cannot allow you to depart without expressing my high esteem and regard for you as an active and able member of our profession, and a gentleman whose absence, even for a short period, we shall all regret.

Wishing you every prosperity,  
I am, my dear Sir, yours truly,  
GEO. GILROY, M.E.

From William Bryham, Esq., M.E., and Manager to the Rose Bridge and Ince Hall Collieries

18 November, 1861.  
HAVING known Mr. John Mackenzie several years as a land and mine surveyor and general mining engineer, I can with confidence speak of his abilities, well-known integrity, and assiduity in his profession as being of a first-class order.

WILLIAM BRYHAM,  
Mining Engineer.

From Lieutenant G. W. Gunning, J.P., The Hall, Wigan.

November, 1861.  
I HAVE much pleasure in complying with Mr. John Mackenzie's request, and writing a testimonial of his character and ability. The former is of the highest stamp; the latter has been well proved during his residence in Wigan by the constant employment he has had, and the general satisfaction he has given.

G. W. GUNNING, J.P.,  
For the County of Lancaster.  
From

From George Daghish, Esq., F.R.C.S., J.P., &c.

Cowling House, Wigan, 18 November, 1861.

THIS is to certify that I have known Messrs. John and Kenneth Mackenzie, Mining Engineers, Land, Mine, and Railway Surveyors, Colliery Viewers, &c., all their lives, and have no hesitation in stating that, had the climate of this country suited them, their eminence in their various pursuits connected with their profession would have been of a high order. The moral tone, integrity, and perseverance which they both possess are unexceptionable; and their departure from this country is regretted by all friends.

GEORGE DAGLISH, F.R.C.S.,

England, and J.P. for the County of Lancaster, England.

From Maskell W. Peace, Secretary and Solicitor for the British Mining Association of England.

Wigan, 16 November, 1861.

I BEG to certify that I have known Mr. John Mackenzie, Land and Mine Surveyor, Engineer, and Colliery Viewer, for the last twenty years. He served his time with my father, the late Mr. William Peace, Fellow of the Geological Society, and the Mining Engineer of the Right Hon. the Earl of Crawford and Balcarres. He is, and always has been, steady, and has borne the best character. Clients of mine have employed him, and he has always given satisfaction.

MASKELL WM. PEACE,

Attorney and Solicitor.

From J. Latham, Esq., M.D., M.R.C.S., &c., Partner in the Moss Hall and other Coal Companies.

Wigan, 16 November, 1861.

MR. JOHN MACKENZIE, of this town, has determined to emigrate from his native country, and I have been asked to give him a passing memento, in the form of a testimonial, as to the estimation I have formed of his general, professional, and private character. I have been acquainted with him from his boyhood to the present time; and early in his career several very pleasing incidents occurred to mark the future man to me, and in this I have not been disappointed. As regards his professional capabilities, it is only necessary to state that he was articled to the agent of the Earl of Crawford and Balcarres for the usual term of years; that he honorably completed his engagements, and gave satisfaction, as was made manifest by his having been employed in the same establishment as an assistant for some time after his apprenticeship had expired. When he commenced business on his own account a general sympathy was felt towards him, owing to his correct habits, artistic qualifications, capabilities, and generally honorable conduct. The firms in which I am a partner, in the mining department, have occasionally employed him, and with entire satisfaction. Others of my friends and acquaintances have done so, and have reported well of their transactions. Had he remained here I have no doubt but his business career would have been successful; and it only remains for me to say that my best wishes attend him, and that I augur well of his future satisfactory course through life.

JOHN LATHAM,

Licentiate of the Edinburgh College of Physicians, Member of the London College of Surgeons, and one of the partners of the Moss Hall, the Low Hall, and of the Rainford Colliery Companies.

From John Lord, Esq., Elmsley Park, Pershore.

6 November, 1861.

I HAVE known Mr. John Mackenzie from his youth, and having for some time employed him as a land surveyor and mining engineer, I have great pleasure in testifying to his great proficiency in his profession, and to his great respectability.

JOHN LORD.

From the Rev. George Huntington, M.A.

Cathedral Church, Manchester, 18 October, 1861.

I HAVE much pleasure in stating that I have known Mr. John Mackenzie intimately for more than ten years. During half that time I was resident in Wigan as curate of the parish church, and had daily opportunities of forming a correct judgment of his character, conduct, and abilities. Mr. Mackenzie is a regular communicant of the Church of England. He is possessed of the highest principles, and stands second to no one for uprightness, integrity, sense of honor, and general sobriety. I have been informed, by those who have accurate means of knowing, that his professional abilities are first-rate, and that his experience is most valuable. I deeply regret the necessity which compels him to leave his native country and his promising prospects.

GEORGE HUNTINGTON, M.A.,

Clerk.

From Joseph Ingram, Esq., J.P.

Wigan, Lancashire, 16 November, 1861.

THIS is to certify that I have intimately known Mr. John Mackenzie upwards of ten years. He has for some time been extensively engaged as a mining engineer and land and mineral surveyor, and employed by large and important colliery proprietors, to whom he has given entire satisfaction. He is most attentive to business, and of a highly moral character. Mr. Mackenzie leaves England with the good wishes of all classes of his fellow-townsmen.

JOSEPH INGRAM,

One of Her Majesty's Justices of the Peace, and for nine years Chairman of the Board of Guardians.

From Ralph Leigh, Esq., Solicitor.

I DO hereby certify that I have known and been well acquainted with Mr. John Mackenzie, of the borough of Wigan, in the county of Lancaster, land and mine surveyor, and agent; that his family connections are highly respectable, and in good position in life; that he had established a good business here, and in my opinion would have materially increased it if he had continued to reside in Wigan; and that he has given up his business and good prospects in life solely through his state of health, which is such that he is advised, if he stays, his life will be shortened, and he is recommended to go to one of the Australian Colonies. I have employed Mr. John Mackenzie, and he has been employed by business connections of mine, and in every case gave entire satisfaction.

R.A. LEIGH,

Solicitor of thirty-six years standing, and Clerk of the Peace for the Borough of Wigan.

Dated the 16th day of November, 1861.

From J. C. Leach, Esq., J.P.

The Oaks, Wigan, 19 November, 1861.

I HAVE much pleasure in bearing testimony to the very high character of Mr. John Mackenzie, of this town. I have known him for several years, and have the greatest confidence in recommending him, feeling confident that any orders given to him will be executed with skill, promptness, and neatness, to the entire satisfaction of those who may employ him.

J. C. LEACH, J.P.

From the Rev. Howard St. George, M.A., Incumbent of Billinge.

18 November, 1861.

I HAVE known Mr. John Mackenzie for several years, both during his apprenticeship and subsequently, as a mining engineer and land surveyor on his own account, in Wigan. He has been advised to leave England and try the effect of a warmer climate on account of his health. By strict attention to his business in Wigan, and by integrity and uprightness of conduct, he has widely extended his connection, which he is now unfortunately compelled to abandon. He hopes, however, to be enabled to pursue his professional career elsewhere, and I can with the greatest confidence recommend him to any one requiring his services.

HOWARD ST. GEORGE, M.A.,

Incumbent of Billinge, near Wigan, Lancashire.

From

From James Wood, Esq., Land Agent to the Right Honorable the Earl of Crawford and Balcarres.

Haigh Hall, 14 November, 1861.

As land agent of the Right Honorable the Earl of Crawford and Balcarres, I have had frequently to engage the services of Mr. John Mackenzie, mining engineer and land surveyor, during the last five years. I have always been pleased with what he has done for me, and his character and abilities have always been of the highest class.

JAMES WOOD

From Edward Scott, Esq., Solicitor.

Dear Sir,

Beech Hill, Wigan, Lancashire, 11 November, 1861.

I have great pleasure in giving you my testimonial that, in my opinion, you are a person of respectability and integrity, and well qualified to give satisfaction as a land and mine surveyor. I wish you every success in your future home in Australia. Your brother Kenneth, from his skill and industry, will be a great assistance to you in your business. I send a letter of introduction to Mr. A. S. Clark, of Adelaide.

Yours truly,  
EDWARD SCOTT.

From Thomas F. Taylor, Esq., Solicitor.

My dear Sir,

Wigan, 20 November, 1861.

With very sincere regret, increased by the unfortunate state of your health (which has necessitated the step), I have learned that it is your intention to leave England for Australia. As a friend I am extremely sorry to lose your valued society, and sympathize with you in the loss and inconvenience you must sustain in being obliged to abandon the large and important business connection rapidly forming around you. However, with your strict integrity, prudence, energy, and intimate knowledge of your profession (of all which qualities I am able to speak confidently from experience), I doubt not you will quickly rally around you a circle of equal value with that which you are unfortunately compelled to relinquish here. That restored health, success, and happiness may attend you in your future career is the cordial wish of,—

My dear Sir, yours faithfully,  
THO. FRED. TAYLOR,  
Solicitor, Wigan.

From the Rev. J. T. Browne, B.A., Incumbent of Haigh, and Domestic Chaplain to the Earl of Crawford and Balcarres.

Haigh, Wigan, 18 November, 1861.

Mr. JOHN MACKENZIE served an apprenticeship of five years to William Peace, Esq., engineer and head manager of the very extensive collieries of the Earl of Crawford and Balcarres, in Lancashire. When his apprenticeship was completed he remained for two and a half years additional, as a paid assistant. The very fact of his being taught, and afterwards employed, in an important position by such a man speaks for itself. Mr. Peace was among the most eminent engineers (connected with colliery purposes) in England; and high mention of him is made in the article "Collieries" in this last edition, 1860, of the Encyclopædia Britannica, to which I beg to refer. Mr. Mackenzie's competence to undertake professional employment on his own account has been fully tested by his clients in Wigan. As to this gentleman's personal character, I beg to say I have known him well since his childhood, and can testify that there cannot be a more trustworthy, honorable, upright person. He has excellent common-sense, and altogether is most eligible for an appointment where more than usual confidence is to be shown. I shall be happy to reply satisfactorily to any further inquiries that may be made respecting Mr. M. at any time.

J. T. BROWNE,  
Incumbent of Haigh, Domestic Chaplain to the Earl of Crawford and Balcarres.

From William Ackerley, Esq., Solicitor.

My dear Sir,

Wigan, 19 November, 1861.

I am extremely sorry to learn that the failure of your health compels you to leave the country for a warmer climate. During the many years I have been acquainted with you, and during which I have had occasion frequently to employ you, your steadiness, attention to business, and thorough knowledge of your profession have given me every satisfaction. I can assure you that as far as I am able to judge, your loss, both as a professional man and as a private individual, will be deeply felt; and I think that the best wish I can express for you is that your success in Australia may be as great as it assuredly would have been here.

Yours very truly,  
WIL. ACKERLEY,  
Solicitor, Wigan.

From John Mayhew, Esq., Solicitor, Wigan.

Wigan, 3 December, 1861.

THIS is to certify that in my character of solicitor to the Earl of Crawford and Balcarres, and for other landowners, Coal-mining Companies, and gentlemen of influence in this district, I have become acquainted with Mr. John Mackenzie, land and mining surveyor, of this town (who for his health is about to leave England for Australia), and that I have always considered him to be fully competent to the discharge of his duties—industrious, accurate, and conscientious. I may safely add that, in my judgment, Mr. John Mackenzie, had his health permitted him to stay in Wigan, would have obtained the leading practice of the district.

JOHN MAYHEW, Esq.,  
Solicitor, Wigan.

From John Thompson, Manager of Nerquis Cannel Company, Mold, North Wales.

My dear Sir,

Wigan, 7 December, 1861.

If any words of mine can be of assistance to you in your future professional career, I am glad to add my testimony to that of your other friends as to your high professional standing in this neighbourhood. I have, perhaps, had better opportunities than most of watching the care and attention which you bestowed on anything entrusted to you, and can with confidence speak to the ability you have always displayed. Wishing you every success in the land of your adoption,—

John Mackenzie, Esq., Dicconson-street, Wigan.

I remain, dear sir, yours very faithfully,  
JOHN THOMPSON.

From Edward Thompson, Esq.

Tryddyn Colliery, near Mold, North Wales, 11 December, 1861.

My friend, Mr. John Mackenzie, mineral surveyor, of Wigan, has been engaged for four years professionally in the Flintshire district, both in the lead and coal fields.

Mr. Mackenzie made a survey of the Great Rhosmor Lead-mine, and is himself a shareholder and principal director of the East Rhosmor Lead-mine. I have had many opportunities of my own personal knowledge of satisfying myself of Mr. Mackenzie's efficiency as a mineral surveyor, both in the coal and lead fields.

EDWARD THOMPSON.

From

From Thomas Whaley, Esq., Coal Proprietor, Wigan.

23 November, 1861.

I HAVE known and seen Mr. Mackenzie almost daily for many years, and, from the peculiar advantages I have had, I can testify his character will bear the strictest investigation, and that he is competent to undertake any business connected with surveying and mining engineering.

Mr. Mackenzie served a full apprenticeship with my late brother-in-law, William Peace, F.G.S., manager and agent for the Earl of Crawford and Balcarres. Since he commenced business upon his own account I have frequently employed him to make surface and underground surveys, estimate the quantities of minerals gotten, which he has always executed to my satisfaction—so much so, that I paid him a large premium to take my brother as an apprentice pupil. He had then two others, and a competent assistant, whom I understand is succeeding him in business. I have pleasure in stating Mr. Mackenzie's plans, for accuracy and neatness, cannot be surpassed. He has a large circle of friends, all of whom wish him success, and regret his state of health which compels him to leave England.

THOMAS WHALEY,  
Coal Proprietor, Wigan.

No. 3.

Messrs. Brown's Colliery, Minmi.

(No. 1.)

The Miners' General Secretary to The Secretary for Mines.

Sir,

Hamilton, 19 October, 1881.

I have the honor to bring under your notice the enclosed letter, which was delivered to the Government Examiner of Coal-fields on the 1st October, 1881, regarding the defective working of the Coal Mines Regulation Act of 1876, and referring to a number of accidents caused by explosions of gas at the Messrs. Brown's Colliery, Minmi. That there are just grounds for complaint will be admitted when I state that since the delivery of the letter herein mentioned another accident of a similar character has occurred at the same place, and in this instance has been officially reported, which, for some unexplained reason, has not been done in other cases equally serious.

There is, I may add, general complaint regarding defective ventilation at the principal mines in the district, not of the ventilation as a whole, but that in certain portions of the mines the ventilation is exceedingly bad, and believing it to be within the province of the Inspector for Collieries to effect some remedy in this direction, I would respectfully invite you to draw his attention to this very important subject, also the Examiner of Coal-fields.

Should you desire to have further information respecting this matter by deputation I shall be most happy to wait upon the Honorable Minister.

I have, &c.,

JAMES CURLEY,  
Miners' General Secretary.

The Examiner of Coal-fields for explanation.—H.W., B.C., 22/10/81. The Under Secretary for Mines.—The correspondence with reference to this case was forwarded for the information of the Honorable the Secretary for Mines with my communication of the 22nd inst.—J.M., B.C., 24/10/81.

[Enclosure to No. 1.]

Sir,

Hamilton, 30 September, 1881.

I beg respectfully to bring under your notice the defective working of the Coal Mines Regulation Act of 1876, and the apparent indifference of your Department in endeavouring to see that the provisions of the Bill are carried out. That the subject has assumed an important aspect you may infer when I state the miners of the district have placed myself and colleagues in a position to take all necessary steps towards a remedy. A series of questions have therefore been drafted to be placed in the hands of the Members for the county, upon which subject also the co-operation of the city Members will be invited, and an inquiry the most searching will thus be opened up, and will tend to show that on the part of the Inspector of Collieries there is a great indifference.

I have before me the Mines Report of 1880 wherein the admission is made that I have made previous complaints, with the assertion that they have been immediately remedied. What is the answer to this? Three miners have been burnt in the Minmi mine recently by explosions of gas. Two of these accidents were only three weeks or one month apart from each other, and at a time when no night furnacemen were employed. If atmospheric pressure has any influence (which you will admit) in generating gas and its accumulation in mines, surely, in a climate like ours of sudden atmospheric change, it is a first condition in ventilation that the apparatus be kept in motion. Minmi is not the only place where false economy requires your immediate attention, and, what is more, constant attention.

I will put the question thus with your permission:—"It is better that accidents should be prevented by inspection, than that it should be said accidents, in the cases cited, are the inspectors."

The report of Inspector for Collieries requires attention, and, to those unacquainted with the Act, is very misleading. For instance, it is said of such a mine there are "280 men and horses, &c., in the mine, for whom 35,000 cubic feet of air per minute is introduced, which is in excess of the minimum quantity required by the Act."

The inspector does not state whether the main current is divided into the requisite number of splits, and fresh air supplied to every section of seventy men, and it is certainly impossible to be so where the anemometer will not turn, which is recorded by the local inspectors in several recent examinations, some of which are in my possession.

In conclusion, we, the undersigned, request your immediate attention towards remedying the cause of complaint—defective ventilation—in some parts of the collieries in the district.

DAVID MITCHELL, Chairman.  
J. M'FADYEN, Treasurer.  
JAMES CURLEY, Secretary.

The Examiner of Coal-fields.

(No. 2.)

The Examiner of Coal-fields to The Under Secretary for Mines.

Sir,

Coal-fields Office, Newcastle, 22 October, 1881.

I beg to forward herewith, for the information of the Honorable the Secretary for Mines, a letter received from the Chairman, Treasurer, and Secretary of the Hunter River District Coal-miners' Association, bringing under notice an alleged defective working of the Coal Mines Regulation Act, 1876, and the apparent indifference of this Department in endeavouring to see that the provisions of the Bill are carried out, with the Inspector's report thereon and a copy of my reply.

I have, &c.,

JOHN MACKENZIE,  
Examiner of Coal-fields.

See Enclosures.

The Miners' General Secretary may be informed that the Examiner of Coal-fields having replied to the only specific charge made, and having asked for further information respecting the charges made in general terms, there does not appear to be any action for this Department to take until such information has been supplied.—H.W., 25/10/81. Submitted.—To be informed accordingly.—A.R., 26/10/81.

[Enclosures to No. 2.]

Sir,

Hamilton, 30 September, 1881.

I beg respectfully to bring under your notice the defective working of the Coal Mines Regulation Act of 1876, and the apparent indifference of your Department in endeavouring to see that the provisions of the Bill are carried out. That the subject has assumed an important aspect you may infer when I state the miners of the district have placed myself and colleagues in a position to take all necessary steps towards a remedy. A series of questions have therefore been drafted to be placed in the hands of the Members for the county, upon which subject also the co-operation of the city Members will be invited, and an inquiry the most searching will thus be opened up, and will tend to show that on the part of the Inspector for Collieries there is great indifference.

I have before me the Mines Report of 1880, wherein the admission is made that I have made previous "complaints," with the assertion that they have been immediately remedied. What is the answer to this? Three miners have been burnt in the Minmi mine recently by explosions of gas. Two of these accidents were only three weeks or one month apart from each other, and at a time when no night furnaceman was employed. If atmospheric pressure has any influence (which you will admit) in generating gas and its accumulation in mines, surely in a climate like ours, of sudden atmospheric change, it is a first condition in ventilation that the apparatus be kept in motion. Minmi is not the only place where false economy requires your immediate attention, and, what is more, constant attention. I will put the question thus, with your permission:—"It is better that accidents should be prevented by inspection, than that it should be said accidents in the cases cited are the inspector's." The report of the Inspector for Collieries requires attention, and to those unacquainted with the Act is very misleading. For instance, it is said of such a mine, there are "280 men and horses, &c., in the mine, for whom 35,000 cubic feet of air per minute is introduced, which is in excess of the minimum quantity required by the Act." The Inspector does not state whether the main current is divided into the requisite number of splits, and fresh air supplied to every section of seventy men; and it is certainly impossible to be so where the anemometer will not turn, which is recorded by the local inspectors in several recent examinations, some of which are in my possession. In conclusion, we, the undersigned, request your immediate attention towards remedying the cause of complaint—defective ventilation—in some parts of the collieries in the district.

DAVID MITCHELL, Chairman.  
JOHN M'FADYEN, Treasurer.  
JAMES CURLEY, Secretary.

The Examiner of Coal-fields.

Urgent. The Inspector of Collieries for report. To be returned.—J.M., 4/10/81.

Being unable to understand the exact meaning of the statement in the letter, "The Inspector is indifferent, &c." I can scarcely be expected to furnish a reply to it. As to the statement "That the Inspector's report does not state whether the main current is divided into the requisite number of splits, &c.," I reply that, although not so stated in the report, nevertheless such currents are divided into district currents; and the omission shall be made good in future.—T.L., 5/10/81.

Gentlemen,

Coal-fields Office, Newcastle, 22 October, 1881.

I have the honor to acknowledge the receipt of your letter of the 30th ultimo, bringing under notice an alleged defective working of the Coal Mines Regulation Act of 1876, and the apparent indifference of this Department in endeavouring to see that the provisions of the Bill are carried out.

2. In reply, I beg to inform you that as the only specific complaint brought forward in your letter had reference to the Minmi mine, I recently made it my business to make a thorough examination of Brown's colliery, by inspecting all the places where the men were at work, measuring the quantity of air circulating through the different districts or splits and the men's working places, as well as the quantity of intake and return air travelling through the mine, and found that the main current was divided into the required number of splits, and not only was there a far larger quantity of air passing through the mine than the Coal Mines Regulation Act requires, but it was properly circulated, and the mine well ventilated.

I asked each miner at work, amongst other questions, whether he considered the air he was working in was good or bad, and if he had been working in any badly ventilated places during the year, and they said they had no reason to complain of the air they were then or previously working in; that they had worked where the air was slack and deficient, when their bords, &c., had been driven past where a "cut-through" was about being "put-through."

I also inspected the bords and headings where Hunter, Gilder, Hull, Davies, Bothwell, Duggan, and Andrews were burnt by explosive gas, and made inquiries as to their injuries. Hunter, Gilder, Davies, and Bothwell being only slightly burnt it was not considered necessary by the manager to report their accidents, and the men themselves did not consider they received "serious personal injury," or that it was necessary for the manager to have reported their injuries.

The manager informed the Inspector that Duggan and Andrews had been burnt by explosive gas, and that officer reports to me that upon visiting Duggan he found he was apparently only very slightly burnt, and did not consider he had received serious personal injury.

On the 6th instant I went to the Newcastle Hospital to see Duggan, and found that his back, arms, face, and one hand had been severely scorched; and although the Inspector, when visiting him, formed the impression that no serious personal injury had been received, the case has, in my opinion, proved to be one of that character.

Dr. Harris says, whilst at the hospital, his life was for some days in danger, and Duggan says for over two weeks he was in such pain that he could not lie on his back to sleep; but, from his own account of the occurrence, I conclude that had he exercised ordinary caution the accident would not have happened.

4. In the No. 10 heading, where the seam of coal generates the most gas, and there were 42 men, boys, and horses at work (in the two shafts), I found there was 10,080 cubic feet of air per minute circulating through the working-places, and was informed that there was seldom a less quantity travelling through this part of the mine. I saw Davies, who was slightly scorched by an explosion of gas about eighteen months since, and he told me he did not consider his was a case which it was necessary to report; that he was working in a 6-foot heading at the time, and about 30 yards before the current of air. In No. 12 heading, where Andrews was burnt, there was 4,950 cubic feet of air per minute circulating through it, and only two men working in it. Mr. Brown has since my first visit appointed a fireman, whose special duty it will be to go round all the places known to contain explosive gas, before the men go to work.

Previously it was John Morgan's (the deputy's) duty to go round the dip workings, wherever fire-damp was likely to exist. And as the quantity of gas generated by the seam of coal is at present small in quantity, and there is a good current of air circulating, it appears to be unnecessary for the manager to do more than he has promised for the prevention of accident from such a source—a view supported by the miners themselves, of whom inquiry was made on the spot.

5. In conclusion, I may observe, that if you will be so good as to mention specifically the other collieries in this district to which you refer, as not carrying out the provisions of the Act, I shall take effective steps for ascertaining whether the law is complied with in each case, for the reports received from the Inspector of Collieries for some time have led me to suppose that there were no causes for complaint.

I have, &c.,

JOHN MACKENZIE,  
Examiner of Coal-fields.

Mr. James Curley and others

(No. 3).

The Under Secretary for Mines to Mr. J. Curley, Miners' General Secretary.

Sir, Department of Mines, Sydney, 28 October, 1881.

Referring to your letter of the 19th instant, in which you bring under notice a communication made to the Examiner of Coal-fields, touching the alleged defective working of the Coal Mines Regulation Act 1876, and the accidents caused by explosions of gas at Messrs. Browns' Minmi Colliery, I have the honor, by the direction of the Secretary for Mines, to inform you, that as the Examiner has replied to the only specific charge made, and has asked for further information respecting such charges as have been made in general terms, there does not appear to be any action for this Department to take until such information has been supplied.

I have, &amp;c.,

HARRIE WOOD,  
Under Secretary.

(No. 4.)

Mr. J. Curley, Miner's General Secretary, to The Examiner of Coal-fields.

Sir, Hamilton, 7 November, 1881.

I have the honor to acknowledge the receipt of your communication dated 22nd October, and referring to the second clause therein, as to the answers given by the miners respecting the ventilation being of a generally satisfactory character; this was, as I am given to understand, when you were accompanied by Messrs. J. Brown, J. Croft, and G. Durie, all representing the management, while the miners were unrepresented by any of their number, exception being taken to Mr. J. Patrick, an experienced practical miner, now in the employ of the men as check-weigher, going down the mine in company with you, so that it is nothing unreasonable to conclude the inquiry and examination partook of a partial, one-sided, and unsatisfactory character, inasmuch that a sense of intimidation would under such circumstances be at once produced. This view of the case is supported by the fact that the delegate's two sons had been some days previous to this peremptorily discharged from their work in the fitting shops adjacent to and in connection with the colliery. Mr. W. M. Williams, the delegate, I knew to be a man of exemplary character, while his sons had by their industry, won the respect and esteem of the overseers in their department.

This is most inconsistent with the courtesy uniformly observed by the gentleman representing the firm, whom I have met on several occasions at meetings between masters and men.

Admitting, however, the answers to have been given as stated, the evidence, judging from the number of accidents by explosions of gas and the time at which they occurred, it is quite evident that there has been grave indifference on the part of the management, and still more on the part of the Inspector for Collieries.

In clause 3 of your communication you state, "Hunter, Gilder, Hull, Davies, Bothwell, Duggan, and Andrews were burnt by explosive gas,"—Hunter, Gilder, Davies, and Bothwell being only slightly burnt, it was not considered necessary by the manager to report their accidents, and the men themselves did not consider they received serious personal injury or that it was necessary for the manager to have reported their injuries." The opinion of both manager and men in reference to a report is perverse in the extreme, and probably was quite different on the dates when the accidents took place, and confirms what has been said regarding indifference. If the Inspector committed a mistake in the case of Duggan's accident, which you admit, neither the management nor men are more judicious (but the latter are not requested to report, and why you include them with the management I fail to understand). What is serious personal injury? When miners are knocked down and severely burnt by gas explosions, and incapacitated from following their employment for two and three weeks together. It must be serious personal injury when these accidents are concurrent and take place at intervals of a few weeks together. It is not the slight trifling matter represented. And more especially when you consider the time at which the accidents took place, when the men had been some hours at work, the air would then be in motion, however defective, and forced about by the skips in motion, and yet gas collected in sufficient quantity to explode, which explains two important facts—

1. That there was very defective ventilation at the time of these gas explosions, or
2. That there was that amount of gas collecting in the mine requiring vigilant attention, and, in case of an accident, rendering a report imperatively necessary.

The Colliery Inspector in Duggan's case showed not only indifference and a want of judgement but is culpably negligent for not making an examination on the spot; and in reference to such examinations it would be more satisfactory if the miners were represented, and the press admitted. This would constitute something like an impartial Board of Inquiry. I cannot refrain from dissent regarding Duggan's want of caution as expressed by you. Did anyone warn him against going into his working-place on the morning of the explosion? No; and as he advanced into it the gas exploded about 15 yards from the working face. This was shortly after Hunter's accident. Duggan not only suffered serious personal injury, but, as you state, Doctor Harris considered his life was endangered; and yet the Colliery Inspector deemed this most serious case of such trifling importance that neither an enquiry was held nor an examination made. Is this in conformity with the Act? In attributing the accident to a want of ordinary caution there appears to be something strangely inconsistent, especially when you consider Hunter's, Gilder's and other accidents in connection with it. Why not attribute it to careless management and indifferent inspection? The evidence in favour of this latter conclusion is overwhelming.

Both Duggan's and Andrew's accidents were occasioned by gas explosions as they were advancing to the working face in the morning, which goes to show that no fireman had been in these places on the morning of the accidents, or he would have noticed the gas, and warned the miners against entering them, and thus have prevented all approach to danger.

Whatever may have been the state of the ventilation when the examination was made, or the quantity of air passing in the mine,—at the time of the whole of these seven accidents by gas-explosions, the whole of which were more or less serious, there was not that quantity of air passing in the mine stipulated by the Act, wherein it is stated—(2) "An adequate amount of ventilation shall be constantly produced in every mine, to dilute and render harmless noxious gasses to such an extent that the working places of the shafts, levels, stables, and workings of such mine and the travelling roads to and from such places shall be in a fit state for working and passing therein.

I enclose you a copy of statement which I have taken from William Hunter, in the presence of Mr. Patrick, which confirms what I have stated relative to the whole question:—

1. Indifference on the part of the management regarding the ventilation of the mine.
2. Negligence in not using more precaution to prevent accidents by gas explosions, and when such accidents did occur, in not reporting the same to the Examiner for Coal-fields.
3. Indifference on the part of the Colliery Inspector, who must have seen from the local press, that miners were burnt by gas explosions at Messrs. Browns' Colliery, Minmi, and when informed of the same by report from the management to apparently treat the matter with contempt, as in Duggan's case.
4. The incorrectness of the Inspector's reports, in the face of the facts brought under notice.
5. That there is room for improvement regarding the way in which the inquiries and examinations are made.

With regard to clause 5 of your communication, before I refer to it, I would draw your attention to a mine abandoned, but inundated by water, in close proximity to the Messrs. Brown's Collieries now in work, and would ask you respectfully, whether the Inspector has reported this matter to you, and whether any steps are taken as a safeguard in the event of the old tunnel workings piercing the abandoned workings of the inundated mine, and if there are efficient appliances in case of escape on account of any unexpected accident arising from such a source of danger.

In conclusion, respecting clause 5, and the specific naming of the other collieries in this district, I would mention, Wallsend, Borehole, and Lambton, and for any reference to the state of ventilation being defective in these mines in any particular portions thereof, would refer you to the recent local Inspectors as entered in the book at the respective Colliery Offices named.

I am, &c.,  
**JAMES CURLEY,**  
 Miners' General Secretary.

We, the undersigned, concur in the above statement.

**DAVID MITCHELL,** Chairman.  
**J. M'FADYEN,** Treasurer.

[Enclosure to No. 4.]

*William Hunter* states as follows:—On the morning when I was burnt by an explosion of gas, I was working in No. 14 front heading. The heading was about 27 yards in past the cut-through; my mate was working in the back heading, which was about 6 yards past the cut-through; we had been working in these places about three weeks. Before commencing to work on them, we heard from report by the men there was fire-damp in these places; my mate, Alfred Conway, went to Mr. Thomas, the manager, and told him that we knew nothing about fire, and what the men had told us concerning these places. This was on the Monday morning before commencing to work them. Thomas, in reply, said there was no fire in the place, and if there was Durie would tell them. Durie at no time warned us about fire-damp. He said if we brushed the place with our shirts we would take no hurt. On the morning on which the accident occurred I brushed the place as usual, and had been working about two hours and a half—from half-past six to nine o'clock. I had been back from the face of the heading about 25 yards, for breakfast, only a few minutes, and on returning to the face I was brushing the place, and, when about 5 yards from the face, an explosion of gas took place. I was struck on the breast, and knocked down by the force of the explosion, and fell on my breast.

I thought it was a serious matter at the time, and was unable to follow my work for two weeks after.

I think the accident should either have been reported or steps taken to clear the gas from the places.

Mr. Durie came to see me and offered me a place to work elsewhere in the mine, and said I would go back there no more. Neither Mr. Lewis, the Colliery Inspector, nor Mr. Mackenzie visited me at the time I was off work. When I answered Mr. Mackenzie's questions Mr. J. Brown, J. Croft, and G. Durie were present, and I felt somewhat intimidated by their presence, and did not care to say anything reflecting on the management, for fear I should be dismissed.

I am a practical miner, having worked in mines for eight years. The day on which Mr. Mackenzie visited us in one of the No. 6 headings and said the air was good enough, there were very few men in that part of the mine, as the pit was filling slack and nearly all the men were cleared out.

**WILLIAM HUNTER,**  
**JOHN PATRICK,**  
**JAMES CURLEY,** Miners' General Secretary.

"Barley's Hotel," Minmi, 31 October, 1881.

The Inspector of Collieries for explanation. Copy of my letter referred to in this communication forwarded herewith.—J.M., B.C., 14/11/81.

In this statement I am blamed for indifference, but not knowing the meaning of the same as used herein, I am therefore unable to reply.

2. For the incorrectness of my report, to which I think that the result of the examination by the Examiner of Coal-fields is a sufficient answer.

3. For neglecting the accidents by explosions of fire-damp, to which I answer that I investigated each case brought under my notice.—T.L., 15/11/81.

(No. 5.)

The Miners' General Secretary to The Secretary for Mines.

Sir,

Hamilton, 8 November, 1881.

I have the honor to state that a further communication on the defective working of the Coal Mines Regulation Act, 1876, and recent accidents by explosions of gas at the Messrs. Brown's Colliery, Minmi, has been forwarded to the Examiner of Coal-fields.

A statement which I have taken from one of the miners burnt by explosive gas has also been forwarded, which confirms the allegations made respecting this important subject.

I have, &c.,  
**JAMES CURLEY,**  
 Miners' General Secretary.

Ask the Examiner what has been done in this matter.—H.W., 2/12/81.

(No. 6.)

13

No. 6.

Mr. J. Curley, Miners' General Secretary, to The Examiner of Coal-fields.

Sir,

Hamilton, 28 November, 1881.

I have the honor to respectfully call your attention to the defective state of ventilation in connection with the drive at Raspberry Gully, South Waratah. The drive is in 500 yards, more or less. Air is conveyed to the workmen by means of troughs laid on the floor of the drive, and when a change of shifts takes place water sometimes accumulates in certain places of the drive, so as to almost overflow the pipes and air current within. Gas is occasionally visible; so that the danger to the life of the workmen must be very great at times. At the time when the Inspector visited the drive recently, the workmen had been withdrawn a half shift the day previous.

I have, &amp;c.,

JAMES CURLEY,

Miners' General Secretary.

(No. 7.)

The Examiner of Coal-fields to Mr. J. Curley, Miners' General Secretary.

Sir,

Coal-fields Office, Newcastle, 1 December, 1881.

With reference to your letter of the 28th ultimo, calling my attention to the defective state of ventilation in connection with the drive at Raspberry Gully, South Waratah Colliery, I beg to inform you that, upon going to the Colliery on the 29th ultimo, I found that Mr. Green, the Colliery Manager, was connecting the trough with the Charles Pit down-cast shaft, for the purpose of ascertaining whether the furnace would ventilate the drive better than the fan has lately done, and, as the men had not been at work the previous day, I arranged to go on the 30th idem, and see how the new method answered. Upon arriving there on the 30th ultimo, I found that the shaft which the men had to go down was full of smoke from the furnace. I then discussed with Mr. Green the advisability of remedying this, either by making Charles Pit the up-cast or putting a landing at the 6-foot seam, in the present up-cast or furnace shaft, so that the men could go to their work down Charles Pit and from thence to the bottom of the furnace shaft free of smoke, &c. This Mr. Green will do immediately, and, when completed, inform me of, and whether the ventilation is improved.

2. With respect to the gas, Mr. Green informs me that the overman is instructed, whenever the men leave the face of the drive, to examine the tunnel and see that it is free from gas, and safe to work in, before the men resume their work; and that whenever gas has been seen it has accumulated during the stopping of the fan, from 2 o'clock on Saturday night to 6 o'clock on Sunday morning.

I have, &amp;c.,

JOHN MACKENZIE,

Examiner of Coal-fields.

(No. 8.)

The Under Secretary for Mines to The Examiner of Coal-fields.

Sir,

Department of Mines, Sydney, 8 December, 1881.

I have the honor to inform you that a letter has been received from Mr. James Curley, the Miners' General Secretary, to the effect that a further communication has been made to you respecting the alleged defective working of the Coal Mines Regulation Act of 1876, and the recent accidents by explosions of gas at the Messrs. Browns' Colliery, Mimmi, and I accordingly request that you will be so good as to state what has been done in the matter.

I have, &amp;c.,

HARRIE WOOD,

Under Secretary.

Copy of Mr. Curley's letter, &c., forwarded herewith. Have visited the collieries complained of, and shall reply to his letter early next week. I also forward copies of letters respecting the Raspberry Gully drive.—J.M., 10/12/81. The Under Secretary for Mines.—B.C., 10/12/81.

(No. 9.)

The Examiner of Coal-fields to The Under Secretary for Mines.

Sir,

Coal-fields Office, Newcastle, 14 December, 1881.

Adverting to your letter of the 8th instant, with reference to a letter received from Mr. James Curley, the Miners' General Secretary, and my blank cover communication of the 10th idem, I have the honor to forward you, for the information of the Honorable the Secretary for Mines, a copy of my reply to Mr. Curley and others letters.

I have, &amp;c.,

JOHN MACKENZIE,

Examiner of Coal-fields.

It does not seem necessary for the Department to take any further steps in this matter, unless further moved by the Miners' General Secretary, who is in possession of Mr. Mackenzie's report, copy of which is herewith.—H.W., U.S., 19/12/81. Await further communication.—A.R., 20/12/81.

[Enclosure to No. 9.]

Sir,

Coal-fields Office, Newcastle, 13 December, 1881.

In acknowledging the receipt of your letter of the 7th ultimo, referring to the second paragraph of my communication of the 22nd October last, with regard to the answers given to me by the miners at the Mimmi Colliery, respecting the ventilation, and complaining that the inquiry and examination held on the occasion was of a partial, one-sided, and unsatisfactory character, owing to the men having been unrepresented, I beg to inform you that Mr. John Brown, the Colliery Manager, having objected to Mr. J. Patrick (who, I was informed, was the only person paid by the men at that colliery)

colliery) to accompany me during my visit, I had no alternative but to make the examination without him, although I may state that the Colliery Manager was entitled, if he thought fit, to prevent Mr. Patrick from entering the mine. As stated in my letter of 22nd October last, the mine was, at the different days I examined it, well ventilated, whatever it may have been previously; and, as I also informed you, the reports from the Inspector of Collieries had for some time led me to suppose there were no causes of complaint.

2. With respect to your remarks about persons injured by explosive gas at the same colliery, I am of opinion that it would be better and more satisfactory if all such injuries, whether serious or not, were reported to the examiner of Coal-fields by the owner or manager of the mine, although the Act does not make it imperative that such should be done.

I am also inclined to think that the presence of explosive gas, and the injuries received therefrom, were treated too lightly by the manager previous to my visiting the colliery on 4th October last, since which time a "fireman" has been appointed, whose special duty is to go around all the places known to contain explosive gas before the men go to work. Duggan told me he was about 30 yards in his bord, past the district air current, and about 5 yards from the face, not 15 yards, when the gas fired; and where I was shown his lamp was found was about the distance stated by him to me.

3. Upon making inquiries at the mine, and examining Messrs. Brown's colliery plans, I find that the nearest drives going towards the Mimi old abandoned workings inundated with water, are 35 chains, at least, distant from them, and consequently cannot be in close proximity thereto.

4. The proposal in the fourth paragraph of your letter, that the miners should be represented and the Press admitted at official examinations of collieries, is not provided for in the Act, and cannot, therefore, be complied with.

5. Adverting to the reference made in the concluding paragraph of your letter to the Wallsend, Borehole, and Lambton Collieries, I beg to inform you that I have recently made it my business to make a thorough examination of the Newcastle Wallsend Colliery, by inspecting nearly all the places where the men were at work, measuring the quantity of air circulating through the different districts (or splits) and the men's working places, as well as the quantity of intake and return air travelling through the mine.

6. On the first day, I was accompanied by William Willis (overseer), and John Naismith and David Beveridge (the men's Check Inspectors), whom the Colliery Manager permitted to accompany me through Mr. Willis' district.

In the engine bank road there were 21,600 cubic feet per minute of intake air travelling down it, and 13,860 cubic feet per minute of intake air circulating along the travelling road.

In the No. 1 district (or split) where the air enters it, near the travelling road heading, there were 5,910 cubic feet per minute of intake air for the supply of 70 men, boys, and horses at work; between Nos. 15 and 16 bords it measured 6,000, and between 18 and 19 bords 4,940 cubic feet per minute, thus showing the irregularity of the current of air circulating through this split, and that there is not the quantity of air circulating through it which the Coal Mines Regulation Act provides for, but Mr. Neilson expects that when the water shaft, now in course of being connected with the workings in this district is completed, the ventilation will be improved and exceed the requirements of the Act.

In the No. 2 district (split) there were only 11,040 cubic feet of intake air per minute coming down the "air shaft," for 133 men, boys, and horses at work there, and only 5,670 cubic feet per minute travelling along the air-way past the last working place in the split, which is far less than the Act requires. Mr. Neilson (the manager) informed me that there was and had been for some time cause for complaint with respect to a deficiency of air in this split, but anticipated that when the new "water shaft" in course of sinking is in a few days completed, it will add to the quantity of air at present supplied to men in this part of the mine. On the second day I was accompanied by Mr. Neilson (the manager), Thos. Bosfield (overseer), and John Naismith and David Beveridge (the men's Check Inspectors), who Mr. Neilson again permitted to accompany me through Mr. Bosfield's district, where I found there was the requisite quantity of air circulating through the different "splits," and the provisions of the Act complied with. The Lambton heading, or No. 1 district, having 6,031, 1,377, and 9,800, equal to 17,208 cubic feet of air per minute (by three intakes) for 141 men, boys, and horses working therein, and with respect to a complaint the men's Check Inspectors drew my attention to, which I examined, where six miners were working in bords where the air was supposed to have passed over "stagnant water," I am of opinion that as the manager is daily drawing large quantities of water away from it, and it is continually receiving fresh supplies, that the general rule in section 12 of the Act, does not apply to it, and I would further add that I could not perceive any bad effects coming from it or the air passing over it. The quantity of return air passing through the furnace shaft was—

No. 1 Split	30,564	cubic feet per minute.
No. 2 Split	12,960	" "
No. 3 Split	34,280	" "
Total	77,804	

7. On my visit to the Borehole Colliery, where I met by appointment the Colliery Manager (Mr. Turnbull), and William Lee, and Samuel Selby (the men's check inspectors), and looked over their last reports. I found that the only places they had to complain of were in the south-east side of the south-east headings, and that since the Report dated 27th June last, W. H. Britton and Henry Turner had been appointed Check Inspectors in the place of Lee and Selby. The day previous to my visit Britton and Turner had come out of the mine and asked the Manager if he would go down the pit and see if something could not be done to improve the ventilation where men were working in the south-east side of the south-east headings, as the air was heavily charged with "black-damp," so much so that in many places the men could not keep their lights burning. Mr. Turnbull immediately accompanied Britton and Turner to the places complained of, and after discussing the matter, he made such alterations, as not only gave the men a larger quantity of air, but also that of a better quality. Owing to the large quantity of "black-damp" which is given off and accumulates in this part of the A.A. Company's workings, when a hot north or north-west wind is blowing it makes it very difficult for the Manager to always keep the ventilation in this district up to the requirements of the Act. When I examined this district with Mr. Turnbull and the Check Inspectors (Lee and Selby) the day after the alteration had been made, I found that the men were quite satisfied, and the places well ventilated.

8. I have been to the Lambton Colliery, and Mr. Croudace has marked for my guidance, &c., on the coal-fields record tracings, the different splits, doors, &c., and the way the air travels through and ventilates the mine, and also informed me that he was then busy making alterations and improvements in the ventilation. The Check Inspectors reports were lent me for my perusal, and to take copies of them if I wished to do so, and Mr. Croudace told me that he should have no objection to allow the Check Inspectors to accompany me in my examination.

Upon seeing Mr. Jackson, on Saturday last, I find that the Lambton Colliery is not likely to be working this week, and I must therefore leave my examinations of it until my return from the western and southern districts, and completion of my 1881 yearly report.

Mr. J. Curley and others.

I have, &c.,  
JOHN MACKENZIE,  
Examiner of Coal-fields.

(No. 10.)

Mr. H. Winchester to Mr. J. Y. Neilson, Manager, Wallsend Collieries.

Sir,

Coal-fields Office, Newcastle, 20 December, 1881.

With reference to your communication of the 19th instant, I beg to inform you that the Examiner of Coal-fields, who is now absent from Newcastle, anticipating your request, instructed me to furnish you with a copy of his report, if applied for, and accordingly have the honor to enclose the same herewith.

I will forward your letter to Mr. Mackenzie without delay.

I have, &c.,  
HERBERT WINCHESTER.

(No. 11.)

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(No. 11.)

Messrs. J. &amp; A. Brown to Mr. J. Curley, Secretary, Miners' Association.

Sir,

Newcastle, 23 December, 1881.

We are much astonished to find that you have written to the Examiner of Coal-fields in the following terms:—"I would draw your attention to a mine abandoned, but inundated by water in close proximity to the Messrs. Brown's Collieries now in work, and would ask you respectfully whether the inspector has reported this matter to you, and whether any steps are taken as a safeguard in the event of the old tunnel workings piercing the abandoned workings of the inundated mine, and if there are appliances in case of escape on account of any unexpected accident arising from such a source of danger."

As the above statement is both malicious and untrue we would ask you to immediately furnish us with an explanation with respect to the same, and a withdrawal of the statement to the Examiner of Coal-fields.

In the event of this not being done we shall deal with the matter in whatever summary manner we may be advised.

We have, &amp;c.,

J. &amp; A. BROWN.

(No. 12.)

Mr. J. Curley, Miners' General Secretary, to N. Melville, Esq., M.P.

Hamilton, 28 December, 1881.

CAN Minister Mines meet deputation Miners' Association on Friday? Arrange same and meet in Mines Office; reply paid.

JAMES CURLEY.

PRESENTED by Mr. Melville, M.P. In the absence of the Secretary for Mines I informed Mr. Melville that the deputation would be received on Friday at 11.30 a.m.—G.E.H. (for the U.S.), 29/12/81.

Submitted.—G.E.H. (for the U.S.), 31/12/81.

(No. 13.)

Minute of The Hon. the Secretary for Mines.

*Re* Deputation from Miners' Association, Hamilton and Newcastle.

INFORM the Examiner of Coal-fields that it is reported that a letter having been forwarded to him by the Secretary of the Miners' Association, he forwarded an extract from the letter to the proprietors of the coal mine (Messrs. Brown), regarding which the complaint was made. Inform further that in consequence of this action on the part of the Examiner the proprietors have threatened to take summary action against the Secretary of the Miners' Association.

The Minister requires a report from the Examiner on the subject.

A.R., 4/1/82.

The Examiner of Coal-fields.—H.W., B.C., 4/1/82.

(No. 14.)

The Examiner of Coal-fields to The Under Secretary for Mines.

MESSRS. J. & A. Brown's letter to me, and my reply [forwarded herewith; also letter from J. Y. Neilson and my answer thereto.—J.M., 1/11/82.

The Under Secretary for Mines, B.C., 11/1/82. Submitted.—H.W., 16/1/82. Read.—A.R., 16/1/82.

[Enclosure to No 14.]

Sir,

Newcastle, 20 November, 1881.

Referring to your semi-official conversation with our Mr. Alexander Brown, relative to the near approach of our present workings at Brown's Colliery to some of the old Minni pit workings, and the probable consequences which might arise owing to any careless working, and of which careless working you had been informed by some person in authority, we should be very glad to know the name of your informant, as Mr. Brown, when at the mines, made it his special business to inquire into the truthfulness or otherwise of the assertion, and, we are glad to say, found it as uncalled for as it was untrue.

The Examiner of Coal-fields.

We have, &amp;c.,

J. &amp; A. BROWN.

Gentlemen,

Coal-fields Office, Newcastle, 7 December, 1881.

Referring to your letter of the 29th ultimo, asking me if I would tell you who it was informed me of the near approach of Brown's Colliery workings to some abandoned workings full of water in that neighbourhood, I beg to say that, in a communication received from Mr. Curley, the Miners' General Secretary, he states as follows:—"I would draw your attention to a mine abandoned, but inundated by water, in close proximity to the Messrs. Brown's Collieries now in work, and would ask you respectfully whether the Inspector has reported this matter to you, and whether any steps are taken as a safeguard in the event of the old tunnel workings piercing the abandoned workings of the inundated mine, and if there are sufficient appliances in case of escape on account of any unexpected accidents arising from such a source of danger."

I have, &amp;c.,

JOHN MACKENZIE,

Examiner of Coal-fields.

Messrs. J. &amp; A. Brown.

Sir,

Wallsend, 19 December, 1881.

I notice in to-day's issue of the *Newcastle Chronicle* a report of a Wallsend miners' meeting, wherein it is reported as follows:—

"Mr. Curley stated he had received a very lengthy report from Mr. Mackenzie, Examiner of Coal-fields, respecting the ventilation and stagnant water in the Wallsend workings, and on many things, &c.; and he (Mr. Curley) concludes by stating, if the meeting desired it, he would bring the report and read it to the Committee."

In reference to the above, I think you will have a perfect recollection of the Wallsend Check Inspectors asking to make a special report, you stating that it was a special report, and you could only report to your superior officer or head of your Department; and they, the Check Inspectors, had only been allowed to accompany you round the works by the courtesy of the manager, who wished to give you (the Examiner) every information. You then asked me if I was going to make any special report. I at once replied, "Not until I see your official report." Assuming

Assuming the report in paper is correct, I do think you have not acted in strict good faith, inasmuch as you have favoured the accuser with a report, and left the accused in ignorance of your conclusions; and, to say the least, it is a most unfair and inequitable arrangement, and a position which you have taken without mature thought; and I shall be glad if you will give me the same copy of your report as you have given Mr. Curley, as I must now report this matter in full to my directors on the 21st instant, when I have no doubt but that they will be as much surprised as I have been, to find that their Miners' Secretary has been furnished with information that has been withheld from the masters, the latter being equally interested and more responsible.

I am, &c.,

J. Y. NETLSON,  
Colliery Manager.

The Examiner of Coal-fields.

K.

Sir, I am very much surprised at your letter forwarded to me here, and in reply thereto beg to state that I did exactly what I told you I should do, viz., reply to Mr. Curley's letter, and send you a copy of it if you wrote for one, which I left instructions with Mr. Winchester to do in my absence; also, send a copy to the Honorable the Secretary for Mines.

I have, &c.,

JOHN MACKENZIE,  
Examiner of Coal-fields.

The Manager, Wallsend Collieries.

No. 4.

The Inspector of Collieries to The Examiner of Coal-fields.

Sir,

Newcastle, 5 April, 1882.

I have the honor to report for the information of the Honorable the Minister for Mines that an explosion of fire-damp happened at Brown's colliery on the 4th instant, by which two miners named Joseph Clewes and Richard Barrat were burned.

2. The sufferers were working together in an ordinary bord in which no gas had been seen previous to the explosion, except after shot firing, &c.

3. The fireman had examined the bord about 3.30 a.m. same day, and no gas was found there, but about 7 a.m., or three and a-half hours afterwards, it had suddenly accumulated sufficiently strong to cause the explosion which burned the two men.

4. In my opinion the masters are not blamable for the accident.

I have, &c.,

THOMAS LEWIS,  
Inspector of Collieries.

No gas having been seen previous to the explosion except after shot-firing, &c., will Mr. Lewis be so good as to state whether any shot was fired between 3.30 a.m. and 7 a.m.; also what quantity of air was circulating past the entrance to or through the bord where the explosion occurred, and the number of men, boys, or horses working in that district or split.—J.M., 8/4/82. The Inspector of Collieries. To be returned.

No shot was fired between 3 and 7 a.m. Nearly 6,000 cubic feet per minute for about fifty men, &c.—T.L., 12/4/82.

Thinking this a very meagre report upon what appeared to be a serious affair, I considered it advisable to visit the colliery myself. The result of my examination, &c., will be found in the accompanying report, to which is attached a copy of notice served to Messrs. J. & A. Brown. I should be glad to be favoured with the instructions of the Minister in the matter.—J.M., 19/4/82. The Under Secretary for Mines, B.C., 19/4/82.

No. 5.

The Examiner of Coal-fields to The Proprietors of Brown's Colliery.

Gentlemen,

Coal-fields Office, Newcastle, 15 April, 1882.

In pursuance of the provisions of the 31st section of the Coal Mines Regulation Act, 1876, I hereby give you notice that there is a dangerous accumulation of explosive gas in the No. 10 Heading District, at your Brown's Colliery, where there are forty-five men, boys, and horses daily employed, and that the men are working with naked lights in contravention of No. 5 of the special rules for Brown's Colliery, which provides that "In any place where there is a dangerous appearance of fire-damp locked safety-lamps shall be used."

2. I also beg to draw your attention to general rule No. 5 section 12 of the Act abovementioned, viz. (5.) "If at any time it is found by the person in charge of a mine or any part thereof, or by the Examiner or Inspector, that by reasons of noxious gases prevailing in such mine or such part thereof, or of any cause whatever, the mine or the said part is dangerous, every workmen shall be withdrawn therefrom, and the Examiner or Inspector shall inspect the same, and if dangerous from inflammable gas shall make such inspection with a locked safety-lamp, and in every case make a true report of the condition of such mine or part thereof, and no workman shall, except in so far as is necessary for inquiry into the cause of danger or for the removal thereof, or for exploration, be readmitted into the mine or such part thereof as was so found dangerous until the same is stated by the Examiner or Inspector to be safe. Every such report shall be recorded in a book which shall be kept at the mine for the purpose, and shall be signed by the person reporting.

3. That there is evidently a dangerous accumulation of explosive gas in certain places of Brown's Colliery is proved by no less than nine miners having been burnt by fire-damp, seven of them, Hunter, Gilder, Hull, Davies, Bothwell, Andrews, and Clewes having most of them been seriously injured thereby. Duggan who I went to see at the Newcastle Hospital had his arms, back, face, and one hand severely scorched, and Dr. Harris told me his life was for some days in danger; and Duggan said for over two weeks he was in such pain that he could not lie on his back to sleep. Barratt, who I saw yesterday (the 14th instant), is suffering fearful agony through his face, body (down to his thighs), arms, and hands, being badly burnt by an explosion of gas which happened in No. 10 Heading District on the 4th instant; and I was told when visiting Barrat and Clewes that their medical attendant had no hopes of the recovery of the former.

I have, &c.,

JOHN MACKENZIE,  
Examiner of Coalfields.

No. 6.

No. 6.  
Extracts.

Copied from Fireman's Report Book at Brown's Colliery.

TUESDAY, 18th April, 1882.—I inspected the dip workings; found gas in 8, 10, 12, 13 bords, also 10 and 11 headings; took the men in and left all right.

MILES BUTTERWORTH.

Wednesday, 19th April, 1882.—I inspected the dip workings; found gas in 10 and 11 heading; left all right.

MILES BUTTERWORTH.

Thursday, 20th April, 1882.—I inspected the dip workings; found gas in 10 and 11 heading; left all right.

MILES BUTTERWORTH.

Friday, 21st April, 1882.—I inspected the dip workings; found gas in 10 and 11 heading; brushed it out; left all right.

MILES BUTTERWORTH.

Saturday, 22nd April, 1882.—I inspected the dip workings; found all the bords in 10 heading all right; gas in No. 10 and 11 heading.

MILES BUTTERWORTH.

Monday, 24th April, 1882.—I inspected the dip workings; found gas in 10 heading; a little gas in 11 heading; took the men in and left all right.

MILES BUTTERWORTH.

Tuesday, 25th April, 1882.—I inspected the dip workings; find all the bords correct; gas in 10 and 11 heading.

MILES BUTTERWORTH.

Wednesday, 26th April, 1882.—I inspected the dip workings; found all right, but 10 and 11 heading a little gas.

MILES BUTTERWORTH.

Thursday, 27th April, 1882.—I inspected the dip workings; find all right; a little gas in 10 and 11 heading.

MILES BUTTERWORTH.

Friday, 28th April, 1882.—I inspected the dip workings; found gas in 10 and 11 heading; all the rest correct.

MILES BUTTERWORTH.

Monday, 1st May, 1882.—I inspected the dip workings; find gas in 10 heading; all the rest right.

MILES BUTTERWORTH.

Tuesday, 2nd May, 1882.—I inspected the dip workings; find gas in 18, 20, 21 bords, and 10 and 11 headings; left all right.

MILES BUTTERWORTH.

Wednesday, 3rd May, 1882.—I inspected the dip workings; find gas in 10 heading; the bords and other headings all right.

MILES BUTTERWORTH.

Thursday, 4th May, 1882.—I inspected the dip workings; find gas in 10 heading; all the rest correct.

MILES BUTTERWORTH.

Friday, 5th May, 1882.—I inspected the dip workings; find gas in 10 and 11 headings; all the rest correct.

MILES BUTTERWORTH.

Saturday, 6th May, 1882.—I inspected the dip workings; found gas in 10 and 11 headings; the rest all right.

MILES BUTTERWORTH.

Monday, 8th May, 1882.—I inspected the dip workings; find gas in 10 and 11 headings; all the rest right.

MILES BUTTERWORTH.

Tuesday, 9th May, 1882.—I inspected the dip workings; find gas in 10 and 11 headings; left all right.

MILES BUTTERWORTH.

Wednesday, 10th May, 1882.—I inspected the dip workings; find gas in 10, 16, 18 bords in 10 heading; also in 10 and 11 headings; left all right.

MILES BUTTERWORTH.

Thursday, 11th May, 1882.—I inspected the dip workings; find gas in 10, 15, 16, 18 bords, and 10 and 11 headings; left all right.

MILES BUTTERWORTH.

Friday, 12th May, 1882.—I inspected the dip workings; find gas in 16, 18 bords, and 10 and 11 headings; left all right.

MILES BUTTERWORTH.

Monday, 15th May, 1882.—I inspected the dip workings; find a little gas in 10, 16, 18 bords, 10 and 11 headings; left all right.

MILES BUTTERWORTH.

Tuesday, 16th May, 1882.—I inspected the dip workings; find gas in 10, 16, 18 bords in 10 heading; also 10 and 11 headings; left all right.

MILES BUTTERWORTH.

Wednesday, 17th May, 1882.—I inspected the dip workings; find gas in 10, 16, 18 bords in 10 heading; gas in 10 and 11 headings; left all right.

MILES BUTTERWORTH.

Thursday, 18th May, 1882.—I inspected the dip workings; gas in 16 bord not dangerous; gas in 10 and 11 headings not dangerous.

MILES BUTTERWORTH.

Friday, 19th May, 1882.—I inspected the dip workings; find gas in 16 bord and 10 and 11 headings not dangerous.

MILES BUTTERWORTH.

Saturday, 20th May, 1882.—I inspected the dip workings; find gas in 16 bord not dangerous; gas in 10 heading not dangerous; gas in 11 heading not safe with a naked light.

MILES BUTTERWORTH.

Monday, 22nd May, 1882.—I inspected the dip workings; find indications of gas in 10, 14, 16 bords and 10 heading quite safe.

MILES BUTTERWORTH.

Tuesday, 23rd May, 1882.—I inspected the dip workings; find indications of gas in 14, 16 bords and 10 heading not dangerous.

MILES BUTTERWORTH.

The above extracts copied from the fireman's report book kept in Brown's colliery office, Minmi, 23rd May, 1882.

HERBERT WINCHESTER.

### No. 7.

#### The Examiner of Coal-fields to The Honorable the Secretary for Mines.

REPORT upon two serious accidents which happened to two miners, named Richard Barrat and Joseph Clewes, on 4th April, 1882, from an explosion of fire-damp, at Brown's Colliery, Minmi.

Sir,

Coal-fields Office, Newcastle, 21 April, 1882.

I regret to have to report to you that two practical miners, named Joseph Clewes and Richard Barrat were very badly burnt by an explosion of gas at Brown's Colliery, Minmi, on the 4th instant.

2. On the 14th instant I proceeded to Minmi, and first visited the injured men and asked them to give me all the information they could as to what took place before and at the time they were burnt by explosive gas, when Clewes told me as follows:—“That Richard Barrat (20 years of age) and he were practical miners, and had been working about five months at Greta Colliery previous to coming to Minmi, where they had been getting coal about three weeks. That whilst working at Brown's Colliery had heard miners say there was gas in the bords in the No. 10 heading district, where they were working, and that he and Barrat had seen fire-damp nearly every day in the eight-yard bord they were driving. That when they commenced to get coal in the bord it had been driven 27 yards from the heading or entrance of it, and that they had driven it about 9 yards.

That the fireman, whose duty it is to go into each man's working-place in the district, known or supposed to contain gas, before the men commenced work, had been in their bord every morning before they got to it, and had chalked the day of the month on the face of it in accordance with his instructions. That, on the 4th instant, he and Barrat met the fireman in the mine at about 1 a.m., as they were going to work, and asked him whether there was any gas in their bord, and he said no. That he asked him because he and Barrat had seen more fire-damp in their bord the previous day than they had before observed, and that he remarked to Barrat and another miner who was with them it was strange the fireman could not find gas, as they had seen some almost every morning.

That on the 4th instant, when he and Barrat had got to within about 20 yards from the face of their bord they took off their coats and shirts, and after doing this Clewes went with his naked light to within 2 or 3 yards of the face, and while looking round for some tools with his light in his hand the gas fired. That the coal-seam is about 5 feet 8 inches in height, and he thinks his lamp was about 3 feet from the floor. That he also thinks Barrat was just starting to come to where he was with his naked light in his cap on his head when the gas fired, the force of it knocking Barrat down, and he as well as Barrat think it also threw him some distance.

3. From my examination of the No. 10 heading district where the gas was fired, what the firemen and some miners told me, I am of opinion that there is and has been of late a dangerous accumulation of fire-damp in it, and that Messrs. J. & A. Brown are blamable for not having taken more effectual steps for preventing explosions of gas therein. I saw three brick stoppings set in mortar which had been blown out in cut-throughs in No. 10 heading, and rebuilt, and one which had the centre portion of it blown away by the force of the explosion, and the fireman told me the mine was making so much gas that it would fill a bord in an hour, therefore, if the men went into their work an hour after the fireman had examined it, and according to his custom had “brushed out the gas” in any of the men's working places, it might be full if the men went into it an hour afterwards. One man told me that he and his mate left off work for 10 minutes “they must brush out the fire-damp” before commencing to get coal again.

4. I enclose herewith copy of notice I have served on Messrs. J. & A. Brown, which contains full particulars of the inquiries received, and shall be glad to be favoured with your instructions in the matter.

I have, &c.,

JOHN MACKENZIE,

Examiner of Coal-fields.

These accidents seem serious, and from the report of the Examiner the owners are to blame in the matter. Mr. Curley and a deputation will wait upon the Secretary for Mines next Friday to discuss proposed Coal-fields Amendment Act, and also to call attention to the above accident.—G.E.H. (for the U.S.), 24/4/82.

The Examiner to take the necessary steps under the Act for the default, referred to me this report.—A.R., 28/4/82.

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No. 8.

The Under Secretary for Mines to The Examiner of Coal-fields.

Sir,

Sydney, 1 May, 1882.

Referring to the report furnished by you upon the serious accident which befell Joseph Clewes and Richard Barrat through an explosion of gas in Brown's Minmi Colliery, on the 4th ultimo, I have the honor to inform you, in reply to your request for instructions in the matter, that the Secretary for Mines has decided that the Examiner take the necessary steps under the Coal Mines Regulation Act, 1876, against the proprietors of the colliery for the default referred to in your report.

I have, &amp;c.,

GERARD E. HERRING,  
(For the Under Secretary).

No. 9.

Telegram from The Under Secretary for Mines to The Examiner for Coal-fields.

Sydney, 3 May, 1882.

THE Crown law officers have been asked to advise. You had better not take any steps until opinion has been obtained.

GERARD E. HERRING,  
(For the Under Secretary).

No. 10.

The Examiner of Coal-fields to the Under Secretary for Mines.

Sir,

Coal-fields Office, Newcastle, 5 May, 1882.

I do myself the honor to request that the Honorable the Secretary for Mines will be pleased to furnish me with an authority to prosecute Messrs. James and Alexander Brown, or either of them, or their agents, under section 35 of the Coal Mines Regulation Act of 1876, 39 Vic. No. 31.

I venture to submit a form which I think will be sufficient for the purpose intended, and which has been furnished by Mr. R. W. Thompson, solicitor.

I have, &amp;c.,

JOHN MACKENZIE,  
Examiner of Coal-fields.

The authority may be forwarded.—G.E.H., for the U.S., 6/5/82. Submitted for signature of Secretary for Mines. Very urgent. Forward to the Examiner of Coal-fields by to-night's post.—G.E.H., (for the U.S.), 8/5/82. Forwarded.—8/5/82. The papers in this case are still with the Examiner.—H.T., 26/7/82. Ask Examiner what has been done.—H.W., 7/8/82. Asked.—14/8/82.

In pursuance of the authority given to me for that purpose under the 35th section of the Act, 39 Vic. No. 31, known as the Coal Mines Regulation Act of 1876, I hereby authorise John Mackenzie, the Examiner of Coal-fields for the Colony of New South Wales, to prosecute James Brown and Alexander Brown, or either of them, as the owners, or one of the owners, of the coal mine known as Brown's Colliery, for all offences committed by them, or either of them, against the provisions of the said Act, or against the Regulations made thereunder, or against the special rules made by the owners of the said mine under or in pursuance of the provisions of the said Act, and for all or any of the purposes aforesaid, to lay or exhibit any information or complaint before any Justice of the Peace, and to proceed thereon for a penalty.—Given under my hand this day of May, A.D. 1882.

No. 11.

Informations.

Information—(Drawn out by R. W. Thompson, Esq.)

New South Wales, to wit.

Be it remembered that on the 9th day of May now instant, personally came and appeared before me, the undersigned, one of Her Majesty's Justices of the Peace in and for the Colony of New South Wales, John Mackenzie, of Newcastle, in the said Colony, Examiner of Coal-fields for the said Colony, duly appointed to prosecute in this behalf, and informeth me that on the 4th day of April last past, James Brown, of Newcastle, in the Colony of New South Wales, colliery proprietor, being then one of the owners of a certain mine, known as Brown's Colliery, in the District of Newcastle, neglected to observe one of the special rules established for the same colliery according to the Act, 39 Vic. No. 31, to wit rule 4 of the "Special Rules for the conduct and guidance of the persons acting in the management of Brown's Colliery, in the District of Newcastle, and all persons engaged in or about the colliery," inasmuch as an accumulation of inflammable gas having taken place in a part of the workings of the said colliery, known as No. 10 heading district, on the 4th day of April last past, whereby serious personal injury occurred to two persons, to wit, Joseph Clewes and Richard Barrat, miners, employed at the said colliery, the said James Brown, as such owner as aforesaid, permitted work to be resumed in such colliery before the gas had been removed therefrom.

JOHN MACKENZIE.

Exhibited at Newcastle, this 9th day of May, A.D. 1882, before me,—  
R. J. FERROTT, J.P.

Information

## Information (drawn out by R. W. Thompson, Esq.)

New South Wales, to wit.

BE it remembered that on the 9th of May now instant, personally came and appeared before me, the undersigned, one of Her Majesty's Justices of the Peace in and for the Colony of New South Wales, John Mackenzie, of Newcastle, in the said Colony, Examiner of Coal-fields for the said Colony, duly appointed to prosecute in this behalf, and informeth me that on or about the 17th day of April now last past, one, James Brown, of Newcastle, in the Colony of New South Wales, colliery proprietor, was one of the owners of a mine known as Brown's Colliery, at Minmi, in the said Colony, and as such owner it became and was his duty under clause 5 of the general rules to be observed in every colliery under the Act, 39 Vic. No. 31, that by reason of noxious gases prevailing in such mine or any part thereof, to cause every workman to be withdrawn therefrom, and not to permit any workman to be readmitted into the said mine or such part thereof, except in so far as was necessary for inquiry into the cause of danger, or for the removal thereof, or for exploration, until the same was stated by the Examiner or Inspector to be safe; and that on or about the 14th day of April last past, a certain part of the said mine, to wit, the part known as No. 10 heading district became and was dangerous by reason of the noxious gases prevailing therein, and the said James Brown did not cause every workman to be withdrawn therefrom, and did permit workmen to be admitted into such part while the same was and continued to be dangerous for the reason aforesaid, and before the same was stated by the Examiner or Inspector to be safe, such workmen not being so admitted for inquiry into the cause of danger or for the removal thereof, or for exploration. And thereby and therein the said informant saith that the said James Brown, as such owner, did neglect such general rule, whereupon the said informant prayed that I, the said Justice, would proceed in the premises according to law.

JOHN MACKENZIE.

Exhibited at Newcastle, this 9th day of May, A.D. 1882, before me,—

R. J. PERROTT, P.M.

## Information (Drawn out by R. W. Thompson, Esq.)

New South Wales, to wit.

BE it remembered that on the 15th day of May now instant, personally came and appeared before me, the undersigned, one of Her Majesty's Justices of the Peace in and for the Colony of New South Wales, John Mackenzie, of Newcastle, in the said Colony, Examiner of Coal-fields for the said Colony, duly appointed to prosecute in this behalf, and informeth me that on the 4th day of April now last past, it became and was the duty of one, Joseph Croft, being then the agent for and manager of a mine known as Brown's Colliery, in the district of Newcastle, under the second special rule of such mine, to take care by his overseer or by some other person appointed for that purpose that a certain duty was duly performed under the fifth special rule of such mine, to wit, that in any place in the said mine, where there was a dangerous appearance of fire-damp, locked safety-lamps should be used, and the said Joseph Croft being then and theretofore such agent and manager did not cause locked safety-lamps to be used on the said 4th day of April, in a place in the said mine known as No. 10 heading district where there was, and theretofore, had been a dangerous appearance of fire-damp, but on the contrary allowed naked lights to be used, nor did he by his overseer or by some other person appointed for the purpose, take care that the said duty was duly performed, and did thereby neglect such special rule, whereupon the said informant prayed that I the said Justice will proceed in the premises according to law.

JOHN MACKENZIE.

Exhibited at Newcastle, this 15th day of May, A.D. 1882, before me,—

J. MAIR, P.M.

## Information—(Drawn out by R. W. Thompson, Esq.)

New South Wales, to wit.

BE it remembered that on the 15th day of May now instant, personally came and appeared before me, the undersigned, one of Her Majesty's Justices of the Peace in and for the Colony of New South Wales, John Mackenzie, of Newcastle, in the said Colony, Examiner for Coal-fields for the said Colony, duly appointed to prosecute in this behalf, and informeth me that on the 4th day of April now last past, one Joseph Croft was the person in charge of a mine known as Brown's Colliery, in the district of Newcastle, and it was found by him before the 4th day of April, that by reason of noxious gases prevailing in a part of such mine, known as No. 10 heading district, the said part was dangerous, and it then became and was his duty to have every workman withdrawn therefrom and to see that no workman should except, in so far as was necessary, for inquiry into the cause of danger or for the removal thereof, or for exploration, be readmitted into such part so found to be dangerous until the same was stated by the Examiner or Inspector to be safe. Yet the said Joseph Croft, being the person in charge of the said mine, did not on the said 4th day of April, have every workman withdrawn from the said part, and did permit a workman, to wit, one Joseph Clewes, a miner, to be readmitted into such part before the same was stated to be safe by the Examiner or Inspector, such readmission not being necessary for inquiry into the cause of danger nor for the removal thereof, nor for exploration, and therein and thereby he, the said Joseph Croft, did neglect to observe the fifth general rule under section 12 of the Coal Mines Regulation Act of 1876. Whereupon the said informant prayed that the said Justice would proceed in the premises according to law.

JOHN MACKENZIE.

Exhibited at Newcastle, this 15th day of May, A.D. 1882, before me,—

J. MAIR, P.M.

## Information—(Drawn out by R. W. Thompson, Esq.)

New South Wales, to wit.

BE It remembered, that on the 15th day of May now instant, personally came and appeared before me, the undersigned, one of Her Majesty's Justices of the Peace in and for the Colony of New South Wales, John Mackenzie, of Newcastle, in the said Colony, Examiner of Coal-fields for the said Colony, duly appointed to prosecute in this behalf, and informeth me that on the 4th day of April now last past, it became

became and was the duty of one Joseph Croft, being then the agent for and manager of a mine known as Brown's Colliery, in the district of Newcastle, under the second special rule of such mine to take care by his overseer or by some other person appointed for that purpose that a certain duty was duly performed under the eighth special rule of such mine, to wit, that, if on examination by the overseer any working place should be found insecure from a defect in the ventilation, he should cause a danger signal to be placed in the middle of the road at the entrance of it, such danger signal to consist of a board with the word "danger" printed thereon, and the said Joseph Croft, being then and therefore such agent and manager, did not, after examination by the overseer at a working place in the said mine known as No. 10 Heading District, which was found insecure from a defect in the ventilation, cause a danger signal, to wit, a board with the word "danger" printed thereon to be placed in the middle of the road at the entrance of it, nor did he, by his overseer or by some other person appointed for the purpose, take care that the said duty was duly performed and did thereby neglect such special rule. Whereupon the said informant prayed that the said Justice would proceed in the said premises according to law.

JOHN MACKENZIE.

Exhibited at Newcastle, this 15th day of May, A.D. 1882, before me,—J. MAIR, P.M.

No. 12.

The Secretary, Coal Mines Association, to The Examiner of Coal-fields.

Sir, I beg respectfully to call your attention to the enclosed letter received from Messrs. J. Clewes and R. Barrat, Minmi. Hamilton, 15 May, 1882.  
I am, &c.,  
JAS. CURLEY.

[Enclosure.]

Sir, We take the opportunity to let you know that we have got a summons to attend the Court at Newcastle on Thursday next, and on account of our accident fund breaking up we are without means; and we do not know how we will be able to get to Newcastle, as we have no money. We wish you to show this to Mr. Mackenzie, Government Coal-fields Examiner, to see if he will assist us with the means to get to Newcastle. We wish also that if you could make arrangements so as we could be admitted into the Newcastle Hospital. Minmi, 13 May, 1882.  
We are, &c.,  
RICHARD BARRAT.  
JOSEPH CLEWES.

The District Secretary, Coal Miners' Association.

No. 13.

The Examiner of Coal-fields to The Under Secretary for Mines.

Sir, I have the honor to request that the Honorable the Secretary for Mines will be pleased to furnish me with an authority to prosecute the agent, manager, &c., of Brown's Colliery, under section 35 of the Coal Mines Regulation Act of 1876, 39 Vic. No. 31. Coal-fields Office, Newcastle, 15 May, 1882.

2. I submit a form furnished me by Mr. R. W. Thompson, solicitor.

I have, &c.,  
JOHN MACKENZIE,  
Examiner of Coal-fields.

There is no necessity for this authority, clause 35 of Act giving all the power necessary for the prosecution to the Examiner. No harm can be done him by signing it.—A.R., 16/5/82. The Examiner of Coal-fields.—G.E.H., (for the U.S.), B.C., 16/5/82.

Department of Mines, 8 May, 1882.

In pursuance of the authority given to me for that purpose under the 35th section of the Act 39 Vic. No. 31, known as the Coal Mines Regulation Act of 1876, I hereby authorize John Mackenzie, the Examiner of Coal-fields for the Colony of New South Wales, to prosecute James Brown and Alexander Brown, or either of them, as the owners or one of the owners of the coal mine known as Brown's Colliery, for all offences committed by them against the provision of the said Act, or against the regulations made thereunder, or against the special rules made by the owners of the said mine under or in pursuance of the provisions of the said Act, and for all or any of the purposes aforesaid, to lay or exhibit any information or complaint before any Justice of the Peace, and to proceed thereon for a penalty.

Given under my hand, this day of May, A.D. 1882.

ARTHUR RENWICK,  
Secretary for Mines.

No. 14.

Telegram from The Examiner of Coal-fields to The Under Secretary for Mines.

PLEASE inform Minister that I cannot leave here until Friday night at the earliest, as Brown's case is likely to last two days at least. 16 May, 1882.

JOHN MACKENZIE,  
Examiner of Coal-fields.

No. 15.

Telegram from The Examiner of Coal-Fields to The Secretary, Miners' Association.

Your letter and enclosure received, will send one pound for them to Barrat to-night, please inform Barrat. 16 May, 1882.  
JOHN MACKENZIE,  
Examiner of Coal-Fields.

No. 16.

## No. 16.

Extract from the *Newcastle Morning Herald and Miners' Advocate*.

NEWCASTLE POLICE COURT—THURSDAY, 18 MAY, 1882.

(Before MR. MAIR, P.M.)

## PROSECUTION UNDER THE MINING ACT.

James Brown, of the firm of Messrs. J. and A. Brown, merchants and colliery proprietors, was formally charged as follows, by the Examiner of Coal-fields—

The information ran:—

TO JAMES BROWN, of Newcastle, in the Colony of New South Wales, colliery proprietor: Whereas information hath this day been laid before one of Her Majesty's Justices of the Peace in and for the Colony of New South Wales, for that on or about the 17th day of April last past, you were one of the owners of a mine known as "Brown's Colliery," at Minmi, in the aforesaid Colony, and as such owner it became and was your duty under clause 5 of the general rules to be observed in every colliery under the Act 39 Victoria No. 31, that by reason of noxious gases prevailing in such mine or any part thereof, to cause every workman to be withdrawn therefrom and not to permit any workman to be readmitted into the said mine or such part thereof, except so far as was necessary for inquiring into the cause of danger or for the removal thereof or for exploration until the same was stated by the Examiner or Inspector to be safe, and that on or about the said seventeenth day of April last past, a certain part of the said mine, to wit, the part known as No. 10 heading district became and was dangerous by reason of noxious gases prevailing therein, and that you did not cause every workman to be withdrawn therefrom, and did permit workmen to be admitted into the said part, while the same was, and continued to be dangerous for the reason aforesaid, and before the same was stated by the Examiner or Inspector to be safe, such workmen not being admitted for the purpose of inquiring into the cause of danger or for the removal thereof or for exploration and that thereby and therein you as such owner did neglect such general rule, contrary to the provisions of the aforesaid rule and the Act aforesaid.

Mr. Thompson appeared for the prosecution, Mr. Wallace for the defence.

Mr. Wallace raised a preliminary objection, inasmuch as the information did not include the word "wilfully," as required by the 34th section of the Act. Mr. Thompson replied, and in the course of argument the Act was admitted, on all sides, to be a complete muddle, and recognized as such among the entire mining class. Mr. Wallace contended that sec. 12, under which the information was laid, provided for no penalty at all, and, after discussion, the objections were overruled, and formally noted, viz., that defendant refused to plead, and that objection was taken to the information on the ground that two offences were disclosed.

*John Mackenzie*, Examiner of Collieries, deposed that his information was true, and Mr. James Brown, one of the proprietors of the mine, defendant; produced copy of printed rules, also notice dated 15th April; heard on 6th April of an explosion in Brown's Minmi Colliery, Hunter River district, proclaimed in May, 1863 [plan showing No. 10 heading produced]; visited the mine, and found that three stopings set in brick and mortar had been blown down, and the centre of a fourth displaced, apparently by the force of an explosion; must have been a dangerous accumulation of gas, and the explosion was undoubtedly of sufficient force to hurt miners working there; the first stopping was about 37 yards from the bord face, in a cut-through in No. 10 heading; saw two men badly burned, said to have been working in the mine; Barret, one of them, burned all over down to his thighs, arms, hands, and face; Clause, the other, was also seriously burned; was shown the place by Mr. Croft (the manager), the overseer, and others; saw other men working at a cut-through near at hand, in No. 10 heading district; had given Mr. Brown no permission to have them there after the accident. By *Mr. Wallace*: Visited on the 14th April, and from the fireman's reports found that there had been more gas on the previous day; did not visit again either on the 15th, 16th, or 17th, and could not say from his own knowledge or personal inspection that there had been any noxious or dangerous gases in the mine at any time between the 4th and 17th; Mr. Thomas Lewis was Inspector of Mines on the 4th, and for some time after, and from a report from him on the 6th, he first heard of the accident [report put in]; did not approve of the method adopted by the fireman of rushing the gas out, and told Mr. Croft that he would have to serve Mr. Brown with a notice; conceived it not to be part of his duty to make any examination unless the men were withdrawn.

*Miles Butterworth*, fireman, gave evidence as to the condition of the pit, and existence of gas; on the 14th April found gas in 10, 12, and 22 bords, also in No. 10 and 11 headings; brushed it out, and found it so small in quantity that he could not get it in a Davey lamp, and afterwards tested the feeders with a naked lamp, finding it still very slight, and impossible to collect; on the 17th got gas in other bords, no men being at work between the 14th and that date; these bords were 10 and 12 bords, in 10 and 11 headings; on the 18th got gas in 10, 12, 14, and 22 bords, in 10 and 11 headings; this was all so slight that it would not show in the Davey lamp; the practice was on detecting gas to immediately place two rails crossways in the bord, after which no miner would attempt to enter until all was right; this had been his practice ever since he first undertook his position; was in the mine when the men were working; they were in 16 bord, in 10 heading; found it quite clear from a quarter-past 1 till half-past 3 that morning, and the men were hurt about a quarter-past 7; had not found gas every day previous. By *Mr. Wallace*: Had never known gas to accumulate in such quantities as to become dangerous, beyond small bits of feeders that he got on the face of the coal, otherwise would have at once reported; had worked in a pit for over thirty-six years, since his seventh birthday, and had worked practically as fireman since sixteen; had also worked in pits so full of gas that no open light of any sort was admitted; had a thorough knowledge of such matters, and had worked for Messrs. Brown for seven years; the gas that caused the accident beyond a doubt broke out from a grey-back; the men struck the top of the coal, and the gas escaped; it was not discernible, nor could he detect it with a lamp when he was in at 3 o'clock; always kept a written record of facts for Mr. Croft's information; where Mr. Lewis tested the place after the explosion he found gas; after it the men nearly all withdrew, and the place was stopped until the cut-through was completed, whereby ventilation was given, the time occupied being about two more shifts, and the distance about 5 feet; again inspected and found the feeder still there, but rendered harmless through the consequent existence of air which gave ventilation, and allowed the gas to escape. To *Mr. Thompson*: Some of the men, by his leave, were working in the cut-through next day with Davey lamps.

*Richard Barrett* aged 20, miner, and one of the injured men (exhibited his hands and other injured portions of his body) deposed that about a quarter-past seven a.m., the explosion occurred, while he was working with a mate; had been working in the same bord for nearly two months; had his coat and shirt off

off ready for work when the fire struck him, and knocked him silly, his mate being ahead nearly up to the face; had not been in the pit since the accident; would not believe Butterworth if he said there was no gas in the bord when they went in, for his mate remarked that there was at the time; found gas there the night before, and had found it over and over again when the foreman said there was none. By *Mr. Wallace*: All the adjacent bords were under the same heading; had been on the coal for about five years, and in the pit for about eleven; was working with a naked light at the time, as there was not very much gas about; saw a casing, but not a grey-back, but would not swear one did not exist; had never reported the existence of noxious gases to the manager.

*Dr. Andrew Nash*, duly qualified medical practitioner, residing at Wallsend, was called. *Mr. Wallace* rose to an objection, as the evidence was irrelevant. *Mr. Thompson* replied, and, after argument, the evidence was admitted. Proceeded: The last witness was very severely burned, and had his life endangered. By *Mr. Wallace*: Had never been in the colliery in question and of his own knowledge could not say that noxious gases prevailed there; could only say that he treated his patient for severe injuries from burns.

*Joseph Clause* (after argument as to the relevancy of his evidence to the case) deposed to being a miner recently working at Brown's Colliery, and corroborated the preliminary evidence of last witness, as to the time of entering the pit, the accident, etc.; did not speak to the foreman that morning before going into the place; stripped of all but their trousers and boots about 15 yards from their working place, his mate's lamp being on the ground, and his in his hand low down; was about three yards from the face of his work, when he turned round, lifted his light, the gas caught, and he knew no more until he recovered consciousness on his belly, and found his mate outside the bord, the gas being alight and burning him; was not hurt so much as Barret, although closer to the face, as his mate got more of its force; had noticed gas in there every day, and was always able to light it every few days. By *Mr. Wallace*: On the previous days the gas they noticed was not dangerous, and was kept harmless by the movement of their bodies whilst at work.

*Mr. Mackenzie*, recalled by *Mr. Thompson*: The method adopted by the fireman of brushing the explosive gas out with a bag was certainly not the proper mode, and it could not possibly send it out of the mine, and the probabilities were that, seeing the length of the bord, even had it been brushed away, it would have returned; the proper remedy was brattice-cloths, or otherwise. To *Mr. Wallace*: Had not known of such a thing as gas accumulating day by day from the face in the heading, or that it was found in a fortnight's accumulation at the end of, say, a fortnight; as a matter of fact portions of it were necessarily being daily removed by the air; there 2,400 feet of pure air going down the headings over and above the amount required by the Coal-fields Regulation Act.

This concluded the case for the prosecution.

*Mr. Wallace* put it to his worship whether it was worth while taking up further time by arguing the case for the defence, as it was so clear that the information had not been supported. It was quite plain that they had been charged with allowing gas to accumulate, and become dangerous "on or about the 17th April," whereas there was not a tittle of evidence to support the allegation. He has carefully watched the evidence, and failed to see that the case had been proved.

*Mr. Thompson* reviewed the evidence at considerable length and *Mr. Wallace* having replied,

The Police Magistrate stated that he had clearly made up his mind that the evidence was not sufficient to warrant him in convicting defendant, and the case was therefore dismissed. He expressed a hope, however, that the Act was of such a character that its clauses could be so interpreted as to give satisfaction alike to colliery owners and miners in the prevention of accidents. His Worship refused to certify for costs.

Several other charges, arising out of the same case, were postponed for hearing until this morning.

## No. 17.

### Extract from the *Newcastle Morning Herald and Miners' Advocate*.

NEWCASTLE POLICE COURT—THURSDAY, 19 MAY, 1882.

(Before MR. MAIR, P.M.)

#### ALLEGED BREACH OF THE MINING ACT.

JOSEPH CROFT was charged by the Examiner of Coal-fields that, on April 4th, it became and was his duty, as agent for and manager of Brown's colliery, to see that, after the indication of inflammable gas, no men continued to work, and that he did not cause work to be discontinued, nor did he, by his overseer or other party, take care that this duty was performed.

*Mr. Thompson* appeared for the prosecution, *Mr. Wallace* for the defence.

*Mr. Wallace* refused to plead, on several grounds; chiefly that there were two separate and distinct offences disclosed,—first, that defendant neglected to do something, and further that he neglected to instruct his overseer. It was utterly absurd to make a manager responsible for the act of some other person in connection with some matter that never came to his knowledge. It should be alleged that the particular part of rule 4 had been carried out, and the manager informed. There should have been a preliminary statement or allegation that the existence of gas had actually been so notified, and it was a *reductio ad absurdum* to suppose that the law contemplated such a thing as to hold a manager criminally liable under such circumstances. The law was terribly mixed, and in point of fact almost unworkable.

*Mr. Thompson* remarked that the Act was a perfect paradise for lawyers, and a thorough failure, and in framing the information he confessed that he had very great difficulty in framing such a one as would hold water. Still, he maintained that the one as drawn was good. It seemed to him that the manager was the responsible person, and could be made liable, and these special rules were intended to have the force of law if they could be made workable. Under the heading "Manager," in rule 2, it did not say what he was, but he was undoubtedly the person alluded to. He was empowered with full control over every person in connection with the colliery, and the clause that pinned him down to his responsibility was clearly set forth in a special rule. To fail in seeing that an overseer did not neglect his duty was a neglect in itself, and being guilty of such neglect they got him under rule 31. What they charged him was neglect in of clause 2, by not seeing that clause 4 was attended to.

Mr.

Mr. Wallace replied, contending that the manager and agent were two distinct persons, and did not come under one category. The whole Act was a hybrid affair; full of all sorts of compromises on either side, so much so as to be a complete muddle. He cited, in point, clause *re* the engine-driver's duties, wherein he is granted "sole and complete personal control," whereas he actually has three "bosses" over him. Seeing the character of the rules, he contended that they should be construed by common sense and reason, and not receive any strained construction.

His Worship decided to proceed with the case.

*John Mackenzie*, Government Examiner of Coal-fields, deposed to having heard of the recent explosion in Minmi Colliery (produced special rules); visited the pit, saw Mr. Croft, the manager, and accompanied him to the bord where the two men had been hurt, and was shown the stoppings that had been blown down; the fireman in their presence then fired some gas there, and there was undoubted indication of inflammable gas; examined the fireman's reports, and saw frequent references to gas; the injured bord was in No. 10 heading; saw men then working in a new cut-through, made for the purpose of letting air in and minimising the danger of noxious gases; produced *Gazette* containing proclamation of Hunter Coal District.

*By Mr. Wallace*: As a matter of fact that particular pit might at some time be perfectly free from a small quantity of gas; saw none sufficient to cause danger during his inspection; 2,100 feet fresh air over and above the regulation quantity was then running down the airways; in that particular district of the mine there was about 50 per cent. more fresh air than required by law.

*James Brown*, one of the owners of Minmi Colliery, deposed to Mr. Joseph Croft being their manager.

*Richard Barrett* gave formal evidence as to the explosion by which himself and his mate were injured; the bord when they entered was just in the condition they left it the previous night; knew what gas was, but could not say what "blowers" were; before going in asked the gas man if there was any gas about, and on his replying "no," they entered and took no more notice, thinking it quite safe; was knocked about 15 yards to the end of the bord; could not say how far the first stopping that was blown away was from their working place.

*By Mr. Wallace*: Had worked for six weeks at Minmi; formerly worked there under the name Quinn, his stepfather; had a copy of the rules, but had not read them; had not at any time complained of gas.

*To Mr. Thompson*: Anyone taking sufficient care to find gas there could have done so; had worked on coal for about five years; saw the fireman's chalk mark the morning before the explosion.

*Herbert Winchester* deposed to having accompanied the Examiner during his visit of inspection, and corroborated his evidence.

*George Durie*, overseer at the pit, stated that the men seen on Mr. Mackenzie's visit were merely working at a cut-through to give increased ventilation; had thirty-six years' experience with coal.

*To Mr. Wallace*: It was quite possible to pass a naked candle 2 inches from gas feeders without danger; the Inspector tried the face of the bord with a safety lamp and found some gas, and asking him how he intended to remove it, he replied, by means of the cut-through. Mr. Lewis then suggested that they had better push it on as quickly as possible, and work meantime with Davy lamps, in case of more gas; they pushed on with the cut-through and the accumulated gas disappeared; it was perfectly impossible to do away with the feeder; the effect of the cut-through would not interfere with the other bords.

*By the P.M.*: The men in the other bords were working as usual on the morning of the 5th April.

*George Durey* recalled, by the P.M.: Saw Mr. Croft about 9 a.m. the morning after the accident; Mr. Croft then knew of the explosion, and accompanied him down the pit to examine the place; gave no orders regarding stopping general work in No. 10 heading.

*To Mr. Wallace*: It was witness's duty to have sole charge of the pit in Mr. Croft's absence, and in virtue of the powers vested in him, he (witness) took what he considered necessary precautions; Mr. Croft's remark was, "Well, George, how are we going to get on about these stoppings," and witness answered, that steps would be at once taken to have them replaced, and the places made safe; Croft, so far as he had been able to judge, was in every way a thoroughly competent colliery manager, and he expressed this opinion after over thirty years experience; removing the gas was part of the work necessary.

*Joseph Crewe*, one of the injured men, stated that when the ignition took place he had his light held up 3 or 4 feet; the lighted gas ran down, caught the air, and returned, burning him on his back; had remarked to the gas man, when told that there was no gas, "it's very strange you can find none, while we can get it at any time"; had a long talk with him one morning previously about gas and one thing and another; had no chance that morning of seeing if the chalk mark was up, but had seen it up every morning before; did not know the meaning of inflammable or explosive, but knew what bad gas meant.

*By Mr. Wallace*: On all previous occasions, on seeing gas, they did not consider it of sufficient importance to take notice of it; had over twenty years experience, having entered the pits at 7 years of age.

This concluded the case for the prosecution.

Mr. Wallace went for a non-suit. He submitted, at considerable length, that the case had not been made out, and that his client was improperly before the Court. If the special rule was to be literally construed, and that the gas was to be absolutely and entirely removed, it simply meant the shutting up altogether of Brown's Duckenfield Colliery, seeing that it had been proved by scientific men that this was utterly impossible, both in the Minmi and other pits. Undoubtedly it was right that provision should be made for preventing the accumulation of gases, but it would be monstrous to interpret the Act or rules as implying that a pit should be stopped merely by reason of the fact that the existence of gas had been shown.

The Bench ruled that there was a case calling for a defence. Mr. Wallace then called

*Thomas Croudace*, mining engineer and colliery manager for the Scottish Australian Mining Company, who deposed to having twenty-eight years practical experience, and to having from his earliest years been brought up to the profession of mining engineer; had been shown the bord where the explosion took place, and examined it with a lamp, finding only a small quantity of gas; it did not always follow that

that there was danger where a feeder existed, and the small feeders he found certainly did not render the pit dangerous; if all men were withdrawn from a gaseous portion of a pit and the feeders allowed to run on, it would necessitate the total closing of that portion, either for months or years, as the case might be, until the feeders exhausted themselves; his opinion was that there was some reservoir in kerosene shale supplying the gas feeders to the Minmi colliery; the value of the colliery should certainly be £100,000, and its closing would furthermore throw several hundred men out of employment; it was quite possible for blowers of gas to displace tons of coal, and thereby set free in a few hours great quantities of inflammable gas; interviewed the injured men, and the young man Perrett admitted that he knew nothing whatever of gas, and relied entirely on his mate, further, that they had taken no precaution of dusting out their place that particular morning. After hearing the evidence he was perfectly satisfied that every reasonable prevention had been taken, and also with the anxiety shown by the management.

*Miles Butterworth*, fireman, deposed to having, on the morning of the 4th April, carefully tested the bord and failed to detect the slightest gas, and, as a matter of fact, walked right up to the bord with a naked light, took up a shovel, after testing the kerosene, placed it handle-down against the face and put his usual chalk mark on it to show that he had been, and inspected; had on one occasion seen a man's leg smashed in a minute by a lump of coal suddenly shooting out from a feeder; as soon as a change was noticeable in the barometer, miners might depend on it there would be a change in the gas, through the altered pressure of the atmosphere; Mr. Lewis tried the gas in his lamp, and declared it to be very thin; set to work at once with the cut through, at Mr. Lewis' suggestion, and got a hole through in about sixteen hours.

*John Y. Neilson*, colliery manager to Newcastle-Wallsend Colliery for twenty-two years, and with forty-two years active connection with mining matters, deposed to the result of his inspection of the mine in conjunction with Mr. Croudace; agreed with the statements made by him; he personally set fire to two men in his own colliery, causing a much greater explosion from an unforeseen explosion of gas, which had not been detected for very many years before; it was highly probable that the accumulation referred to by Butterworth could have taken place easily in the time between his inspection and when the men set to work; with ordinary care there was not the slightest danger, and the pit was perfectly safe; speaking as one who had probably had more to do with Australian mining gas than any man in the Colony, he failed to see that any action was left untaken under the circumstances which the most experienced man would have taken.

*William Turnbull*, colliery manager to the Australian Agricultural Company, sixteen years manager in England and seven in Australia, gave corroborative evidence; he had known blowers to come up in a few minutes, which would throw out a hundred yards of gas.

The report of Mr. Lewis, with Mr. Mackenzie's comments, was here put in as evidence. This report ran as follows:—

Newcastle, 5th April, 1882.

The Examiner of Coal-fields, Newcastle.

Sir,—I have the honor to report, for the information of the Minister of Mines, that an explosion of firedamp happened at Brown's Colliery on the 4th inst., by which two miners, named Joseph Clews and Richard Berrett, were burned.

2. The sufferers were working together in an ordinary bord in which no gas had been seen previous to the explosion, except after shot firing, &c.

3. The firemen had examined the bord about 3-30 a.m. same day, and no gas was found there; but about 7 a.m., or three and a hours afterwards, it had suddenly accumulated sufficiently strong to cause the explosion which burned two men.

4. In my opinion the masters are not blameable for the accident.

I have, &c.,

(Sd.) THOMAS LEWIS,  
Inspector of Collieries.

To this were affixed the following foot-notes:—

8/4/82. No gas having been seen previous to the explosion, except after shot firing, etc., will Mr. Lewis be so good as state whether any shot was fired between 8-30 a.m. and 7 a.m.; also, what quantity of air was circulating past the entrance to, or through, the bord where the explosion occurred, and the number of men, boys, or horses working in that district or pit.—J.M.

No shot was fired between 3 and 7 a.m. Nearly 6,000 cubic feet per minute for about 50 men, &c.—J.L., 12/4/82.

Thinking this a very meagre report upon what appeared to be a serious affair, I considered it advisable to visit the colliery myself. The result of my examination, &c., will be found in the accompanying report; to which is attached a copy of notice served upon Messrs. J. and A. Brown. I should be glad to be favoured with the instructions of the Minister in the matter.—J.M. 19th April, 1882.—The Under Secretary for Mines.

The Police Magistrate remarked that the word "pit" meant the whole of the mine, and it would be somewhat absurd if there were any indication, even of dangerous gases in one part of the mine, that the whole should be closed until feeders of the character alluded to had exhausted themselves. He was inclined to think that in using the word pit, the Act contemplated reference to that portion wherein dangerous gases actually existed. By interpreting it to mean the whole mine, a manifest interference would take place; and putting the other construction on the word, it appeared from the evidence adduced that the men working were well removed from the place where an indication of danger was observed. Under all the circumstances, with every disposition to interpret the Coal-fields Regulation Act and the special colliery rules, so as to make them work harmoniously in the general good, he failed to see his way clear to inflict a penalty, and the case must therefore be dismissed.

Mr. Thompson at once withdrew a further information, and the Court rose soon after 4 p.m.

## No. 18.

The Manager, Brown's Colliery, to The Examiner of Coal-fields.

Dear Sir,

20 May, 1882.

From the nature of my fireman's report on No. 11 heading this morning, instructions have been given to the men that they must not resume work until we consider it safe.

As it is of great importance that this heading should be kept continually going, you will oblige by examining the place at your earliest convenience.

Yours, &c.,

J. & A. BROWN.  
J. CROFT.

No. 19.

## No. 19.

Telegram from The Examiner of Coal-fields to The Manager, Brown's Colliery.

22 May, 1882.

YOUR letter of the 20th instant received, informing me that from the nature of your fireman's report on No. 11 heading, instructions have been given to the men not to resume work, &c., and asking me to examine the place, &c. Please reply quickly by wire whether you, as well as the fireman, consider the place dangerous.

JOHN MACKENZIE.

## No. 20.

Telegram from The Manager, Brown's Colliery, to The Examiner of Coal-fields.

22 May, 1882.

I do not consider the place dangerous, it was perfectly safe when I saw it Saturday.

J. CROFT.

## No. 21.

Telegram from The Examiner of Coal-fields to The Manager, Brown's Colliery,

22 May, 1882.

YOUR telegram received stating you do not consider place dangerous, and it was perfectly clear when you saw it on Saturday. Do you consider it dangerous for men to work in to-day, reply.

JOHN MACKENZIE.

## No. 22.

Telegram from The Manager, Brown's Colliery, to The Examiner of Coal-fields.

22 May, 1882.

THE place to-day is not dangerous for men to work in.

J. CROFT.

## No. 23.

Telegram from The Examiner of Coal-fields to The Under-Secretary for Mines.

22 May, 1882.

PLEASE inform Minister I have just received letter from Manager of Brown's Colliery, Minmi, stating men withdrawn from No. 11 heading, in consequence of fireman's report of 20th instant. Manager is evidently endeavouring to fix responsibility on Department, which I wish to avoid if possible, and therefore think it advisable not to leave here until this matter is settled. Hope to see the Minister Thursday morning.

JOHN MACKENZIE.

## No. 24.

The Manager, Browns' Colliery, to The Examiner of Coal-fields.

Dear Sir,

Browns' Colliery Office, 31 May, 1882.

The cut-through in No. 10 heading district is finished, and now waits your examination and orders to start No. 11 back heading.

We have, &c.,

J. & A. BROWN.

J. CROFT.

## No. 25.

The Examiner of Coal-fields to The Manager, Browns' Colliery.

Sir,

Coal-fields' Office, Newcastle, 2 June, 1882.

In acknowledging the receipt of your letter of the 31st ultimo, I beg to inform you that the matter referred to therein, does not appear to be one calling for the interference of this Department, and that I am of opinion, as Manager of Browns' Colliery, you ought to be able to use your own discretion as to whether the place is safe for men to work in it with a naked light. My opinion is, as I told you when I last visited the colliery, that it would be safer to use brattice-cloths in Nos. 10 and 11 headings, as the feeders of gas which you are meeting with in the No. 10 heading district are such as may at any time become more dangerous and numerous; and if you refer to the evidence given on your behalf at the Newcastle Police Court by Mr. Croudace, and generally agreed to by Mr. Turnbull and Mr. Nielson, you will find that, in "his opinion, there was a reservoir of kerosene shale supplying the gas-feeders to the Minmi Colliery, and it was quite possible for blowers of gas to displace tons of coal, and set fire in a few hours great quantities of inflammable gas." You should therefore spare no expense in taking every precaution to drive the heading and the bords containing "blowers" or "feeders of gas" in the No. 10 district, so that the lives of the men working therein and adjacent thereto may be protected as far as practicable.

2. The Act and special rules are specific in defining your duties and mine where an accumulation of inflammable gas is found to exist, and strict attention to the Act and special rules will save you and me a great deal of unnecessary trouble.

I have, &c.,

JOHN MACKENZIE,

Examiner of Coal-fields.

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No. 26.

## Telegram from The Inspector of Collieries to The Examiner of Coal-fields.

Minmi, 28 August, 1883.

FIRE at Browns' Colliery in No. 8 District serious. Now turning water from creek into furnace shaft. Neilson and Croudace here. I will remain here till late to-night.

JOHN DIXON,  
Inspector of Collieries.

No. 27.

## The Inspector of Collieries to The Examiner of Coal-fields.

Sir,

Glebeland, 29 August, 1883.

I beg to state that I should have been in Newcastle to-day, but owing to its being so late last night when I arrived from Minmi I could not get the accidents at Lambton investigated, so that I had to go to Lambton this morning, and am now busy with reports of accidents. As I telegraphed yesterday the fire in Browns' Colliery is a very serious matter, owing to gas being in the mine. The manager and myself penetrated as far into the workings yesterday as we could get for smoke, but no one can tell the extent of the fire. The creek was turned into the furnace shaft last night, but I fear that enough water will not be got to drown the fire out. Mr. Croudace went to Sydney last night, but will be back to-morrow (Thursday) morning, when he will go on to Minmi again. I left Mr. Neilson at the mine when I came away last night. He will be there again to-day. Unless you instruct me to the contrary, I intend going to Minmi again to-morrow morning, as I am most anxious about the matter, for I am afraid the gas will force its way out, as the workings fill with water. I most heartily wish you may be well enough to go to-morrow also, as your advice would be valuable. Would you kindly send reply by the bearer, for, if you are sufficiently recovered to go, if you take a buggy, I should like to ride up with you; if not, I shall take the early train, as my horse is lame.

I have, &c.,  
JOHN DIXON,  
Inspector of Collieries.

No. 28.

## Telegram from The Inspector of Collieries to The Examiner of Coal-fields.

Hamilton, 20 August, 1883.

JUST arrived from Minmi. Things are no worse. Will be in Newcastle to-morrow (Friday) morning.

JOHN DIXON,  
Inspector of Collieries.

No. 29.

## Telegram from The Inspector of Collieries to The Examiner of Coal-fields.

Wallsend, 3 September, 1883.

FIRE in Minmi. The same will have furnace clear to-night. Will not go to-morrow unless instructed by you.

JOHN DIXON,  
Inspector of Collieries.

No. 30.

## Telegram from The Inspector of Collieries to The Examiner of Coal-fields.

Hamilton, 4 September, 1883.

THE Colliery Managers are going to Minmi to-day. I am also going, and will let you know the result this evening.

JNO. DIXON,  
Inspector of Collieries.

No. 31.

## Telegram from The Inspector of Collieries to The Examiner of Coal-fields.

Hamilton, 4 September, 1883.

FIRE about the same in number (8) eight. Nearly all out around the furnace. No sign of gas. Managers going again on Thursday next. All safe so far.

JOHN DIXON,  
Inspector of Collieries.

No. 32.

## The Inspector of Collieries to The Examiner of Coal-fields.

Sir,

Glebeland, 5 September, 1883.

My telegram yesterday evening would let you know that the fire at the furnace in Brown's Colliery was about mastered. I now beg to state that when I left Minmi yesterday things at the Colliery were beginning to look better, inasmuch as the workings in No. 8 were a great deal cooler, and we could get down to No. 5 door yesterday, which we could not do on Monday, owing to the terrible smoke. No. 8 is throwing off a great quantity of black damp, which will tend to put the fire out. I have not been able to find the slightest trace of inflammable gas as yet in the vicinity of the fire, and, in my opinion, the active flame in No. 8 is extinguished, but, of course, there is a great smouldering in the places where the water has not yet reached. I believe that the return from No. 10 district is now blocked

blocked with water, and now is the time the greatest care will need to be exercised in watching for the slightest sign of gas from No. 10. Before leaving on Monday night I got the overman to leave a lighted safety-lamp below where the men were working at the furnace, and cautioned the man in charge of the night shift (John Morgan) to take a walk down about every hour to see that all was safe. On going back yesterday I found the safety-lamp still in the same place, and was told that my request had been complied with. Every precaution so far has been taken to keep every one safe, and I hope soon to be able to state that the fire in No. 8 has been completely mastered.

I further beg to state that I intend going to Brown's Colliery again to-morrow unless I get instructions from you to the contrary, as the danger is not yet passed, and I feel most anxious until I know that all is right.

I have, &c.,

JOHN DIXON,  
Inspector of Collieries.

No. 33.

The Inspector of Collieries to The Examiner of Coal-fields.

Sir,

Glebeland, 17 September, 1883.

I have the honor to report that I visited Brown's Colliery to-day, and found that the fire near the furnace had been completely mastered, as there is now no sign of fire in that vicinity. The furnace has been to some extent repaired, and a fire lighted therein in order to restore ventilation. A road has been made into No. 8 return, and men are engaged filling away the stone which has fallen from the roof. Traces of fire are found in the coal on either side of the heading as the stuff is filled; but a powerful hose is kept constantly at work, so that as headway is made by taking the fallen stone out the fire when seen is put out at the same time. In my opinion this is the best course that could have been adopted, for by this means the fire will be put out, and the return made ready for immediate use.

I have, &c.,

JOHN DIXON,  
Inspector of Collieries.

No. 34.

Telegram from The Inspector of Collieries to The Examiner of Coal-fields.

I AM off to Minmi this morning.

Hamilton, 17 September, 1883.

JOHN DIXON,  
Inspector of Collieries.

No. 35.

The Inspector of Collieries to The Examiner of Coal-fields.

Sir,

Glebeland, 11 September, 1883.

I beg to state that I am very little better to-day than I was when I saw you yesterday. If I feel well enough to-morrow I shall try to get to Minmi, and if I go I shall send telegram from Hamilton.

I have, &c.,

JOHN DIXON,  
Inspector of Collieries.

No. 36.

The Examiner of Coal-fields to The Miners' General Secretary, Hamilton.

Sir,

Coal-fields Office, Newcastle, 16 January, 1883.

I beg to acknowledge the receipt of your letter of the 8th instant, written by direction of the representatives of the Miners' Association, and inviting my attention to the number of men working in one split or current of fresh air in the Lambton headings at the Wallsend mine, a question which you inform me originated at a monthly meeting of the Wallsend miners some time ago, concerning which there was some discussion and dissatisfaction expressed, &c.

In reply, I beg to state that I forwarded your letter to Mr. Inspector Dixon for his report, which I received yesterday, and from which it appears to me that the fourth general rule, section 12, of the Coal Mines Regulation Act, 1876, is complied with in the Lambton headings in the Wallsend mine.

Mr. Dixon's report is as follows:—"I entered the 1st heading from the main tunnel, Bossfield's side of the mine. Here I measured the air, and found it entering the heading at the rate of 7,680 cubic feet per minute. This current of air supplies 66 men, 5 boys, and 3 horses; total, 74 (that is when the men are all in together). But as some of the front shift men had gone home, I found only 50 men, 5 boys, and 3 horses; total, 58. I measured the current of air again at the far end of the front heading, and found it to be about 7,000 cubic feet per minute. This current of air now leaves the front heading and passes through a stenton, where it is met in the middle heading by a current of fresh air, about 8,000 cubic feet per minute, coming along the middle heading from the main engine-bank. The two currents (that is, the 7,000 cubic feet of air from the front heading and the 8,000 cubic feet in the middle heading) now mingle together and form one current of about 15,000 cubic feet of air per minute. This current of air passes through another stenton into the back heading workings, where it serves about forty-five men, boys, and horses, after which it passes to the furnace."

With respect to the concluding portion of your letter, in which you call my attention to apparent defects and want of compliance with the Coal Mines Regulation Act, and say that the miners regret, through their representatives, that there is not more permanent and satisfactory ventilation throughout the mines, I have to request that you will, as early as possible, be so good as to specifically mention the collieries in this district which you refer to.

I have, &c.,

JOHN MACKENZIE,  
Examiner of Coal-fields.

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No. 37.

The Examiner of Coal-fields to The Miners' General Secretary, Hamilton.

Sir,

Coal-fields Office, Newcastle, 4 June, 1883.

I beg to inform you, in reference to your letter of the 30th ultimo, that on the 22nd idem Mr. Inspector Dixon made a thorough inspection of the East Waratah Colliery, and found and reported to me that the ventilation was below the requirements of the Coal Mines Regulation Act, giving me very full particulars thereon. He also informed me that upon coming out of the workings he saw the manager, and they agreed to make a thorough search as to the cause of the deficient ventilation, with a view of having it remedied at once; and that the manager gave orders in his presence for the necessary alterations to be made; and he (Mr. Dixon) hoped to see a great change for the better in the course of a few days.

2. Mr. Dixon states in his report,—plenty of timber on hand for the miners' use.

3. With reference to the concluding paragraph of your letter of 30th ultimo, as to the urgency of my attention being drawn thereto, I must conclude that you had not then been made acquainted with the energetic steps taken on the 23rd idem, *re* ventilation of the mine.

I have, &amp;c.,

JOHN MACKENZIE,

Examiner of Coal-fields.

No. 38.

The Examiner of Coal-fields to The Manager of Brown's Colliery, Minmi.

Sir,

Coal-fields Office, Newcastle, 2 June, 1882.

In acknowledging the receipt of your letter of the 31st ultimo, I beg to inform you that the matter referred to therein does not appear to be one calling for the interference of this Department, and that I am of opinion, as manager of Brown's Colliery, you ought to be able to use your own discretion as to whether the place is safe for men to work in it with a naked light. My opinion is, as I told you when I last visited the colliery, that it would be safer to use brattice cloths in Nos. 10 and 11 headings, as the feeders of gas which you are meeting with in the No. 10 heading district are such as may at any time become more dangerous and numerous; and, if you refer to the evidence given on your behalf at the Newcastle Police Court, by Mr. Croudace, and generally agreed to by Mr. Turnbull and Mr. Neilson, you will find that in "his (Mr. Neilson's) opinion there was a reservoir of kerosene shale supplying the gas feeders to the Minmi Colliery, and it was quite possible for blowers of gas to displace tons of coal, and set free in a few hours great quantities of inflammable gas" in the No. 10 district, so that the lives of the men working therein and adjacent thereto may be protected as far as practicable.

2. The Act and special rules are specific in defining your duties and mine where an accumulation of inflammable gas is found to exist, and strict attention to the Act and special rules will save you and me a great deal of unnecessary trouble.

I have, &amp;c.,

JOHN MACKENZIE,

Examiner of Coal-fields.

No. 39.

The Examiner of Coal-fields to The Miners' General Secretary, Hamilton.

Sir,

Coal-fields Office, Newcastle, 31 January, 1885.

Referring to the acknowledgment on the 15th instant of yours of the 14th idem, informing me that you had been instructed by the miners of the Newcastle Coal-mining Company's Colliery to invite attention to the state of the ventilation of that colliery, as shown by an enclosed check inspectors' report, I beg to inform you that, in accordance with my instructions, Mr. Dixon has furnished a report, from which it appears that on his making an inspection on the 16th instant and an examination of Nos. 6 and 7 headings (first places complained of) he found the current of air, which at the time of the check inspector's report is said to have been only 2,976 cubic feet of air per minute for forty-seven men, &c., to be 5,800 cubic feet, &c.

That in No. 5 district, instead of 3,428 cubic feet per minute for forty-nine men, &c., as found by check inspectors on 8th inst., he got 4,655, or 300 cubic feet of air per minute short of the minimum required by the Act; and that there are three bords, or six men, at the lower end of No. 1 horse-road, who, although working in No. 1, are on No. 5 current to all intents and purposes; therefore, if six more men are added to No. 5 it would make a further deficiency of about 600 feet.

In No. 1 district the check inspectors showed a current of about 5,040 cubic feet of air per minute for fifty-two men, &c., but taking six men from this number, and adding them to those in No. 5 split, it makes a total of forty-six men, &c., in No. 1, and therefore does not show a deficiency on the minimum required by the Act. Mr. Dixon found the current on the 16th to be about 5,000 cubic feet, &c.

In No. 10 district he found the total intake current to be about the same as that given by check inspectors, which showed a deficiency of about 300 cubic feet for forty-eight men, &c. Mr. Dixon further states that he made two very careful measurements of the total current of air at the furnace, and both times only got 43,000 cubic feet of air per minute, although there was a very large fire on at the time, but that the under part of the furnace was choked up with dirt at the shaft end. On the 8th inst. the check inspectors got 64,600 cubic feet at the furnace, and yet, strange to say, they got a deficiency in the workings.

2. Upon Mr. Dixon coming to the top of the pit on 16th instant he saw the manager and overman and told them the state of the pit, and, its being Friday, he requested the manager to accompany him round the workings on the following Monday. The manager asked for a couple of days, in order to look through the returns, inspect stoppings, and have the furnace cleaned, &c.; Mr. Dixon advising him to enlarge mouth of intake to No. 5 district, and Mr. Ross promising to give his personal attention to the whole matter, and meet him at the pit on the 21st instant.

On

On the 21st instant Mr. Dixon and the manager went down the pit, the latter informing Mr. Dixon that since his inspection he and the overman had travelled the various returns, two men had been plastering the stoppings whenever a leakage was discovered, the furnace had been cleaned out, and the airway to No. 5 had been enlarged at the mouth of the intake. They then went through the workings together, with the following results.—

Nos. 6 and 7 headings, about 5,850 cubic feet of air per minute for forty-seven men, &c.

No. 5, about 6,200 for fifty-four men, &c. (12 ft. more area in front of this intake since 16th.)

No. 1, about 5,400 for forty-six men, &c.

No. 10, about 5,400 for forty-eight men, &c.

And at furnace, 63,180 cubic feet of air per minute.

Mr. Dixon also saying that "there were a few matters of detail in connection with the circulation of current of air in Nos. 6 and 5 that I drew the manager's attention to when we were in pit together, which he promised to attend to at once."

Mr. Dixon also says the No. 6 district is the same as that we had trouble with a good while ago, which was put right by holing into the No. 5, but since then, in November last, another creep came on and blocked up the whole district, and the consequence is that a pair of headings have again to be driven in the solid, in order to open out No. 6 district to No. 5, and the trouble will be, as on the last occasion, to force the current of air into the said headings.

3. From Mr. Dixon's report it appears that the matters complained of have been remedied, and that the provisions of the Coal Mines Regulation Act respecting the same are now complied with.

I have, &c.,

JOHN MACKENZIE,

Examiner of Coal-fields.

#### No. 40.

The Examiner of Coal-fields to The Miners' General Secretary, Hamilton.

Sir,

Coal-fields Office, Newcastle, 31 January, 1885.

Referring to my letter of the 23rd instant, and yours of the 22nd idem, inviting my attention to an enclosed communication with reference to the alleged employment of a boy under age at the Co-operative Colliery, I beg to inform you that, in accordance with my instructions, Mr. Dixon has furnished me with a report, from which it appears that Mr. Fletcher, jun. (manager), did not know of any boy under age being employed at the colliery.

2. That the overman said a man named James Towther told him, on the 25th instant, that a boy named Alexander Bain, who had started work in the colliery, was under the age of 13 years, and the overman replied, "If that be the case I shall tell the boy's father on Tuesday to keep the boy at home."

3. That on making inquiries Mr. Dixon discovered that "the boy Bain is step-brother to A. B., and the elder Bain is the step-father, and it appears some time ago William Bain asked for employment for his son Alexander, but did not succeed, as there was no vacancy. However, he (Bain) took the boy into the pit a few times, not to work, but to get used to the mine with his father, and on that particular day one of the trapper-boys stayed at home, and young Bain was set to mind the door. It happened so again the next day, hence the employment of the boy Bain, who has only been at work eleven days altogether, and this day will be his last for some time, as both the manager and overman are much annoyed to think that such a thing has happened. The overman gave the boy employment, and he told me that he had not the slightest suspicion of the boy being under age until his attention was drawn to the matter by Towther."

I have, &c.,

JOHN MACKENZIE,

Examiner of Coal-fields.

#### No. 41.

Sir,

Coal-fields Office, Newcastle, 13 October, 1886.

Referring to your blank-cover communication of the 9th instant, forwarding me a letter addressed to Mr. Creer from the Miners' General Secretary, dated the 25th ultimo., complaining of an infringement of section 30 of the Coal Mines Regulation Act by the colliery manager of the Greta Colliery, accompanied with a letter from Mr. Creer to the Hon. the Secretary for Mines, with the Minister's minute thereon, requesting me to make a searching inquiry into the alleged grievance with the least possible delay, I have the honor to report as follows:—

That I went to the Greta Colliery yesterday and interviewed Mr. M'Donald, the colliery manager, Daniel Cauty (Miners' Secretary and Miners' Inspector), and Joseph Unsworth, miner, and chairman of the Greta miners, from whom I obtained the following particulars as to the grievances complained of to Mr. Curley, by the representatives of the Miners' Association:—

1. As to the suspension for two days "of the check inspectors," Mr. M'Donald answered,—That he did not suspend them, pending an investigation, for causing to be printed and published a false report of the state of the mine. The false statements were as to the number of splits and number of men in the different splits, and neglecting to hand him a written report of the inspection.

2. As to the statement made, "That upon inquiry at the office for a book in which to enter the report the clerk answered there was none," Mr. M'Donald answered,—That he did not know about their asking for it until after he had suspended them, and that the Miners' Inspectors had not, since he had been at the colliery (twelve months) before, asked for a book in which to enter their report; but to the best of his belief the inspection of 27th August was the first one made by the Miners' Inspectors since he was manager at the colliery.

3. As to the statement,—That upon requesting if they (Miners' Inspectors) could go into the mine in a certain way, they were informed they could not by the manager.

Then follows evidence of Cauty and Unsworth.

I am of opinion that the colliery manager has violated section 30 of the Coal Mines Regulation Act, and, as he maintains that he was justified in the action he has taken, will be glad to see the matter tested, and that he does not fear the result. I shall institute proceedings against him at once, unless otherwise instructed by the Minister.

Enclose special report of Inspector Dixon, accompanied by manager and Miners' Inspectors, made at request of Miners' General Secretary, from which it will be seen that the Miners' Inspectors' aneroidometer is not to be depended upon, and that the ventilation of the mine was up to the requirements of the Act when the joint inspection was made.

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No. 42.

The Examiner of Coal-fields to The Miners' General Secretary, Hamilton.

Sir,

Coal-fields Office, Newcastle, 1 November, 1886.

With reference to an interview a deputation, consisting of the Miners' General Secretary, General Chairman, and Treasurer, had with the Honorable the Secretary for Mines, respecting the proper ventilation of collieries, in March last—subsequently to which the Minister informed the deputation, through you, that while he was prepared to see that the officers of the Department exercised the utmost vigilance in all matters relating to the protection of the life and health of the miners—he was anxious to secure the co-operation of the miners between the visits of the Inspectors, in order to promptly remedy any defect that might exist in regard to the ventilation of the mines, and that he would be glad if the Miners' Association would take such steps as would lead to the Miners' Inspectors at once reporting to the person in charge of the colliery any defect which Inspectors might discover during their inspection; and in the event of the owner or person in charge of the colliery not proceeding at once to remedy the defect complained of, they should report the matter to the Examiner of Coal-fields; and that if they would do this, he would issue instructions for an inspection to be made by the Examiner or an Inspector of Collieries not later than the next day, in the presence of the manager, or the person in charge of the colliery, and the Miners' Inspectors.

Since this decision was arrived at and communicated to you, alleged deficiencies of ventilation at some of the collieries have been reported by the Miners' Inspectors, and upon myself or the Inspector proceeding to the mine to investigate the complaint we have been informed by the manager and Miners' Inspectors that the Miners' Inspectors had not reported to the person in charge of the colliery the defects which they had discovered during their inspection, so as to have given him an opportunity of at once applying a remedy, if necessary.

Under these circumstances, I am directed to request that, if you have not already instructed the Miners' Inspectors at all the collieries how to act before communicating with me as to deficient ventilation, you will have the goodness to do so at your earliest convenience, and inform me whether it is the intention of the miners to assist the Department in the manner indicated by the Honorable the Secretary for Mines.

I have, &c.,

JOHN MACKENZIE,  
Examiner of Coal-fields.

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No. 43.

The Examiner of Coal-fields to The Miners' General Secretary, Hamilton.

Sir,

Coal-fields Office, Newcastle, 6 November, 1886.

In reply to yours of the 5th inst., I beg to inform you that the collieries referred to in my letter of the 1st instant are Greta, Newcastle Coal Company, Lambton, and Wallsend Collieries.

I have, &c.,

JOHN MACKENZIE,  
Examiner of Coal-fields.

Received and answered, on January 4th, 1887, letter from Greta Miners' Secretary; received and answered, on 15th January, 1887, letter of 12th, from Glebe Miners' Secretary; received and answered, on March 2nd, 1887, letter of 28th, from Burwood Miners' Secretary; received and answered, on June 13th, 1887, letter from Burwood Miners' Secretary.



1887-8.

LEGISLATIVE ASSEMBLY.

NEW SOUTH WALES.

## NORTHUMBERLAND COLLIERY.

(REPORT IN CONNECTION WITH FATAL ACCIDENT TO JOHN MANSFIELD.)

*Ordered by the Legislative Assembly to be printed, 29 May, 1888.*

[Laid upon the Table of the Honorable the Legislative Assembly of New South Wales by the Secretary for Mines, "A copy of the Report and Evidence in connection with the fatal accident to John Mansfield at the Northumberland Colliery."]

### REPORT and Evidence, re fatal accident to John Mansfield at the Northumberland Colliery.

Sir,

Newcastle, 16 April, 1888.

I regret to report a fatal accident which occurred to a sinker named John Mansfield, on Monday evening last, 9th instant, in the Bryant sinking shaft, belonging to the Northumberland Land and Coal Company (Limited).

2. Having proceeded to the colliery on the following day to obtain some sections, on arriving on the ground I was informed of the accident, and proceeded to the abovenamed pit and made an investigation.

3. The pit, which is in course of sinking, is now about 430 feet in depth from the surface and 17 feet in diameter. Bands of coal and shale have recently been passed through and have been timbered; between this timbering, which is within about 6 feet of the shaft bottom, and the length of timbering above, it is about 50 feet of post stone, which is considered sufficiently strong to stand without timber. Prior to the accident all the soft strata in the pit was timbered, and there is nothing exposed except the conglomerate and post rock.

4. I descended the shaft in a cradle, accompanied by the Manager, Mr. Crawford, the master sinker, Mr. McGarrity, the master sinker of the night shift, Mr. Laverick, and the chargeman, Mr. J. Brooks, and as I slowly descended I made a careful examination of the sides where the walls were bare, and discovered a place where, to all appearances, a piece of stone had recently fallen away; this fresh mark measured 2 feet 6 inches by 14 inches at the deepest part and 2 to 2½ inches thick in its thickest part, and "featheredged" both ways; the position was about 12 feet below the second lot of timbering and about 70 feet from the bottom. I afterwards was shown a piece of stone brought out of the shaft by one of the sinkers. This stone was of irregular shape, 14 inches long, about 12 to 14 inches in width, and 2 to 2½ inches thick in the thickest part, "featheredged" in each direction, and weighing 14 lb. This stone, on being placed against the mark in the shaft, appeared to correspond exactly, except the "feather edges," which had been broken off in the fall.

5. From statements made to me by James Brooks, the chargeman of the shift, Wm. Mansfield, a sinker, brother of the deceased, Phillip Reynolds, a sinker, all of whom were in the bottom of the shaft at the time of the accident, I gathered the following particulars:—

6. The shift, consisting of ten sinkers and one chargeman, went down the pit at 3 o'clock on the afternoon of the day of the accident, the chargeman (Brooks) examining the sides of the shaft as he slowly descended, as shots had just been fired by the previous shift. After he (Brooks) had satisfied himself that all was safe he got all the men under his charge into the bottom, and they commenced work, filling the loose stone, and drilling holes for further blasting. They worked on this till 8 p.m., by which time eight holes had been drilled and charged; these holes were fired by the chargeman, Brooks, after which the whole of the shift sat down to supper on the pit-top. After an interval of half-an-hour, Brooks, the chargeman, according to the rules, was the first to descend the pit, in company with three of the sinkers under his charge. They thoroughly examined the shaft in their descent, keeping a special look-out for loose stones which might have been thrown up by the shots and lodged in the cribbing, and also for anything which might have the appearance of being given off where the walls were exposed. Whilst thus examining

examining the shaft a sinker, named Phillip Reynolds, thought he saw a loose piece of stone in the post bed; the bucket was immediately stopped by the chargeman, and the spot indicated was minutely examined by the men in the bucket, and no appearance of any loose stone could be found. Believing all to be secure, on reaching the bottom the chargeman gave the signal for the remainder of the men to descend, which they did almost immediately. When the whole of the men were in the bottom they took their respective places—some filling dirt into the bucket, which was then on the bottom. The empty rope was sent away, and returned with the bucket containing tools. The deceased and Reynolds commenced taking the tools out of the bucket, which had just landed on the bottom of the shaft. In the meantime the bucket, which had already been loaded with stone, was attached to the rope, and the signal given by Brooks the chargeman for it to be raised; it was raised some 6 feet from the bottom so as to be steadied for the ascent. Whilst at this point something fell down the shaft, and struck Reynolds on the right shoulder and the deceased on the head. It was then discovered that John Mansfield had been knocked down, and was lying in the sump with a fearful gash in his head. The master sinker, Laverick, who was on the pit top at the time, was at once signalled for, and descended the pit, and had the body of the deceased brought to the surface as quickly as possible. After the removal of the deceased from the pit bottom the chargeman Brooks made a search in the bottom, with a view of finding out what had caused the accident, and discovered the piece of post stone above described, which he at once concluded had fallen from the post bed, as the rest of the stuff in the bottom at that time was black shale. The fact of this stone corresponding with the mark in the post is, to my mind, conclusive evidence that this stone caused the accident.

7. The District Coroner, G. C. Martin, Esq., J.P., held an inquest on the body of deceased at Fassifern, commencing on Wednesday last, 11th inst., and continued on the following day, Thursday, 12th inst. I attended the inquest and heard all the evidence, and I fully agree with the verdict of "accidental death," as returned by the Jury.

"Verdict:—We find that the said John Mansfield, at Fassifern, in the district of Newcastle, in the Colony of New South Wales, on the 9th day of April, 1888, was working in the Bryant pit at the Northumberland Coal Company's mine, was struck down and almost instantaneously killed by a fall of post rock. We further find that his death was purely accidental, but we wish to add that we consider a cradle should be used for examining the mine when necessary to be examined, and that should be at least once a week. We also wish to recommend to the Government of New South Wales the necessity of having printed rules for regulating the sinking of shafts in this Colony."

8. It will be observed that certain recommendations were made by the Jury on this occasion. 1st. That the examination of the shaft should be made from a cradle when necessary, which should be at least once a week. With this I also fully agree, and in my presence the following order was given by the Manager on Thursday:—

"A representation having been made by the chargeman that they would like the workmen to examine the shaft sides for themselves, I now authorize that any number of workmen, not exceeding four, with one chargeman, who will not interfere beyond giving the necessary signals, shall examine the shaft from top to bottom and report the condition of the same in the diary which is kept in the office of the colliery for the purpose, and the Northumberland Coal Company will pay the men for the examination so made."

In reference to the allusion to special rules in this verdict, in my opinion it is simply meant that the Government should frame a set of special rules for all sinking pits in the Colony. Action in this matter has already been taken by this Department, and the excellent special rules in use at the Northumberland new winning is the result.

I herewith beg to forward copy of evidence, which evidence clearly shows that every special rule was strictly observed.

9. In conclusion, I beg to state that, in my opinion, there is no blame attributable to owner or agent in connection with the accident.

I have, &c,  
THOMAS L. BATES,  
Inspector of Collieries.

[Enclosure.]

EVIDENCE taken at an inquest held at Fassifern, on April 11th and 12th, before G. E. Martin, Esq., J.P., Coroner, on the body of John Mansfield, a sinker, who was killed in the Bryant Pit, belonging to the Northumberland Coal Company, on April 9th, 1888.

*By the Coroner:* Wm. Mansfield, a sinker, employed at the Northumberland Coal Company's Mine, Fassifern, brother of deceased, identified the body as that of his brother, John Mansfield; on Monday night, April 9th, about 8 o'clock, I went down the Bryant Pit with the other sinkers, and a bucket of tools was sent down after us; the men in the shaft commenced filling the other bucket with stone; the bucket was then drawn up to the steadying place and then sent up; heard a man sing out, but could not tell what he said, and went to his assistance thinking he was hurt; when going to this man, saw my brother lying in the sump, and said, "My God, his brains are knocked out; I believe it is a stone from the bucket"; the master sinker came down whilst I was holding my brother.

*By Mr. Dixon:* Have been working here about eight months, and have worked in both pits; know there are printed sinking rules, and am acquainted with them; about half an hour before I went down a shot was fired in the pit; it is usual to examine the sides of the shaft after shot firing, and was done in this instance; ten or eleven men were at work in the bottom of the shaft at the time of the accident; I thought I was as safe in the bottom of the shaft as on this floor, and thought there was no danger; have had some experience in sinking in the district as well as here; have never had cause to complain as to the state of the shaft since I have been in the pit; know a stone struck the deceased, because I saw the stone afterwards; did not see it strike him or know where it fell from.

*By Mr. Crawford:* The stone which I saw on the pit top was a "post" stone, and was told that it was the stone which killed my brother; I know there are 50 feet of "post" in the shaft.

*By the Jury:* Are now sinking through black shale; the stone which I saw was light grey; cribbing comes between the "post" stone and the black shale; there will be about 20 feet of cribbing between; the bucket was travelling up the shaft at the time of the accident; as far as I know the bucket was examined before going up the shaft, but I have nothing to do with examining it; the chargeman was at the bell wire at the shift bottom at the time of the accident; I do not know who found the stone or who brought it up; believe the shaft is 17 feet in diameter; know nothing about wrong signals being given as I was at the other side of the shaft; three men go down with the chargeman when examining the shaft; I think a proper examination cannot be made by men in a bucket; there was a bit of powder smoke in the shaft when I went down.

*By the Coroner:* James Brooks, a sinker, employed at the Northumberland Company's mine, as chargeman of the shift of sinkers; I, with ten others, went to work in the Bryant shift at 3 o'clock on Monday afternoon, April 9; relieved the other chargeman, and had no complaint from him; it is a rule of the chargemen to acquaint one another of any danger when they meet, and I heard of none; after the other chargeman had come out, having fired three shots, I and three others

got into the bucket and went down the shaft, examining as we went down; cleared away all loose stuff, and made the shaft perfectly safe; after getting to the bottom sent the bucket up for the remainder of the men; after they were all in the bottom, commenced sending dirt away and boring holes; when we got the dirt sent out, set the remainder of the men boring till we had eight holes bored, and ready for firing; sent two lots of men up; three men and myself stayed behind to fire four holes; fired them; returning back, and fired four others; came up and went to "tucker"; after an interval of half an hour three men and myself went down the shaft and examined it thoroughly as before; got into the bottom where there was a great deal of smoke; sent for the remainder of the men; got them all down; sent the empty hook away for the other bucket, which had tools in; lowered it into the bottom; fastened a full bucket of dirt on to the rope; rapped it up to the steady mark; the driver did not take it up quite high enough; rapped three and a "cock-up," which meant "bend up fairly"; the bucket was raised a bit too high, and while rapping "lower the bucket," I heard a man call out his shoulder was hurt; spoke to him and asked him if it was hurt much; he said "yes"; this man was Phillip Reynolds; I then heard someone call out "Jack is killed"; went forward and helped others to raise him up; then rapped five for the master sinker who came down immediately; we then lifted John Mansfield into the bucket; the master sinker and three others took him up to the top; I remained in the bottom to see the rest of the men out; a thought occurred to me to ask some of the men to come and look for the stone; we looked and found one in the bottom of the pit, different to any class of stone we have at present in the bottom; we all came to the conclusion that it had come from above, and that it had been the stone which had struck John Mansfield and Phillip Reynolds; took the stone up myself in the last bucket, and put it on the pit top, and showed it to the master sinker; this stone came from a place in the pit about 70 feet above where we were working; the stone produced is the one I brought up out of the pit.

*By Mr. Dixon:* I had charge of the afternoon shift; have been working here about eight months; been chargeman here between six and seven months; when I sent the loaded tub away I steadied it properly before sending it up, and saw that the bottom of the bucket was clear of all stones, clay, &c., and that there was nothing projecting over the side; it is my duty to examine the sides of the shaft, and I did so just prior to the accident; do not examine the shaft except after shot firing, unless anything should fall, or think it necessary to do so; the master sinker examines the shaft every shift; it is customary to examine the shafts on a Sunday night by the chargeman, with one or two men; I examined it last Sunday night week; on that night I examined the post-bed, and am sure the stone produced came from it; there is about 50 feet of post exposed between the cribbing; the stone fell out about 12 or 14 feet below the cribbing; there is a little over 200 feet of timbering in the shaft, in three different lengths; the present depth of the Bryant pit is 430 feet; where post-stone occurs in a shaft it is not usual to timber; I always examine the shaft from the bucket, with a long scraper to push the bucket over to the side; cannot tell whether the sides are as safe when examining from a bucket as from a cradle; I never complained to the manager that I could not examine the shaft as well from the bucket, but it has been talked about amongst the men, who said that a cradle ought to be used; no obstacle has been thrown in my way by the manager or master-sinker in examining the shaft, and if any man in the shaft wished it examined I have always done so; no remarks were made by the men in the bottom of the shaft about the state of the shaft at the time of the accident, and, as chargeman of that shift, I considered the shaft perfectly safe; I am sure I have never been interfered with in any way by the management.

*By the Jury:* When we were going down the shaft on the Monday evening one of the men said he thought he saw a stone loose; I called "hold"; we went round the pit with the scraper; the man said he might have made a mistake, as there was a great deal of smoke in at the time; the bucket might travel a foot after calling "hold" before stopping.

*By Mr. Dixon:* This remark was made when passing the post-bed, and the smoke was very thick; I think air alone has forced the stone out.

*By the Jury:* The above stone cannot have been loose, and I do not think anything touched it; the cradle is only used in the shaft when timbering, and was not in the shaft on Monday last; about three months ago I complained to the master-sinker that the shaft was not safe, and the men were discontented; he came at once to the shaft, and we both took distances for timber and timbered it; since then there has been no complaint; the stone-post was both walled and ballasted; I have never seen posts feather off unless mixed with other stone; the Bryant pit is as safe, as well timbered, and as well looked after as any pit I have ever seen in my life.

*By the Coroner:* Dr. Charles Hedley, a duly qualified medical practitioner; I have this morning examined the body of John Mansfield; I found a large wound on the back portion of the top of the head, through which the brain was protruding, the wound being through the skin, bone and brain matter down to the base of the skull; the wound must have caused almost instantaneous death; possibly he may have breathed a few moments; the injury must have been caused by a heavy sharp body falling on his head with very great violence; the stone produced falling from a height would cause such a wound; there were no other marks of injury upon the body; I previously knew the deceased as a thoroughly healthy man, and knew that his name was Mansfield.

*By the Coroner:* Phillip Reynolds, a sinker, employed at the Northumberland Coal Company's mine; I went down the Bryant pit on Monday afternoon, at 3 o'clock, and examined the shaft with the chargeman and two others; after "crib" went down again, about 8 o'clock, the chargeman, James Urwin, Robert Goodson, Phillip Reynolds being in the bucket; we examined the shaft from top to bottom; when we got to the bottom we waited for the other men to come down; as I was coming down the pit very slowly I thought I saw a piece of stone, and told Brooks, the chargeman, of this; he stopped the bucket and looked for it, but could not find anything, and I was well satisfied to go down; the bucket did not go far after my telling the chargeman of the piece I thought I saw before it was stopped; it was then pushed over to where I thought I saw the loose stone, but could not find it; when the remainder of the men came down we sent away the hook and commenced filling stone in the bucket which was at the bottom; this bucket was just being rapped way from the bottom, and my brother was handing me the tools out of the other bucket, when something fell down, hitting me on the shoulder, and knocked me up against the side of the shaft; I then heard that my brother had been killed, and saw him put in the bucket; the body viewed by the Jury is the same I saw put in the bucket.

*By Mr. Dixon:* The loose piece I thought I saw was about half-way down the bed of post; have been working at this mine eleven weeks; this is my first experience in sinking; have had no reason to complain, or I would not have gone down; the bucket was swinging a bit when it left the bottom; think the bucket was about 6 feet off the bottom when I was struck; was well satisfied that the chargeman knew his duty, and I was satisfied to work with them.

[Inquest adjourned till the following day.]

*By the Coroner:* Thomas Laverick, master sinker at the Northumberland Coal Company's mine; I examined the Bryant pit at 5 20 p.m. on Monday, 9th April, from top to bottom, in going down and in coming up; to my idea it was as safe as could be; when it is my shift I examine the shaft after every shift of the sinkers; I examined the post rock on Monday, 9th April, and found it quite safe to my knowledge; did not see anything to cause me to think it was unsafe; did not know there was a man killed till I got down the shaft after being rapped for.

*By Mr. Dixon:* Have been a sinker 18 to 20 years, and had experience in the old country; have been here since the commencement of the works; was chargeman of a shift until recently, when I was put in charge as master sinker of the night shift; made a thorough examination of the Bryant pit about six or seven weeks ago; if necessary the shaft was timbered when we found any beds of soft stuff; there is about 240 feet of timber in the shaft, out of 435 feet of total depth; when I examined the shaft I did so from the large cradle; in my ordinary examination I examined the shaft from the bucket; and think it is possible to make a thorough examination of the sides of the shaft from the bucket by having two men in the bucket besides myself; am well acquainted with the sinking rules, and they are carried out every day in every item; no complaints have ever been made to me as to the unsafe state of the shaft; have had conversations with the chargeman about the cradle being used instead of the bucket for examining the shaft, and thought it would be more satisfactory to the men to have the cradle; have asked Mr. Crawford to allow me to take the cradle in; he got a cradle made last Tuesday; I spoke to him on the Monday night after the accident; the first time I spoke to him he got the cradle made; the big cradle was used in timbering, and has been on the ground all the time; the bed of post was 50 feet thick, and was a strong bed; have not seen a bed of post as strong, except "filtering" post, whilst I have been sinking; have never known a bed of post like this bricked or timbered in my experience; had not the slightest doubt about this post-bed being safe.

*By the Jury:* The piece of stone produced was found in the bottom of the shaft after the accident; I am certain it came out of the post-bed; I have noticed in other shafts pieces of post burst off by a blow, but never by itself after being left faced for a certain time; saw no trace of the stone having been weathered or winded; it looked to me as if it had come away freshly; cannot form any idea as to how the stone came away from the side; the stuff now being sunk through would not send up fragments more than 50 feet after shot firing; I generally sound the sides with a striking hammer or hack when examining the shaft; it would not be possible for a man to break a piece of stone like that produced off the face unless there

there was a flaw in the stone ; the large stone produced by the Jury was fast in the side, wedged in behind a stay ; tried to get it out two separate times, but could not move it ; I tried to take this stone out, which was below the conglomerate, and about 260 or 270 feet from the surface ; the stone was not put there, but was jammed by the prop ; do not know why it was taken out to-day, always considered it safe where it was.

*By the Coroner :* James Richards, sinker at the Northumberland Coal Company's mine ; I examined the shaft on Sunday night last, in company with Wm. Hardy ; I went down the Bryant pit at 8 o'clock, and returned to the surface at 11-20 ; went down and thoroughly examined the shaft ; this is done every Sunday night ; examined the post rock all over with a long-handled pick, and to the best of my knowledge found it safe ; if I did not I would not go to the bottom ; the piece of rock might have been shifted by a blow of air coming up the shaft.

*By Mr. Dixon :* In the night-time the shaft is much clearer than in the day ; there is more draught ; in my opinion I could not knock a piece of rock off the face like that produced, unless there was a flaw in it ; could not imagine the piece of stone produced getting a blow with anything ; have been a sinker twenty years in this and the old country ; never in my experience have I seen a bed of post bricked or timbered whilst sinking the shaft.

*By Mr. Moore :* Had I found any dangerous post I should have come out at once and informed the master sinker.

VERDICT OF THE JURY :

We find that the said John Mansfield, at Fassifern, in the District of Newcastle, in the Colony of New South Wales, on the 9th day of April, 1888, was working in the Bryant pit at the Northumberland Coal Company's mine, was struck down and almost instantaneously killed by a fall of post rock. We find that his death was purely accidental, but we wish to add that we consider a cradle should be used for examining the mine when necessary to be examined, and that should be at least once a week. We also wish to recommend to the Government of New South Wales the necessity of having printed rules for regulating the sinking of shafts in this Colony.

1887-8.

LEGISLATIVE ASSEMBLY.  
NEW SOUTH WALES.

**SOUTH WARATAH COLLIERY.**

(PAPERS IN CONNECTION WITH THE INFLUX OF EXPLOSIVE GAS INTO.)

*Ordered by the Legislative Assembly to be printed, 29 May, 1888.*

[Laid upon the Table of the Honorable the Legislative Assembly of New South Wales by the Secretary for Mines, "Copies of papers in connection with the Influx of Explosive Gas into the South Waratah Colliery in February last."]

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No. 1.

Mr. Inspector Dixon to The Examiner of Coal-fields.

Sir,

Glebeland, 17 December, 1887.

I have the honor to report inspection of the South Waratah Colliery, on the 9th instant, as follows:—

At the time of inspection there were about 44 men, 6 boys, and 6 horses; total, about 56 men, &c., at work in the mine on one shift. The total quantity of air passing through the workings from the Flaggy Creek shaft was about 11,550 cubic feet per minute. Several bords have been turned away from the main road, about 400 yards from the bottom of Flaggy Creek shaft.

The work of holing the back heading and turning away headings for the winning out of more bords is also being carried on day and night.

(Please note.)

A heading has been commenced at right angles to the back heading to cut the old prospecting drive, which you will remember was driven when Mr. Green had charge of the colliery. This old drive is supposed to be a distance of about 80 yards from the Charles pit main road, and at the time of my visit about 60 yards had been driven. There was no person working in this heading at the time of my visit, as the men belonging to it were engaged in making an overcast on the back return. It is supposed that a considerable quantity of inflammable gas is lodged in the old drive, and when the heading which is approaching it was at work, the men worked two in a shift with safety lamps, and kept a bore 12 feet ahead

ahead of the face. I requested the overman (Mr. Ridley) to use every precaution in this matter, and, if possible, to hole the heading when the majority of the miners were out of the pit. This he (Mr. Ridley) promised to do, and also to give his personal attention to the matter until he was sure that all danger was past.

The main road was in good order throughout, and there was a plentiful supply of timber on hand ready for use.

I have, &c.,

JOHN DIXON.

Inspector of Collieries.

The Manager has promised to take all the necessary precautions in driving the new heading which is to cut the old prospecting drive supposed to contain a considerable quantity of inflammable gas.—  
J.M., 21/12/87.

The Under Secretary for Mines, B.C., 21/12/87. Submitted for the information of the  
Minister.—H.W., 29/12/87. Seen.—F.A., 30/12/87.

## No. 2.

### Mr. Inspector Dixon to The Examiner of Coal-fields.

Sir,

Glebeland, 11 February, 1888.

In my report, dated 17th December last, I stated that in the South Waratah Colliery, a narrow place had been commenced, at right angles to the back heading, to cut the old prospecting drive, which was driven when Mr. Green had charge of the colliery some years since, and that the old drive was supposed to contain a very considerable quantity of inflammable gas, &c. Since my December report, the narrow cross-cut has been driven a considerable distance, and, on Thursday last, the old drive was tapped by a borehole, the effects of which tapping I do myself the honor to give, as follows:—

2. On Thursday morning last, 9th instant, I proceeded to the South Waratah Colliery, to make an inspection of the workings, &c., and, on arrival at the colliery, I saw the overman (Mr. Thomas Ridley), who supplied me with the following particulars concerning the issue of gas from the bore which had taken place that morning. The cross-cut, which is driven in the direction of the old drive, is about 6 feet high and about 7 feet wide, and is about 6 chains in length from the main road in the colliery.

This cross-cut is about 300 yards from the Charles pit bottom. Six picked men were employed in the cross-cut, two men in one shift, working with locked safety-lamps (Clanny), and the whole length from the back heading return airway, was kept bratticed almost close to the face.

A bore, 2 inches in diameter, was kept about 10 feet ahead of the working face, so that a strong barrier of coal, &c., would be ensured as a safeguard against the inside pressure from the old drive. The whole of the ground passed through in the cross-cut was extremely hard, being a mixture of strong coal and stone, and, as an evidence of this, there was no indication of holing into the old drive, and no issue of gas, until the drill actually passed into the old workings.

Two of the miners (Henry Evans and Wm. Brown) commenced work, in the face of the cross-cut, at about 6 a.m. on Thursday morning last, and about 7 a.m. commenced to bore in the face. About 7.30 a.m., the overman (Mr. Ridley) went into the face, but had not been there many minutes when the drill went through.

At this time the whole of the cross-cut was clear of gas; but, in a few minutes after a communication was got, the gas came through the bore with a terrific rush, and made a noise which could be distinctly heard at a distance of about 200 yards from the face. The length of bore at the time was about 8 feet 4 inches.

The overman and the two miners immediately rushed out from the face towards the main road, on reaching which they found that the whole length of cross-cut, about 6 chains, had been fouled by the gas from the borehole. At this time there were about 100 men, &c., in the workings, and, on seeing the state of affairs, the overman ordered a man to the bottom of the main shaft to put out all the lights, and sent three men into the upper seam to drown the fire in the ventilating furnace. A person was also despatched along the main road, towards the working places, to order all wheelers and miners to proceed at once to the bottom of the Flaggy Creek downcast shaft, which would be about a mile from the spot where the gas was issuing.

This was all done as quickly as possible, and as the ventilating furnace was now useless (as the fire had been put out) a jet of steam was blown through the large Tangye pump at the pit bottom, and this steam at once restored the ventilation and caused a current of air of about 5,480 cubic feet per minute (as measured by Mr. Ridley at the time) to circulate through the cross-cut, and in about half-an-hour the whole of the gas was cleared away from the main road and nearly to the face of the cross-cut. I made a careful inspection of this place shortly afterwards, and found gas issuing from the bore, but no sound could be detected, only when listening at the out-end of the bore, when a slight hissing could be heard inside. There was a good current of air circulating behind the brattice at the time of my inspection, but a few feet of the brattice had been knocked down by a pony which was in the face at the time the gas was tapped, and took fright and bolted. A deputy was busy putting the brattice up again, and the two miners were working in the face as usual.

3. Yesterday (Friday) morning I paid another visit to this colliery, and found that the face of the cross cut had been holed during the night. The hole was about 1 foot high and about 2 feet 6 inches in width. The overman (Mr. Ridley) informed me that he was present at about 2 a.m. yesterday morning, when the hole was made with the pick, and that the gas again issued with terrific force, and fouled the cross-cut again for about 120 yards. This time the air current had to be reversed and coursed down behind the brattice before the gas could be broken and cleared away. When I visited this place yesterday there were no men working in it, and large danger-boards were placed across the entrance, so that no naked light might be allowed to pass from the main road, and a special man was stationed at the entrance to keep all persons out. On examining the face I found gas issuing from the hole which had been cut with the pick, and I also detected a slight trace of gas near the roof, about 12 feet back from the side of the old drive, but could not detect it in any other part of the cross-cut. From the shaft bottom to the point where the old drive has been tapped there are two dips or swallows in the old drive, and as they are filled with water there is no communication through the old drive to the upcast shaft. The

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The overman informed me yesterday that a gang of men would commence work that night at the bottom of the upcast, and prepare the old drive so that pipes could be laid in and the water pumped out. When this is done it is expected that the air-current will be coursed through the hole in the cross-cut against the gas, and that this length of old drive between the cross-cut and the upcast shaft will be cleared of gas.

4. In conclusion, I beg to state that in my opinion great praise is due to the management of this colliery, especially the overman (Mr. Ridley), and to the miners who were in the cross-cut when the gas was tapped, for the prompt and cool manner with which they dealt with the difficulty. For had they become confused in the face of such danger the results might have been serious indeed.

I have, &c.,

JOHN DIXON,  
Inspector of Collieries.

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No. 3.

Minute by The Minister for Mines.

THIS case proves the necessity of carrying out the provisions of the law with the utmost stringency, and it is my wish that in all cases it be done.

Referring to the very praiseworthy conduct of "Deputy" Ridley, through whose presence of mind and calmness in danger, loss of life was prevented, I wish a letter sent to him expressing my high sense of the service he has rendered to his fellow workers by his prompt action, and inform him that I shall when visiting the North during March, have the pleasure of presenting him on behalf of the Government, with a gold watch suitably inscribed as a memento of the affair.—F.A., 17/2/88.

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No. 4.

The Under Secretary for Mines to Mr. T. Ridley.

Sir,

Department of Mines, Sydney, 20 February, 1888.

With reference to the recent occurrence of explosive gas in the workings of the South Waratah Colliery, I am directed by the Secretary for Mines to express to you his high sense of the service you rendered to your fellow workmen and to the public in general, by your praiseworthy conduct when by your presence of mind and prompt action, loss of life was doubtless prevented. Mr. Abigail also desires me to say that during his visit to the North in March next, he will do himself the pleasure of presenting you, on behalf of the Government, with a gold watch, suitably inscribed, as a memento of the circumstance.

I have, &c.,

HARRIE WOOD,  
Under Secretary.

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No. 5.

Mr. T. Ridley to The Under Secretary for Mines.

Sir, Waratah Colliery, Charlestown, *via* Newcastle, New South Wales, 27 February, 1888.

I beg to acknowledge the receipt of your communication under date, 20th February instant, I hardly need state that I was agreeably surprised to find that my conduct simply in the discharge of my duties in the capacity of overman at this colliery, should have been so favourably noticed by the Minister for Mines and yourself.

I shall be most happy to meet Mr. Abigail during his visit to this district.

I have, &c.,

THOMAS RIDLEY.

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Submitted for the information of the Minister.—H.W., 29/2/88. Seen.—F.A., 1/3/88.

Send telegram to Examiner to get Mr. Ridley to be on the station when the train which leaves Sydney to-morrow afternoon at 4.45 passes, so that the Minister may then present him with a watch. The Minister cannot stay longer than the train waits.—H.W., 11/4/88.

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No. 6.

Telegram from The Under Secretary for Mines to The Examiner of Coal-fields.

Department of Mines, Sydney, 11 April, 1888.

Be good enough to inform Mr. Thomas Ridley, the overman at the Waratah Colliery, that if he will be on the station when the train which leaves Sydney to-morrow afternoon at 4.45 passes, the Minister will present him with a watch. Mr. Abigail cannot stay longer than the train waits.

HARRIE WOOD,  
Under Secretary.

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No. 7.

N. Melville, Esq., M.P., to The Secretary for Mines.

Sir,

Newtown, 11 April, 1888.

I am compelled from facts which have come to my knowledge concerning the so-called bravery for which you have been induced to reward with a gold watch, "*re* gas in South Waratah mine," to request that you will cause a proper inquiry into all the facts to be held, and I am confident the opinion you have formed will be changed.

Any

Any way if one is to receive reward I am confident you will upon further inquiry be pleased to reward the other two men, who performed equally as dangerous work as the man you are about to reward. The whole circumstances are such as require a searching inquiry, and in the interests of all concerned such inquiry in my opinion should be held.

I am, &c.,

N. MELVILLE.

Inform Mr. Melville, M.P., that an inquiry will be held, and if it is found that the two men referred to are deserving of special recognition for services performed under the same circumstances as those from which Ridley is getting the present they will be dealt with in a manner equal to the occasion.—  
F.A., 12/4/88.

No. 8.

The Under Secretary for Mines to N. Melville, Esq., M.P.

Sir,

Department of Mines, Sydney, 14 April, 1888.

In reply to your letter of the 11th instant, asking that an inquiry may be held to ascertain if there are not others equally entitled with overman, Thomas Ridley, to a reward for their behaviour when a rush of explosive gas was met with at the South Waratah Colliery.

I have the honor to inform you that the Secretary for Mines intends that an inquiry shall be held as requested, and if it is found that the services of the two men particularly brought under notice are deserving of special recognition their claims will be dealt with in a manner worthy of the occasion.

I have, &c.,

HARRIE WOOD,

Under Secretary.

No. 9.

Telegram from The Under Secretary for Mines to The Examiner of Coal-fields.

26 April, 1888.

I PURPOSE leaving here by Saturday morning's train for Newcastle to inquire into the merits of the claim set up on behalf of the two men in the South Waratah Colliery, and shall be glad of the assistance of Mr. Dixon and yourself. Will you please make such arrangements as will enable me to get through the inquiry on Monday.

HARRIE WOOD,

Under Secretary.

No. 10.

Report.

REPORT of inquiry into the circumstances connected with the influx of Explosive Gas into the South Waratah Colliery, in February last, with a view to place all the facts before the Minister.

Sir,

1 May, 1888.

Pursuant to your instructions, I proceeded on Saturday last to Newcastle, and upon my arrival there, at 3.30 o'clock p.m., I at once wrote to Messrs. Evans and Brown (and the two miners who bored through into the old drive whence the gas issued), inviting them to meet me at the South Waratah mine on Monday, the 30th April, at 10 o'clock in the morning, and to bring with them any persons who could furnish information as to what transpired in the mine when the influx of gas took place. I did not send any notice to Mr. Ridley, as I understood he would be on the mine.

On the Monday morning I went to the South Waratah mine, accompanied by the Examiner of Coal-fields and Mr. Winchester, of the Coal-fields Office. I there found Mr. Inspector Dixon, Mr. Hunter (the Manager of the colliery), Mr. Ridley, overman, and Messrs. O. H. Evans, Wm. Brown, and S. Eggington. There were also present Messrs. J. Firth and T. Kelly, the Chairman and Secretary of the South Waratah Miners' Lodge, and a gentleman representing the *Newcastle Morning Herald*, who asked if he would be at liberty to report the proceedings. I at once told him he was at liberty to take the fullest notes of the proceedings.

We then proceeded to the Company's office, which Mr. Hunter kindly placed at my disposal for the purpose.

Before the inquiry commenced Mr. Firth asked whether he and Mr. Kelly would be permitted to be present at the inquiry and to put questions to the witnesses. I replied that they might be present, but as they were not in that part of the mine at the time of the occurrence, I could not permit them to take part in the inquiry.

I commenced the proceedings by explaining that I had come there by direction of the Minister for Mines to inquire into the matter of a complaint concerning the presentation of a gold watch to Mr. Ridley for his presence of mind and bravery in connection with the recent influx of gas in the South Waratah mine. Representations had been made to the Minister either that Mr. Ridley was not entitled to reward, or that though he was so entitled, others had an equal or greater claim to recognition. The Minister was anxious to be put in possession of all the facts in the case. With a view to place those present in possession of the facts upon which the action of the Minister was primarily based, I informed them that I proposed to read the report furnished by Mr. Inspector Dixon on the subject, and I would then ask them if there was anything in that report to which they wished to take exception to point out what it was they objected to, and their reasons for objecting.

Mr. Evans asked whether he and the others who attended the inquiry with him in response to my invitation would be paid for the loss of their day's work. I replied that I could not promise them payment, but I would promise to recommend the Minister to pay the expenses of all witnesses who had chosen to attend the inquiry. In order to avoid having to refer back to this matter, I now recommend that Messrs. Evans, Brown, and Eggington be allowed the sum of £1 each for their attendance. (Approved.—F.A., 5/5/88.)

Having

Having read Mr. Dixon's report through to them, I, at the request of Mr. Evans, again read through that portion of the report which purports to give the information concerning the occurrence furnished by Mr. Ridley to Mr. Dixon, on the 9th February, the day on which the old drive was broken into, the sentences being taken *seriatim*. I allowed the fullest latitude to all the witnesses to make any statement or explanation, or furnish further information upon each point of interest, so that, after hearing what each person who was present had to say, and after making an inspection of that portion of the mine affected by the occurrence, I might be able to place before you a connected statement of what occurred, without troubling you with a repetition of those statements which have been very ably reported by the gentleman who represented the *Newcastle Morning Herald*. [Copy of newspaper herewith.] I have marked one paragraph, in which I am reported to have expressed an opinion upon the evidence. I fully intended, and thought I had strictly adhered to my intention, not to express any opinion at the inquiry.

See *Newcastle Herald*, 1st May, 1888.

It may perhaps be convenient for me, at this point, to explain that Messrs. Evans and Brown were present when Mr. Ridley furnished Mr. Inspector Dixon with the statement of what occurred on the morning of the 9th February, but they do not appear to have paid much attention to nor to recollect what was then said. Mr. Evans expressed himself as satisfied with Mr. Dixon's report, except that part of it which gives the substance of Mr. Ridley's statement.

The following is, as far as I can gather, a true statement of what occurred:—

On the morning of the 9th of February last, at about 7 o'clock, Evans and Brown commenced boring ahead of the cross-cut [the practice being to keep a borehole a certain number of feet (say 10) ahead of the working face, so that the cross-cut should not break through without warning into an old prospecting drive, which had been driven some years ago, and which was supposed to contain a very large quantity of inflammable gas, the intention being to plug the borehole as soon as it broke through, so as to regulate the influx of gas into the mine—that is to say, to allow it to come in in such quantities only as could be carried off through the return air-course without any risk of explosion. The men were working with locked Clanny lamps. The diameter of the bore was 2 inches.]

At about half-past seven o'clock the men in the cross-cut wished to see the overman, and sent for him. He came at their request.

[The reason for sending for the overman was that Mr. Evans wished to obtain permission to be absent from the mine, because, being Mayor of Adamstown at the time, he had to come to Sydney on municipal business, and he did not wish to be absent without leave. At the same time he spoke to Mr. Ridley about a dispute he and those working with him had with the hooker-on about going up the pit. The interview had nothing to do with the gas, because they had no idea of breaking through so soon.]

Mr. Ridley, having dealt with the matters referred to him, was about to leave the men, or was leaving them, when the drill broke through and the gas rushed in with great force and noise, throwing Brown down and extinguishing Evan's lamp. Ridley was also knocked down; he thinks by the pony that was in the cross-cut, and which was probably frightened by the noise. The wheeler (Eggington) ran to the entrance to the stables, where he had left a lamp. The overman says he at once gave orders to put out all lights. He knew there were three naked lights in the stables, and he shouted out for them to be put out. Evans says he did not hear any orders given, but they were all shouting as they came along the cross-cut, "Put out the lights." Eggington says he heard Ridley call out, "Put all lights out." Brown admits that Ridley did shout out, but he regards shouting out as something different from giving orders. The overman says he gave all orders except that as regards putting out the furnace fire. He acted upon the suggestion of Evans. Eggington admits hearing the overman order the lights to be put out at the pit bottom. Brown went to the pit bottom, and ordered all lights to be put out, and Evans went in the opposite direction, along the main road some 200 or 300 yards, knowing that wheelers would be likely to be coming from that direction with naked lights, and ordered them to put out their lights and to remain where they were till further orders reached them. He then returned to the cross-cut with a Clanny lamp, and found gas there which put out the lamp; this was three or four minutes after the holing through. The overman was then away. It appears that when Brown went to order the lights to be put out at the pit bottom the overman followed and went up the pit to get an improved Davey lamp that he had at his house. Evans, after the Clanny lamp was extinguished by the gas, also went up the pit to get another lamp, and while he was lighting it the overman came to the pit-top with two Davey lamps which he lighted from Evans' lamp. It was then that Evans suggested the extinguishing of the furnace fire, saying the gas was still blowing as hard as ever. The overman did not think there was any necessity to put out the furnace fire, but Evans said it was better to be safe than sorry. The overman then ordered it to be done. While at the pit-top the overman asked the surveyor to go to the pit-bottom and prevent anyone going into the mine. He ordered the engineer to blow a jet of steam down the Tangye pump, and he sent a message to Mr. Hunter, the Manager of the colliery. The overman reckons he might have been out of the mine on this occasion ten minutes. After Brown had told the men at the pit-bottom to put out their lights he returned to the cross-cut, but feeling cold (the upper part of his body being naked) he went back to the pit-bottom and procured a bag to put over him. He then returned to the cross-cut and sat down at the entrance some few minutes till the overman returned with the Davey lamp and tested the state of the cross-cut. The overman then told Brown to open the door through the stables, but he must not take a light. It was difficult to do this, as there were trucks standing in the way, but Brown said he would make his way through by counting the trucks, and the overman was to listen so that he might know by Brown's voice if anything happened. Brown succeeded in getting through and opened the door, thus a wider opening was made to carry off the gas from the cross-cut through the stables towards the upcast shaft. The overman then directed Brown to proceed along the main road towards the working places and order all the men to the bottom of the Flaggy Creek downcast shaft. When Brown reached the drivers, who were waiting in the main road at the point where Evans had ordered them to stop, he reckoned twenty minutes had elapsed from the time the bore holed through. Eggington, who was with the drivers when Brown reached them, reckoned it was from fifteen to twenty minutes.

When he consented, in compliance with Evans' suggestion to extinguish the furnace fire, he ordered two men to assist Evans in doing it, but Evans had reached the furnace with a tub of water ready to throw on the fire when they (the two men) arrived, and it was he who put out the fire. This probably was being done while the overman was testing the state of the cross-cut with the Davey lamp, and directing the door to be opened through the stables. After the overman had ordered the men from the working places to the bottom of the Flaggy Creek shaft he probably went up the pit again to procure an

anemometer with which to measure the air currents. He then found that though the furnace fire had been extinguished the ventilation had been restored by reason of the steam blown through the Tangye pump, the air current at that time being about 5,480 cubic feet per minute, and in about half-an-hour the whole of the gas was cleared away from the main road and nearly to the face of the cross-cut. Inspector Dixon made a careful inspection of the place shortly afterwards, and found gas still issuing from the bore, but no sound could be detected except a slight hissing. A deputy was putting up the part of the brattice which had been knocked down, and two miners were working in the face as usual.

In conclusion, I have the honor to state that, in reply to questions put by me, Mr. Hunter stated that no one had any authority to give orders in the mine except himself and Mr. Ridley. He also stated that, as the furnace was so situated as to act as a dumb-drift, there was no advantage from putting out the fire, but it was a wise precaution. Mr. Evans contended that if there had been a sufficient quantity of gas and they did not at the time know how long it would take to exhaust the supply it might have come in contact with a tongue of flame from the furnace-fire, and an explosion would have been the result. I attach hereto a plan and section, showing the relative positions of the several places referred to in this report, and also of the furnace. With reference to the final clause in Mr. Inspector Dixon's report, Mr. Evans made a statement—that, in his opinion, the whole of the six men who were engaged in driving the cross-cut should be recognized, as they had all worked with great care. I stated that I had only to inquire into what had occurred on the occasion of the influx of gas, and what was done by each of those then present. Mr. Firth stated that he and the secretary of the lodge were instructed to be present at the inquiry, to protest against the presentation of any reward to any person. Mr. Evans denied that the miners' lodge had given any such instructions. I informed Mr. Firth, in reply to his question, that I had no instruction to inquire whether the old drive should have been holed into while a number of men were working in the pit.

So far as I could learn, the men had taken no steps to call the attention of the officers of this Department to the danger of holing through into the old drive while a number of men were working in the mine, from which it may perhaps be inferred that they did not foresee any danger therefrom.

Trusting the information herein and herewith conveyed will enable you to arrive at a satisfactory conclusion upon the question at issue.

I have, &c.,  
HARRIE WOOD,  
Under Secretary.

#### No. 11.

#### Minute by The Minister.

7 May, 1888.

HAVING carefully read the report of the Under Secretary upon this case, I am confirmed in my previous opinion, that the men in the mine, at the time of the influx of explosive gas, acted under the orders of a firm and well-directed man, Mr. Ridley, and they deserved praise for the manner that they carried out his instructions; but no special features have been disclosed to warrant me in doing more than I have already done, nor is there anything shown to prove that the recommendation of Mr. Inspector Dixon, in reference to Overman Ridley's conduct, was wrong, or that he received what his conduct did not entitle him to. Mr. Wood's report proves, to my mind, that Ridley gave valuable instructions, and the manner the men carried them out deserves letters of praise and thanks, which may be sent to them.

P. A., 7/5/88.

#### No. 12.

#### The Under Secretary for Mines to Mr. O. H. Evans.

Sir,

Department of Mines, Sydney, 7 May, 1888.

I have the honor, by direction of the Secretary for Mines, to convey to you his thanks for the praiseworthy manner in which you acted at the time an influx of explosive gas was met with in the South Waratah Colliery, on the 9th February last, and to assure you that he fully appreciates the importance of the valuable service you rendered on that occasion.

I have, &c.,  
HARRIE WOOD,  
Under Secretary.

[Similar letter forwarded to Mr. W. Brown.]

[One plan.]

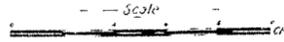
Enclosure to N°10

North n Boundary

Section at Shaft's



# WARATAH COLLIERY



Bottom Seam

Ches Pit

Faults

Entrance Shaft

Old House

Mag. Merid<sup>n</sup>

Flaggy CK Shaft

Western Boundary

**NOTE**

- Gully Seam Markings shown Blue
- Ventilation Red Arrows
- Bottom Seam Markings Red
- Ventilation Blue Arrows

(Sig 823)

1887-8.

LEGISLATIVE ASSEMBLY.

NEW SOUTH WALES.

## WEST WALLSEND COLLIERY.

(REPORT IN CONNECTION WITH FATAL ACCIDENT TO EDWARD M'CARRAN.)

*Ordered by the Legislative Assembly to be printed, 29 May, 1888.**[Laid upon the Table of the Honorable the Legislative Assembly of New South Wales by the Secretary for Mines, a copy of the Report and Evidence in connection with the fatal accident to Edward M'Carran, at the West Wallsend Colliery.]*REPORT and Evidence *re* Fatal Accident to Edward M'Carran, at the West Wallsend Colliery.

Sir,

Glebeland, 26 March, 1888.

I regret to report a fatal accident by the breaking of a winding rope and falling of a loaded bucket, which happened to a sinker named Edward M'Carran, at the West Wallsend Coal Company's second shaft, on Thursday last, 22nd instant.

2. I was duly notified of the accident by the manager of the colliery, Mr. T. J. Evans, and also by the contractor, Mr. A. M'Kinnon, and on Friday evening, 23rd instant, I proceeded to the West Wallsend Colliery to investigate the matter.

3. The scene of the accident is a sinking pit known as the second or air shaft in connection with the West Wallsend Colliery.

This shaft is 10 feet in diameter, and about 450 feet in depth from the surface.

The present contractor, Mr. Alexander M'Kinnon, took the shaft after it had been sunk to the depth of about 50 feet from the surface, and from that depth has sunk it to its present depth.

The rope in use at the time of the accident was a  $\frac{7}{8}$ -in. diameter best crucible steel, bought new from M'Brair, Osborne, & Co., Clarence-street, Sydney, and has been in use since October, 1887.

According to the tables given by G. M. Percy, Esq., in his first volume of Mechanical Engineering, page 72, the safe working load for a rope of this description is 2 tons 4 cwt., and as the breaking strain of steel wire ropes is usually taken at five times the safe working load, the breaking strain of this rope would be about 11 tons.

The bucket in use at the time of the accident was about 2½ feet in diameter and about the same depth.

The load would vary in weight according to the nature of the material placed in the bucket, and, in my opinion, would never reach beyond 20 cwt., including the weight of the bucket, which was made of iron. The iron capping or socket at the end of the rope embraces about 1 foot of the rope, and five iron rivets are passed through to secure the capping. This capping was put on when the rope was first brought into use and has never been changed.

The spot where the rope broke was close to the top of the socket, the outside wires parting about  $\frac{1}{2}$  an inch below the top of the socket. According to sworn evidence the rope was examined twice every day by the banksmen's hands several times during each shift, in order to detect broken wires.

The point of fracture had apparently not been examined for some time, as the copper wire used for lapping the end of the rope inside of the socket had been carried up about 2 inches above the top of the socket, to act as a safeguard against anything that might come in contact with the rope at this point. There is no evidence to prove that the rope was ever found defective on examination by the persons in charge, and never any complaints made to the contractor concerning the rope in any particular.

4. At the inquest on Saturday last on the body of the deceased very conflicting evidence was given concerning something which took place with the rope about a month ago.

Thomas Walsh, one of the sinkers, gave evidence that a month ago on a Sunday night, just before the cradle was put into the shaft, in order to examine the sides, &c., he saw the rope examined at the same spot as it broke on Thursday last.

He

He stated that it had then got a kink in it, but the engineer looked at it before the men went down, and said it was perfectly safe. The chargeman of the shift also looked at it and said it was perfectly safe. He (Walsh) had never examined the rope himself, but had noticed the rope attached to the fallen bucket when it came down. It had parted where the brass lapping was on.

*Thomas Taylor*, who was chargeman of the shift on which Walsh worked, deposed as follows:— I have always been positive that the rope was sufficiently strong for the weight it would have to bear; it is the duty of the chargeman to put the cradle into the shaft every Sunday night, and examine the shaft through; never heard anyone say there was a kink in the rope, have never seen a kink in it; if there had been a kink it would certainly have been reported; every little thing wrong is reported by one chargeman to the other; never heard that the rope was examined on the relieving of the banksmen twice a day; I never complained about the rope, or else I should not have worked under the bucket.

*Thomas Wilson* deposed:—I am a banksman at the West Wallsend Colliery sinking pit; in examining the rope I never found any loose strands in it; have seen copper wire bound around the rope for 4 inches above the socket; the copper wire would have covered the fracture; on a Sunday night four weeks ago, saw a kink in the rope just at the top of the copper wire, about 4 inches from the socket; it was about a quarter kink, and a bucket about three parts full was attached to it then; drew Mr. Phillip Davey's attention to it, and he thoroughly examined the rope, and said that he could not see anything the matter with it; the kink straightened itself out with the next strain that went down; it was because the kink might weaken the rope that I drew the leader's attention to it; I believe I mentioned the circumstance to Mr. M'Kinnon, but could not be certain; never saw any broken wire where the kink was, although I have often examined it; would have at once known if it had been so; did not know what copper wire was there for, possibly as a guard; the rope is  $\frac{7}{8}$  in. diameter; a rope like that if sound would carry 2 tons 4 cwt. as a safe working load; and the breaking strain would be about 11 tons; I have heard several passers-by remark that the wire rope was a very thin rope for working in a shaft hauling stuff; there is a steadying point in the shaft between 45 and 50 feet from the surface; the engine slowed gradually and was steady at 50 feet; if there had been any jerk, I would have known it at once; every care has been exercised in and around the shaft; in case of complaints, representations would be made to Phillip Davey, who should inform Mr. M'Kinnon; I cannot say if Davey reported the kink to Mr. M'Kinnon; it is usual to have copper wire round winding ropes, so as to stiffen the rope and prevent it wearing around the socket; the copper wire was not removed at the time the rope was examined with the kink in it.

*Phillip Davey* deposed:—I am master sinker at the West Wallsend Colliery; on Thursday morning last, on hearing of the accident I went down from the shaft; I found that five men were in the bottom of the pit; one man had his arm cut off, but the others were all right, except a bit excited; I took charge, and sent the men to the surface; I never saw a kink in the rope a month since, but the engine-driver told me on a Sunday night, about five weeks ago, that there was a twist; I examined the rope then, and did not see anything the matter with it; the engine-driver showed me that the twist was about 2 feet above the socket; there is a great difference between a twist and a kink; a twist would draw out, but a kink would leave a mark, or the rope would break; the copper wire was originally placed there to keep the rope together until the clasp was fastened on it, and it was left there; the rope has been scores of times through my hands, and I never had occasion to complain to Mr. M'Kinnon about it; I have been at the pit ever since it started; the rope has been there all that time, and nothing has been done to it in the way of repairs.

*Alexander M'Kinnon* deposed:—I am the contractor for the sinking of the West Wallsend air-shaft; I have been using the rope since October, 1887; it was then new; it was bought from M'Brair, Osborne, & Co., Clarence-street, Sydney; it was bought for a  $\frac{7}{8}$ -in. diameter rope and is the best crucible steel wire; there was no guarantee given, but, from theory, a safe working load or carrying weight would be about 3 tons; the socket is the only one that has been put on the rope; the time mentioned is a short life for a rope of that sort; I never thought that there was any necessity for changing the socket; I have examined the rope thoroughly, and no kink could possibly be within 2 or 3 feet of a socket; any slack would not be in the rope, but in the chain below it, and immediately above the bucket.

5. At the time of the accident there were five sinkers in the bottom of the shaft, four of whom escaped uninjured, but the falling bucket caught the deceased on the right arm and right foot. The arm was completely severed from the body, at a point about 4 inches below the shoulder, and the right foot was completely smashed. The injured man was conveyed to the Newcastle Hospital, where operations were performed on the injured arm and foot. Being extremely weak from shock to system and loss of blood, the poor man lingered until 2 o'clock the following morning (Friday), when death terminated his sufferings. The deceased only commenced to work in the pit for the first time at 7 o'clock on the morning of the accident.

6. The District Coroner, G. C. Martin, Esq., J.P., held an inquest on the body of deceased, at the "Naval Brigade Hotel," Watt-street, Newcastle, on Saturday afternoon, 24th instant. I attended the inquest, and heard all the evidence, and also had produced the broken ends of the rope, so that nothing might be kept back from the jury. The fullest evidence was elicited, and, after due deliberation, the following verdict was returned:—"We find that the said Edward M'Carran, at West Wallsend, in the district of Newcastle, in the Colony of New South Wales, on the 22nd day of March, 1888, was, whilst working in the shaft at the West Wallsend Mine, struck down by a bucket falling down the shaft through the rope breaking, and was seriously injured. We further find that the said Edward M'Carran was taken to the Newcastle Hospital, in the said district and Colony aforesaid, and died there on the 23rd day of March instant, from the said injuries; we are of opinion that the injuries were purely accidentally caused."

7. In conclusion the above verdict appears to exonerate all persons from blame in this matter, and so far as anything like criminal neglect is concerned, I fully agree with it, as, in my opinion, the 49th special rule of the West Wallsend Colliery has been strictly observed, inasmuch as the rope has been examined most carefully, even twice during the day. At the same time I am of opinion that the accident was caused by the rope being defective near the top of the capping where it was hidden from view by the capping and that a withering process had been acting on the enclosed wires for some time prior to the accident. This weakening of the wires was doubtless due to the fact that this position of the rope would

be subject to damp when near the pit bottom, and then to heat when at the surface in the day-time. The corrosion had evidently worked from centre to circumference until the point of weakening was reached when the usual working load could no longer be sustained. From the appearance of the outside wires I am not prepared to say that the full defect would have been made manifest even on the removal of the capping, unless the rope had been stripped to the core. However, the recapping of a rope is a matter left to the exercise of judgment, for even the best English authorities cannot lay down a hard and fast law for it. To sum up the matter, had the judgment of Mr. M'Kinnon, contractor, led him to suspect that the rope was defective inside of the socket, and had such suspicion led him to have the rope cut and recapped, in my opinion the accident would not have occurred.

I herewith forward the evidence taken at the inquest on Saturday last.

I have, &c.,  
JOHN DIXON,  
Inspector of Collieries.

[Enclosure.]

EVIDENCE taken at the inquest on the body of Edward M'Carran, on Saturday, 25th March, 1888.

*Thomas Walsh* deposed:—I am a miner and live at Wallsend; I am a married man; on Thursday morning last, the 22nd day of March instant; the deceased M'Carran and I went to the West Wallsend pit at about 7 o'clock; we went to work at boring and fired three shots, and then came to the top; we then returned down the shaft to fill the broken rock into the iron bucket; the first one went up, which was filled up to the top, and we heard stones falling in the shaft during the passage of the bucket up the shaft; I heard the bucket strike the side of the shaft, and heard it coming down; the next I heard was M'Carran calling, saying, "Tom, the bucket is on my leg;" I went towards where he was singing out in the dark; I got to him; a man named Taylor sang out for a light, and M'Carran said, "I have got some matches in my pocket, I will give you some;" he put his hand towards his pocket and said, "I have got no hand, you (meaning Taylor) put your hand in my pocket and take the matches out;" the matches were damp and we could not get a light; I was holding M'Carran in my arms and he called out for his mother; then some one helped to get M'Carran to the top of the pit; he was taken on a door to the public-house; a doctor was sent for, and a conveyance was procured to take him to Newcastle; he was about an hour lying at the public-house; some doctor from Miami was attending on him, and ordered his removal to the Newcastle Hospital; Thomas Taylor was the master-sinker in charge, and was down the pit at the time the accident occurred, and there was a man named Tom in charge of the bank at the top of the pit when we were lowered down the shaft; there were five of us down the shaft at the time of the accident; there are no printed rules for working in the shaft; I have never seen any; I have only been working in the shaft about seven weeks, and have only recognized Taylor as my boss; I have thought that the bucket alone was heavy for the rope that carried it, and about a month ago I saw the rope examined at the same spot where it broke last Thursday; it had then got a kink in it; but the engineer looked at it before the men went down, and said it was quite safe; the boss sinker was there at this time; he went and looked at the rope and said it was quite safe; about the time of the accident we were filling another bucket for the next turn of hauling, and we were all working close by it filling it up; the bucket in falling came down on the bucket at the bottom of the shaft and broke it; I do not know what it was that struck M'Carran; I do not know what occurred till I heard M'Carran crying out.

*By Mr. Dixon:* I am a miner, and have worked at sinking previously, and have had a lot of experience at sinking; I believe the rope, which is a wire rope, is about an inch and a half in diameter; I do not know what a steel wire rope that size would carry; I think the bucket and contents would weigh with rock about 15 cwt., but the fine cement stuff would weigh very likely about 20 cwt.; I never saw such large buckets where I have worked before; five or six men could sit in them comfortably; I have known the deceased about seven years; the accident occurred at the deceased first shift in the mine that morning; I have never examined the rope myself; I only noticed the lapping of some brass wire round the steel wire where the splice is and where it is joined next to the chain.

*By Jury:* I noticed the rope that was on the fallen bucket, and saw that it had parted where the brass wire lapping was on; the body just viewed by the Jury is that of my late mate, Edward M'Carran, who worked with me in the West Wallsend pit.

*John Brady Nash*, being duly sworn, states:—I am a legally qualified medical practitioner, residing at Wallsend; upon Thursday morning last, the 22nd March, about 11 o'clock, I saw lying in a back room, at the hotel at West Maitland, a man named Edward M'Carran; I examined him, and found that his right arm had been taken off about 4 inches below the shoulder; his right foot was also injured; the bleeding had been stopped by bandages applied above the injuries, and the injured part had been bandaged; I applied fresh compressors above the injured part, and advised that the man should be removed at once to the Newcastle Hospital; I met him at Wallsend and brought him in the tram to the Newcastle Hospital; upon consultation there with Drs. Morgan, Stapleton, Bonnefin, and Kerr, it was found necessary to amputate the arm above the seat of injury, and remove a portion of the foot; this was done, but the shock was so great that I did not then think it probable that he would recover; he died at 2 o'clock yesterday (Friday) morning in the Newcastle Hospital; the cause of death, in my opinion, was shock to the system, as the result of the injuries.

*Thomas Taylor*, being duly sworn, states:—I am a sinker, and live at West Wallsend; I had charge of the shift at the time of the accident, and I knew E. M'Carran; the body viewed by the Jury this day at the mortuary at the Newcastle Hospital is that of Edward M'Carran; on Thursday morning last, about 9:30, I had with me Samuel Longshaw, Thomas Jones, Thomas Welsh, and M'Carran at the bottom of the shaft; I heard a noise and I sang out "Look out, the bucket is coming"; I heard, after the bucket had fallen, M'Carran sing out "Tom, lift the bucket off;" I lifted the bucket off him; we were all in the dark, so I could not say where the bucket was on him; I caught hold of him and found that one of his arms was off.

*By Mr. Dixon:* The depth of the shaft is about 450 feet, and the diameter is 10 feet; I have been working there six months; the shaft was about 40 or 50 feet down when I commenced working; I have been in charge of the shift about three months; my duties as chargeman were to look after the shaft from top to bottom; I had nothing to do with the rope; it was not my duty to examine the rope; I have sunk at both Big Redhead and Burwood before I went to West Wallsend, and have been working at rock ever since I was 12 years old; I do not know the measurements of the buckets we were using, but I think they would be about 2 feet 6 inches across and about the same depth; those are not the largest buckets I have seen used in sinking; I cannot give any idea what these buckets would hold, but I should say about 12 or 15 cwt.; it never occurred to me that these buckets were too large for the rope; I am positive that I considered the rope sufficiently strong for the weight it would have to bear; it is the duty of the chargeman and his mate to put the cradle in the pit every Sunday night, and examine the shaft through; I never heard anyone say that there was a kink in the wire rope; I have never seen a kink in it; had there been any kink in the rope, or had anybody seen it, it would have been reported; I never heard any remarks made that the rope was unsafe; I have seen the rope examined on the relieving of shifts twice a day; I get my orders direct from Mr. M'Kinnon, the contractor.

*By Coroner:* There are no printed rules in circulation for sinking the shafts; the men are not cautioned about any particular danger in the shaft; the chargeman is supposed to look after the men in the bottom; there are no sinking helmets used in the shaft; at certain portions the shaft is bricked, that is where it is dangerous; according to my opinion it is not a wet shaft; since I have been working there, on one occasion only a plug of dynamite dropped out of the chargeman's hand in the bottom of the shaft; no accident has occurred that I know of.

*By Jury:* When I saw the broken rope it was at the top of the shaft; it was broken at the socket; it was a  $\frac{7}{8}$ -inch rope, I believe, in diameter.

*By Mr. M'Kinnon:* I never had any complaint to make of the rope.

*Thomas Wilson* deposed:—I am banksman at the West Wallsend Company's shaft, and reside at West Wallsend; I was at the top of the shaft about 10 minutes to 9 o'clock on Thursday morning last, when a loaded bucket was coming up the shaft; the bucket was about 20 or 30 feet from the top; I was in readiness to receive the bucket had it got to the top; I was looking at the bucket, and saw it was quite steady, and all at once, the rope broke; it broke just inside the shackle; I stepped back, and called out for help, and help came, and some one shouted down the shaft, "Are you all right?" the leader

leader of the shift sang out from the bottom of the shaft, "Yes;" I then came away, and with assistance got the rope over the pulley-wheel, and then lashed another bucket on to the rope, and two men got into the bucket, and went down the shaft to the men's assistance. The first men to come up were Robert M'Dowal and the deceased; M'Carran, when he got to the top, spoke, and was conscious, but seemed very faint; I noticed that his right arm was off, also his right foot smashed, and he was then taken away.

*By Mr. Dixon:* My duties as banksman were to use every care at the top, and to see that no man went down drunk; at the relieving time my mate and I examined the rope alternately; if I saw links in the chain turned during the day, I would examine it and put things right; I never found a loose strand in the wire rope; I have seen copper wire bound round the rope close to the socket; this copper wire would have covered the fracture; my shift is on a Sunday night, and four weeks ago I saw a kink in the rope just at the top of the copper wire, about 4 inches from the socket; it was about a quarter kink, and a bucket, about three parts full of water, was hauled up whilst this kink was in the rope; I drew Philip Davey's attention to it, and he thoroughly examined the rope, and said that he could not see anything the matter with it; he examined it closely with a penknife as well; the kink straightened itself with the next weight that went down; I thought that this kink would tend to weaken the rope, so I drew the boss' attention to it; I believe I mentioned the circumstance to Mr. M'Kinnon; I have never seen one broken wire where the kink occurred, though I have examined the rope often since; I cannot say how long the rope has been in use; I have been only at the mine about ten or eleven weeks; I do not know for what reason the copper wire was put on the steel wire; the wire rope is  $\frac{3}{4}$  of an inch in diameter; a rope like that, if sound, would carry 2 tons 4 cwt. as a safe working load; the breaking strain would be about 11 tons; I have heard several passers-by remark that the wire rope was a very thin rope for working in a shaft hauling stuff; there is a steady point in the shaft between 45 and 50 feet from the surface; the engine slowed gradually, and was steady at 50 feet; if there had been any jerk I would have known it at once; every care has been exercised in and around the shaft.

*By Coroner:* In case of any complaints representations would be made to Phillip Davey, who should inform Mr. M'Kinnon; Thomas Taylor was in charge of the shift at the time of the accident; he is a perfectly sober and careful man, and an experienced sinker; I cannot say if he knew about a kink in the rope a month before; cannot say whether Davey reported the kink to M'Kinnon.

*By a Juror:* It is usual to have copper wire round winding ropes, so as to stiffen the rope and prevent it wearing round the socket; the copper wire was not removed at the time the rope was examined with the kink in it.

*Phillip Davey deposed:*—I am master sinker at the West Wallsend Colliery; on Thursday last in the morning about 9 o'clock, on hearing of the accident, I went down the pit-shaft; I found that five men were in the bottom of the pit, &c.

[Please see Report for remainder of this evidence, and also that of Mr. M'Kinnon.]

This is a fatal accident which happened to a sinker at the West Wallsend Company's sinking shaft. Mr. Inspector Dixon agrees with the verdict, that the injuries were purely accidentally caused; but is of opinion that if the rope had been cut and recapped the accident would not have occurred. Therefore, if the copper wire had been removed when Thomas Wilson (the banksman) drew Davey's attention to the "kink" in the rope, one month prior to the accident, the necessity of having the defective portion of it cut off and the sound portion resocketed and capped would have been found out, and it is to be regretted that this was not done. This is, I believe, the first accident of the kind which has happened at any of the New South Wales collieries. I have to-day had an interview with Mr. Inspector Dixon, respecting it, and propose to recommend all future special sinking rules submitted for approval, that the rope used in any sinking shaft shall be recapped every three months. Dr. Robertson, the Company's consulting viewer, might perhaps be written to, suggesting that this be done in future.—J.M., 21/4/88.

The Under Secretary for Mines.—B.C., 21/4/88. Submitted.—H.W., 26/4/88. Approved.—F.A., 26/4/88.

The Under Secretary for Mines to Dr. J. R. M. Robertson.

Sir,

Department of Mines, Sydney, 5 May, 1888.

With reference to the fatal accident to Edward M'Carran, through the breaking of a winding rope at the West Wallsend Coal Company's second shaft, on the 22nd March last, I am directed by the Secretary for Mines to suggest to you the advisableness of instructions being given for such winding rope to be cut and recapped every three months.

I have, &c.,

HARRIE WOOD,  
Under Secretary.

Dr. J. R. M. Robertson to The Under Secretary for Mines.

Sir,

97, Pitt-street, Sydney, 8 May, 1888.

I have the honor to acknowledge receipt of your favour, of 5th instant, only delivered this afternoon, re accident at West Wallsend.

The accident occurred to the employé of a contractor to the Company, who also provided all plant, tools, and materials, and who was in no way under my supervision or the Manager.

The colliery ropes are inspected daily, and will be carefully attended to.

The necessity for recapping every three months may be too arbitrary a rule to follow; but, as the shaft has now been completed, the practice suggested need not be discussed.

I have, however, enclosed your favour to the Manager, who, being an experienced and careful man, will give due effect to its contents.

Yours, &c.,

JAMES R. M. ROBERTSON.

Submitted for the information of the Minister.—H.W., 17/5/88. Seen.—F.A., 18/5/88.

1887-S.

LEGISLATIVE ASSEMBLY.

NEW SOUTH WALES.

MINERAL LANDS HELD BY MR. GARRETT, SECRETARY  
FOR LANDS.  
(RETURN SHOWING.)

*Ordered by the Legislative Assembly to be printed, 10 July, 1888.*

*[Laid upon the Table of the Honorable the Legislative Assembly of New South Wales by the Secretary for Mines (in reply to a Question of Mr. McElhone, dated 26 June), a Return showing Coal or other Mineral Lands held by Mr. Garrett.]*

## SECTION 28, MINING ACT 1874.

Authority No. 104—THOMAS GARRETT.—Part of South Pacific Ocean, off Stockton, county Gloucester, 880 acres; date of authority, 8 March, 1878; granted by Hon. W. H. Sutor.

No rent is payable under this authority, but royalty at 6d. per ton is reserved in respect of coal raised. No royalty has yet been paid. An application has been made to convert the authority into a mineral lease. Not yet finally dealt with. Permission has also been given to work the area in connection with the Stockton Coal Company's mine.

Authority 356—HARRY FRANCK AND THOMAS GARRETT.—Part of South Pacific Ocean, off Nobby's; 2,513 acres; date of authority, 21 December, 1886; granted by Hon. James Fletcher.

Rent is payable at 1s. per acre—£125 13s. per annum—and a royalty at 6d. per ton is reserved. Rent has been paid to 31 March last. £160 16s. 5d. has been paid as rent.

Authority 361—THOMAS GARRETT.—Part of South Pacific Ocean, off Stockton Point; 40 acres 1 rood 24 perches; date of authority, 25 February, 1887; granted by Hon. Francis Abigail.

Rent is payable at 1s. per acre per annum, being £2 1s. per annum. Royalty, at the rate of 6d. per ton, is reserved on coal raised. Rent has been paid to 30 June instant = £2 15s. 3d. has been paid. An application has also been lodged by Mr. Garrett for a mineral lease of this area. Application 87-16, Newcastle, not yet approved.

Authority 370—THOMAS GARRETT.—Part of South Pacific Ocean, off Stockton; 640 acres; date of authority, 28 February, 1887; granted by Hon. Francis Abigail.

Rent is payable at 1s. per acre, being £32 per annum. Royalty, at the rate of 6d. per ton, is reserved on coal raised. Rent paid to 30th instant = £42 15s. paid. An application has also been lodged by Mr. Garrett for a mineral lease of this area. Application 87-15, Newcastle, not yet approved.

## UNDER 48 VIC. No. 10.

Mineral Lease 326—THOMAS GARRETT.—County Cook, parish Blackheath; date of lease, 3 January, 1888; granted by Hon. Francis Abigail.

Rent is payable at 2s. per acre, being £248 per annum. Royalty at the rate of 6d. per ton on coal raised. Rent paid to 2 January, 1889. Area, 2,180 acres.



1887-8.

LEGISLATIVE ASSEMBLY.  
NEW SOUTH WALES.

**MINING.**

(CORRESPONDENCE, &c., IN CONNECTION WITH THE CASE OF THE CROWN v. THE NEWCASTLE-WALLSEND COAL COMPANY.)

*Ordered by the Legislative Assembly to be printed, 19 June, 1888.*

*[Laid upon the Table of the Honorable the Legislative Assembly of New South Wales by the Secretary for Mines, in reply to a question by Mr. Melville, M.P., dated 28th March, 1888. Copies of papers (including shorthand notes) in connection with the case of The Crown v. the Wallsend Coal Company.]*

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[Copy of shorthand notes and plan.]

No. 1.

Mr. Inspector Bates to The Examiner of Coal-fields.

Wallsend Colliery Inspection—Main Tunnel Workings.

Sir,

Newcastle, 5 November, 1887.

I have the honor to report having inspected the above colliery on 24th and 27th October and 3rd and 4th November.

Maddison's district, No. 1 split.—The intake current of air registered 9,360 cubic feet per minute for 68 men, 4 boys, and 3 horses; total, 75; giving an average of 124 cubic feet per minute.

No. 2 split.—The intake current of air registered 5,720 cubic feet per minute for 52 men, 3 boys, and 2 horses; total, 57; giving an average of 100 cubic feet per minute.

No. 3 split.—The intake current of air registered 11,700 cubic feet per minute for 70 men, 9 boys, and 5 horses; total, 84; giving an average of 139 cubic feet per minute.

Swamp Oak District.—The intake current of air registered 9,000 cubic feet per minute for 68 men, 9 boys, and 5 horses; total, 82; giving an average of 109 cubic feet per minute.

Bosfield's District, No. 1 split.—The intake current of air registered 7,920 cubic feet per minute for 54 men, 6 boys, and 2 horses; total, 62; giving an average of 127 cubic feet per minute.

No. 2 split.—The intake current of air registered 10,260 cubic feet per minute for 72 men, 5 boys, and 5 horses; total, 82; giving an average of 125 cubic feet per minute.

No. 3 split.—The intake current of air registered 10,250 cubic feet per minute for 68 men, 8 boys, and 6 horses; total, 82; giving an average of 125 cubic feet per minute.

I examined the cross-cuts carefully, but could find no trace of fire-damp. The brattice in each heading was carried close up to the working face, and there was a good current of air travelling in each place.

A new shaft called the Jubilee Pit has been sunk for ventilating the above district. This pit is situated about a mile south of Wallsend Station, and is 296 feet in depth and 16 feet 6 inches in diameter. Headings are being driven from this pit to connect with the cross-cuts in Bosfield's district, and a considerable quantity of fire-damp is given off.

In one of the headings which is stopped, and which has been driven in about 12 yards, and is 6 feet high and 6 feet wide, the gas would ignite in a Davy lamp 2 feet 6 inches from the roof, and tailed off to nothing in a distance of 10 yards. When the whole of the air current was turned into this heading the gas was removed in about five minutes, but would accumulate quickly. This heading is fenced off and a danger notice-board put up to warn men from entering. The men working in the other headings were using Mouseler safety-lamps.

A small fan is attached to the winding-engine, and the air carried down the shaft by means of pipes; these are conducted up to the face of the working headings, to ventilate them and keep them free from gas.

A communication between this shaft and the workings of Bosfield's district in the main tunnel is expected to be made in about a month from the date of this report.

It is the intention to erect a large fan to ventilate the district connected with this shaft.

The wheeling and travelling roads were in good condition, and there was a plentiful supply of timber on the various flats.

I have, &c.,

THOS. L. BATES,

Inspector of Collieries.

Seen.—J.D., 7/11/87. The Examiner of Coal-fields, 23/11/87. Seen. The manager appears to be taking all necessary precautions for the safety of the men working in the headings where a considerable quantity of gas has been found.—J.M., 24/11/87. Under Secretary for Mines, B.C., 24/11/87. Submitted.—H.W., 8/12/87. Approved.—F.A., 9/12/87.

## No. 2.

### The Examiner of Coal-fields to Mr. Inspector Bates.

Sir,

Coal-fields Office, Newcastle, 3 January, 1888.

Referring to your reports on the explosive gas (carburetted hydrogen) found at and near the Newcastle-Wallsend Company's new winning at the Jubilee shaft, I beg to request that you will inform me whether the air fouled by the carburetted hydrogen gas from the heading or headings from which it exudes is sent direct into the return air-way, or is circulating past the working faces of bords, &c., where men are working with naked lights.

Also, whether any shots were fired where the gas existed, and the workmen were permitted to take into the district matches, tobacco and pipes, and to smoke.

I have, &c.,

JOHN MACKENZIE,

Examiner of Coal-fields.

## No. 3.

### Mr. Inspector Bates to The Examiner of Coal-fields.

Wallsend Colliery.

Sir,

Newcastle, 4 January, 1888.

In reply to your letter of 3rd January, I have the honor to state that the intake air from the Jubilee shaft passes over feeders of gas in the floor of the heading, and then airs a number of bords where men are working with naked lights before reaching the furnace.

In places where the men work with safety-lamps they are cautioned not to take pipes or matches with them, and are required to leave them outside the danger-board.

When safety-lamps were in use I believe shots were fired by the deputy after examination of the place.

I have, &c.,

THOS. L. BATES,

Inspector of Collieries.

## No. 4.

### The Examiner of Coal-fields to Mr. Inspector Dixon.

Sir,

Coal-fields Office, Newcastle, 6 January, 1888.

Referring to my telegram of the 4th instant, desiring you to accompany me to the Newcastle-Wallsend Colliery, on the 5th idem, and the examination made by us of the Jubilee gassy district, I now beg to request that, in accordance with the provisions of the 25th section of the Coal-mines Regulation Act, 1876, you (the Inspector) will to-day notify Mr. J. Y. Neilson, the Company's colliery manager, that in view of the liability of a larger outburst of inflammable gas occurring at any time, we consider

consider it a dangerous practice for ninety-eight (98) miners to be working with naked lights in the Jubilee shaft gassy district, where we found inflammable gas very freely exuding from numerous blowers in the floor of the Jubilee headings, and where the current of air, after being fouled, is used by about sixty-eight men in one split, and thirty men working in bords, &c., in another split.

2. You should also draw his attention to the dangerous practice of having only a single trap-door in the main heading, and to the narrow bord, 36 feet in length, 6 feet wide, and 5 feet 9 inches high, at the bottom of the Jubilee down-cast shaft, where the air, being stagnant, contains a permanent reservoir of explosive gas.

I have, &c.,

JOHN MACKENZIE,  
Examiner of Coal-fields.

No. 5.

Mr. Inspector Dixon to J. Y. Neilson, Esq.

Sir,

Glebeland, 6 January, 1888.

Yesterday (Thursday), accompanied by Mr. J. Mackenzie, Examiner of Coal-fields, I carefully inspected the workings in the vicinity of the Jubilee shaft in connection with the Newcastle-Wallsend Coal Company's Colliery, and found inflammable gas very freely exuding from numerous blowers in the floor of the Jubilee headings. Also in the narrow bord, 36 feet in length, 6 feet wide, and 5 feet 9 inches high, near the shaft bottom, inflammable gas could be detected in the Davy lamp 9 inches from the roof at a point 7 yards from the face, and 2 feet 4 inches from the roof 5 yards from the face, and 3 feet 5 inches from the roof at the face.

2. Having by such inspection proved beyond a doubt that inflammable gas was being engendered in the abovenamed places, and in view of the liability of a large outburst of inflammable gas occurring at any time, I hereby, in accordance with the provisions contained in the 25th section of the Coal-mines Regulation Act, 1876, give you notice that in my opinion it is a dangerous practice to allow the air current from the Jubilee shaft to ventilate one split of about sixty-eight men and another split of about thirty men, all working with naked lights, after such current of air has coursed through the Jubilee headings, where the gas is exuding.

3. I would also draw attention to the practice of having only a single trap-door on the main road between the Jubilee headings, where, in my opinion, two doors are necessary.

4. I have therefore to urge your serious and immediate attention to the above-mentioned matters, with a view to having them remedied as speedily as possible.

I have, &c.,

JOHN DIXON,  
Inspector of Collieries.

Forwarded for the information of the Honorable the Secretary for Mines.—J.M., 7/1/88.  
Under Secretary for Mines, B.C., 7/1/88.

No. 6.

Mr. Inspector Dixon to The Examiner of Coal-fields.

Sir,

Glebeland, 6 January, 1888.

Re our inspection of the Jubilee headings in the Newcastle-Wallsend Company's Colliery yesterday (Thursday), where we found inflammable gas very freely exuding from numerous blowers in the floor of said headings, and a current of air passing over the blowers and carrying the gas into two splits or districts where persons were employed with naked lights, and being of opinion that such was a dangerous practice, I have the honor to state that I have this day (Friday) served the manager (Mr. J. Y. Neilson) with notice, in accordance with the provisions of the 25th section of the Coal-mines Regulation Act, 1876, with a request that the matter be remedied as soon as possible.

I herewith beg to forward copy of notice.

I have, &c.,

JOHN DIXON,  
Inspector of Collieries.

No. 7.

The Examiner of Coal-fields to The Under Secretary for Mines.

Sir,

Coal-fields Office, Newcastle, 6 January, 1888.

Herewith I have the honor to forward you, for the Minister's information, a copy of letters written by me to Mr. Inspectors Bates and Dixon with respect to a dangerous practice I find is adopted at the Newcastle-Wallsend Colliery by Mr. J. Y. Neilson, the Company's colliery manager.

2. Accompanied by Mr. Inspector Dixon, I made an examination of the Wallsend Company's Jubilee gassy district yesterday, and have to-day wired Inspector Rowan to be here Sunday morning, so that he may go to the colliery on Monday morning next and report to me whether he considers that there is a larger quantity of inflammable gas being discharged from blowers, &c., than there was when he made his inspections of the Bulli mine, after the new furnace was at work at Bulli, and at the time of the Bulli disaster.

I have, &c.,

JOHN MACKENZIE,  
Examiner of Coal-fields.

P.S.—I am preparing a report and plan showing the method of ventilation, &c., and will forward it to you after Mr. Rowan has visited the mine.—J.M.

## No. 8.

## The Examiner of Coal-fields to Mr. Inspector Rowan.

Sir,

Coal-fields Office, Newcastle, 9 January, 1888.

I wish you to go to the Jubilee gassy district (Bosfield's) at the Newcastle-Wallsend Colliery to-day, and make me a full and careful report on the method of ventilation, the number of blowers and quantity of explosive gas in those headings, the narrow bord, and in the two splits—one called No. 3, in which there are sixty-eight men and three boys working with naked lights, and three horses; and the other, No. 4, in which there are thirty men and four boys working with naked lights, and four horses.

2. The quantity of air supplied to the men, boys, and horses in each split, stating whether it is fouled with inflammable gas, the date of sinking of the Jubilee shaft to the bottom of the sump, the date when the Jubilee headings were put through to the cross-cuts driven from the main heading, the system of ventilation adopted after the headings were so cut through (showing same on a tracing of the workings), and the date of the present system of ventilation (showing the same also on a tracing of the workings).

3. Where explosive gas was first met with in the main heading, and quantity thereof in other places in Bosfield's district.

Also whether any shots were fired where gas existed, who they were fired by, what tamping was used, and show on tracings where the men worked with naked lights since the Jubilee headings were put through to the cross-cuts driven from the main heading.

4. And lastly, I wish to be informed whether you are of opinion that there is or has been less or more explosive gas discharged from blowers, &c., in the Jubilee headings, narrow bords, and other parts of Bosfield's district than there was in the Bulli mine previous to or at the time of the Bulli disaster.

I have, &amp;c.,

JOHN MACKENZIE,  
Examiner of Coal-fields.

P.S.—Also report as to whether there was a trapper boy at the door between the Jubilee headings and at other single or double doors.—J. M.

Forwarded for the information of the Honorable the Secretary for Mines.—J.M., 9/1/88. The Under Secretary for Mines, B.C., 9/1/88.

## No. 9.

## The Examiner of Coal-fields to Mr. Inspector Bates.

Sir,

Coal-fields Office, Newcastle, 9 January, 1888.

Mr. Rowan, Inspector of Colliceries, is going to the Jubilee gassy district of the Newcastle-Wallsend Colliery to-day, and I have to request that you will accompany him, and assist to obtain the information I have desired him to report upon.

I have, &amp;c.,

JOHN MACKENZIE,  
Examiner of Coal-fields.

Forwarded for the information of the Honorable the Secretary for Mines.—J.M., 9/1/88. Under Secretary for Mines, B.C., 9/1/88.

## No. 10.

## Report by Mr. Inspector Rowan.

## Method of ventilation, &amp;c., Wallsend Coal Company's Colliery.

Sir,

Newcastle, 12 January, 1888.

Referring to your telegram of the 7th and letter of the 9th instant, requesting me to make a full and careful report on the method of ventilation, the number of "blowers," and quantity of explosive gas in the Newcastle-Wallsend Coal Company's colliery, Jubilee shaft narrow headings, Bosfield's district.

In compliance with the above, I have the honor to state that, accompanied by Mr. Inspector Bates and Mr. Bosfield, overman, I inspected the Jubilee shaft narrow headings on the 9th and 11th instant, also Nos. 3 and 4 divisions of working.

I tested the air current at the intake about 3 chains from the bottom of the shaft, and got a register of 11,780 cubic feet of air per minute. This current is split into two divisions by means of a regulating canvas stopping. [See plan lettered A.] I tested the air current for the No. 3 split, and got a register of 6,600 cubic feet of air. This No. 3 current is conducted by a single door (at which door there is no trapper stationed) into the main front and back headings [see red arrows on plan], where four men are working, then travels on to where sixty-four men, five boys, and five horses are employed, after which it enters the return to the furnace. In the No. 4 split there are thirty men, two boys, and two horses, and served with 6,500 cubic feet of air per minute. [See direction of air current, indicated by blue arrows.]

I examined the Jubilee narrow headings and found seventeen blowers which were generating fire-damp (hydrogen gas). [See plan from No. 1 to 12.] No. 1 blower was distinctly heard humming at a distance of 22 yards; the other blowers could be heard, more or less, at distances from 5 to 10 yards off. You will see from plan that the air currents which supply the Nos. 3 and 4 districts are passed over the blowers referred to, and consequently are mixed with inflammable gas.

The narrow bord broken off the Jubilee shaft, I found, was driven a distance of 10 yards, 6 feet wide and 4 feet 10 inches high. I examined this bord with a safety-lamp. I found 2 feet 10 inches of gas (fire-damp) from the roof at the face, tapering out to a feather edge at the shaft.

Mr. Bosfield (overman) informed me gas (fire-damp) was first met with in the main heading [see plan lettered B] at fault, but was only seen in very small quantities, and could only be detected by holding the naked light to the face when a facing was stripped, and then it only ignited, and went out in the shape of a small "fluff."

I inquired of the manager, Mr. Neilson, what method the men used in firing shots during the time that the Jubilee narrow headings were being driven. He stated that the shots were fired by the deputy before the connection was made in the cross-cut to the men who were driving the headings from the shaft, but the men driving the headings from the main road fired their own shots. They were good men. He did not know what they tamped the shots with, but he knew that the brattice was kept up to within a short distance from the working place.

The quantity of explosive gas (carburetted hydrogen) is much greater in the Jubilee shaft narrow headings than ever I saw in the Bulli Colliery, previous to or since the disaster.

In reply to your memo. of to-day, the 12th instant, I beg to state that the first blower is about 44 yards from the Jubilee shaft, and the distance from the first to the twelfth blower inclusive is about 180 yards.

A danger-board is fixed at a distance of about 40 yards from the bottom of the shaft.

A fireman's caution-board is placed at the entrance of the narrow headings, near the door dividing the Nos. 3 and 4 splits of air from the Jubilee shaft. A caution-board is also affixed where the heading holed into the narrow bords in Cockroach district, as shown on plan.

I have, &c.,

JAMES ROWAN,

Inspector of Collieries.

#### EXTRACTS from Report Book kept in the Newcastle-Wallsend Coal Company's Office.

18th November, 1882.—Holed into two old narrow bords and found a large quantity of gas.—T. BOSFIELD.

Special report.—I visited Bosfield's district, found cross-cut just holed into old narrow bord, and discovered a quantity of standing gas; ordered all naked lights to be extinguished, and took the necessary steps to remove the gas.—J. Y. NEILSON, 18 November, 1882.

Friday, 18th November, 1882.—Holed into Moses Owen's narrow bords, and found they contained about 30 yards of gas each. Mr. Neilson also visited the place and ordered all work to be suspended. On Friday night I took men in at 12 o'clock, with brattice; cleared both places. Have visited the places Monday, 21st instant, and find them quite clear, with a good current of air travelling.—T. BOSFIELD.

25th November, 1882.—Holed into Jubilee shaft and found a small quantity of gas.—T. BOSFIELD.

### No. 11.

#### The Examiner of Coal-fields to The Under Secretary for Mines.

Sir,

Coal-fields Office, Newcastle, 13 January, 1888.

I have the honor to forward, for the information of the Honorable the Secretary for Mines, the report I have received from Mr. Inspector Rowan, dated the 12th instant, which he has made at my request for the purpose of ascertaining his opinion as to whether there is or has been more explosive gas discharged from blowers, &c., in Jubilee headings narrow bord and other portions of Bosfield's district, in the Newcastle-Wallsend Coal Company's mine, than there was at Bulli previous to or at the time of the Bulli disaster, Mr. J. Y. Neilson having been one of the Royal Commissioners who reported on the Bulli Colliery accident, and consequently one who so very strongly condemned the system of ventilation in vogue at the Bulli mine prior to the disaster, and especially in allowing an air current fouled with minute quantities of explosive gas to pass on to men and boys working with naked lights, and also the practice of having single doors instead of double doors, and not withdrawing the men from the mine before shots were fired.

2. From Mr. Rowan's report it will be seen,—

- (1.) That the quantity of explosive gas in the Jubilee shaft narrow headings is much greater than ever he saw in the Bulli mine.
- (2.) That on his inspection there was no less than seventeen blowers in a length of 180 yards in the Jubilee headings generating fire-damp, one of which he heard humming at a distance of 22 yards, and others at distances of 5 or 10 yards.
- (3.) That the air currents which supply the men and boys (101) with air in the Nos. 3 and 4 districts are passed over the blowers referred to, and consequently are mixed with explosive gas.
- (4.) That shots were fired by the deputy and men.
- (5.) That a single door, at which there is no trapper-boy, is placed in the main road between Nos. 1 and 2 Jubilee headings in order to conduct the air current to the No. 3 district, where 64 men, 5 boys, and 5 horses are at work.

3. It will be seen from the plan of the Jubilee district workings Mr. Rowan has annexed to his report that a pair of headings (Jubilee) have been broken off the main road about 100 yards in bye-side of an 18-feet fault, which Bosfield told me and Mr. Inspector Dixon gave off very considerable quantities of explosive gas before and after it was crossed.

These headings are straight, and are separated by a pillar of coal 4 yards in thickness, and have been driven, one of them about 234 yards from the main road to the Jubilee shaft, and the other about 192 yards. Both of these headings from the first gave off gas, both were broken off the main road, and a single trap-door is placed between them on the main road. This door when closed intercepts the intake air current coming down the Jubilee down-cast shaft, and splits that current into two. One portion of it, fouled with inflammable gas, which is constantly and very freely exuding from "blowers" in the floor of the Jubilee headings (gassy district), is directed by stoppings and single doors to supply bords, headings, &c., where sixty-four men and five boys are at work with naked lights in air fouled with inflammable gas; and the current of air for No. 4 district is directed by stoppings and single doors and allowed to circulate and supply thirty men and two boys working in bords, headings, &c., with naked lights in the Cockroach district. And when the door in the main road between the Jubilee headings is open the principal portion of the intake air, which, when the door is shut, should circulate past the bords, &c., where the sixty-four men, five boys, and five horses are at work in the No. 3 split, would join No. 2, and go to the thirty men

two boys, and two horses at work in the Cockroach (No. 4) district, thus leaving the sixty-four men and five boys working there with naked lights with a considerable less quantity of Jubilee intake air than it is intended and it is so necessary they should be supplied with.

4. I also desire that the Minister's attention be drawn to the extracts from the "Report Book" kept in the Newcastle-Wallsend Company's office, annexed to Mr. Rowan's report, from which it will be seen that on 18th of last November, when the cross-cuts were holed into two old narrow bords (C on tracing), each of them contained 30 yards of gas, when it was found necessary to suspend all work until the places were cleared of gas; and to Mr. J. Y. Neilson telling Messrs. Rowan and Bates when leaving the Wallsend Colliery on the 11th instant to inform the Examiner, either officially or not, that he would not allow the Examiner or Inspector to again enter the district complained of until the matter was settled, and that he intended to stand or fall by the 25th section of the Act.

I have, &c.,

JOHN MACKENZIE,  
Examiner of Coal-fields.

Submitted the Company should be called upon to appoint an arbitrator at once.—H. W., 17/1/88.  
Approved.—F.A., 18/1/88. Company called upon, 18/1/88. Remind and request prompt attention.—  
H. W., 31/1/88. Reminded, &c., 31/1/88.

## No. 12.

### Mr. F. W. Binney to The Secretary for Mines.

Sir,

Newcastle-Wallsend Coal Company, Sydney, 13 January, 1888.

I am instructed to write you in reference to a notice given by Mr. John Dixon, Inspector of Collieries, dated the 6th January instant, to Mr. Neilson, this Company's colliery manager, of which you have doubtless been informed, and to explain the particulars as to ventilation at the several places mentioned, which will, I think, show that the complaints made by Mr. Dixon cannot be sustained.

In reference to paragraph No. 1, there are no doubt several small fissures from which a small quantity of gas exudes, but not sufficient to be likely to cause any bodily injury to the miners. These fissures at first only gave off about 40 feet of gas per hour. Since opening out some two months ago, this amount has considerably decreased by the natural drainage of the gas. Even taking the maximum of 40 feet per hour, 600 cubic feet of fresh air per hour would be sufficient to dilute and render harmless this quantity of gas, whereas 90,000 cubic feet of pure and undiluted air, at only 300 feet from the surface, are passing these places at the rate of 400 feet per minute, and no irregularity in the details of ventilation can possibly diminish this quantity. I therefore respectfully submit there can be no danger from the gas from these fissures in the vicinity of the bottom of the Jubilee shaft.

With regard to the narrow bord, no doubt a small quantity of gas is to be found, but the gas exuding from this place is included in the 40 feet above-mentioned, and cannot possibly do any harm to any person, as the place cannot be reached without the assistance of the sinking engine at the ventilating shaft except by swimming. On Mr. Dixon's visit recourse was had to the sinking bucket to swing him into this place. I therefore submit this place cannot be a source of danger. In ordinary course of working the ventilation in this place would be properly attended to.

In reply to paragraph 2 of Mr. Dixon's letter, wherein he states that, by the inspections above referred to, he has proved beyond a doubt that inflammable gas was being engendered in the above-named places, and in view of the liability of a larger outburst of inflammable gas occurring at any time, &c., &c., I would observe that the shaft mentioned by Mr. Dixon, known as the "Jubilee Shaft," is one that the Company has just completed sinking for the purpose of providing improved ventilation in a portion of their mine which it is intended to open out; that the Company has driven over 30 chains through virgin coal to connect with this ventilating shaft, during which time gas has nearly always issued from small fissures at the faces of drives and been sufficiently ventilated by ordinary brattices. The connection is now complete, leaving the coal all open for the gas to drain off. All workings are suspended up to within 400 yards of the ventilating shaft bottom, so that it is impossible for a "larger outburst" to take place, and there can be no risk to anyone until working is resumed there.

In regard to paragraph 3 in Mr. Dixon's notice, I have to point out that the matter of the door does not in any way affect the question of gas in the Jubilee heading.

In conclusion, I am desired to say that during the sinking of this ventilating shaft Mr. Dixon has frequently visited the same, and any suggestions he has made have been attended to. Mr. Bates also has visited the shaft, and the same remark may be made as to him.

The sinking of this ventilating shaft has but recently been finished; the connection with the Company's tunnel workings just completed; a very powerful Guibal fan is about ready for shipment from England, with the intention of making the ventilation of the Wallsend mine as good, if not better, than it has ever been.

My Board feel, however, that there does not exist sufficient ground for the notice given in Mr. Dixon's letter; and I am directed therefore to say that if you should consider, after inquiry, that it is necessary to take any action in regard to Mr. Dixon's notice, the Company claim to have the matter referred to arbitration, in terms of the clause of the Coal-fields Regulation Act, section 25.

I have, &c.,

F. W. BINNEY,  
Secretary.

This notice having been received within the prescribed time, the matter must now be referred to arbitration, in terms of the Coal-mines Regulation Act, section 25.—H. W., 13/1/88. Submitted.

Approved.—F.A., 13/1/88.

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## No. 13.

Mr. J. Y. Neilson to Mr. Inspector Dixon.

Sir, Newcastle Wallsend Coal Company, Wallsend, 13 January, 1888.

In reference to your letter of the 6th instant, the matter is so important that I at once referred it to my Directors, who are now in communication with the Department of Mines.

With regard to the narrow bord, wherein standing gas exists, and without admitting any danger, I will stow it up. As far as the door mentioned in No. 3 paragraph is concerned, it is scarcely worth noticing.

Yours, &c.,  
J. Y. NEILSON.

The Examiner of Coal-fields.—J.D., B.C., 14/1/88. These matters are now being referred to arbitration.—J.M., 17/1/88. The Under Secretary for Mines, B.C., 18/1/88.

## No. 14.

The Under Secretary for Mines to The Secretary of the Newcastle-Wallsend Coal Company.

Sir, Department of Mines, Sydney, 18 January, 1888.

Referring to your letter of the 13th instant, in respect to the notice served by Mr. Inspector Dixon on Mr. Neilson, your Company's colliery manager, and in which you state that your Board do not think there is sufficient ground for such notice, and claim to have the matter referred to arbitration, in terms of the Coal-fields Regulation Act, section 25, I am directed by the Secretary for Mines to call upon your Company to appoint an arbitrator at once.

I have, &c.,  
HARRIE WOOD,  
Under Secretary.

## No. 15.

Mr. F. W. Binney to The Under Secretary for Mines.

Sir, Newcastle-Wallsend Coal Company, Sydney, 24 January, 1888.

I have the honor to acknowledge your letter of the 18th instant, informing me that you are directed by the Secretary for Mines to call upon this Company to appoint an arbitrator at once, in terms of the Coal-fields Regulation Act, section 25, in respect of the complaint lodged by Mr. Inspector Dixon.

I laid your letter before my Board on the 19th instant, and expect in the course of a few days to be able to give you the name of the arbitrator appointed by this Company.

I have, &c.,  
F. W. BINNEY,  
Secretary.

Submitted for information of the Minister.—H.W., 25/1/88. Seen. As the question involved in this case is one of danger to the miners working in the Company's mine, no time should be lost in having it settled.—F.A., 1/2/88.

## No. 16.

Mr. F. W. Binney to The Under Secretary for Mines.

Sir, Newcastle-Wallsend Coal Company, Sydney, 1 February, 1888.

I have just received your letter of the 31st, and from the reference to your letter of the 18th it would seem that you had not received my acknowledgment of same sent on the 24th January. Is this so?

I am, &c.,  
F. W. BINNEY.

Inform that the letter referred to had been received, and take the action directed by the Minister on that letter.—H.W., 1/2/88.

## No. 17.

The Under Secretary for Mines to Mr. F. W. Binney.

Sir, Department of Mines, Sydney, 2 February, 1888.

I have the honor to acknowledge the receipt of your letter of the 24th ultimo, in which you state that in the course of a few days you will be able to give the name of the arbitrator appointed by your Company to deal with the matter of the complaint lodged by Mr. Inspector Dixon, and I am to inform you that it is the desire of the Minister that the matter be settled as speedily as possible, as the question involved is one of danger to the miners working in the Company's mine.

I have, &c.,  
HARRIE WOOD,  
Under Secretary.

## No. 18.

The Under Secretary for Mines to The Secretary of the Newcastle-Wallsend Coal Company.

Sir, Department of Mines, Sydney, 7 February, 1888.

With reference to my letter of the 2nd instant and previous communication, and also to your personal interview with the Minister respecting the disinclination of your Company to appoint an arbitrator to deal with the matter of the complaint lodged by Mr. Inspector Dixon, I am directed to invite your attention to the fact that you have not yet carried out your promise to withdraw the objection conveyed in your letter of the 13th ultimo.

I have, &c.,  
HARRIE WOOD,  
Under Secretary.

No. 19.

## No. 19.

Mr. F. W. Binney to The Under Secretary for Mines.

Sir, Newcastle-Wallsend Coal Company, Sydney, 7 February, 1888.

I have the honor to acknowledge your letter of this date, and in reply beg to inform you that I have had no Board meeting since my interview with the Minister.

My Directors meet on Thursday, when I shall report the result of my interview with the Minister, and will then communicate with you further.

I have, &amp;c.,

F. W. BINNEY,  
Secretary.

Submitted for the information of the Minister.—H.W., 8/2/88. Secn.—F.A., 8/2/88.

Regret might be expressed that the owners think it necessary to refer this matter to the Board of Directors, instead of allowing their agent (Mr. Neilson) to deal with it, as the delay caused thereby may defeat the intentions of the Act.—H.W., 8/2/88.

Submitted. Approved.—F.A., 9/2/88.

## No. 20.

Mr. F. W. Binney to The Under Secretary for Mines.

Sir, Newcastle-Wallsend Coal Company, Sydney, 9 February, 1888.

In reference to an interview with the Honorable the Minister for Mines, your letters of the 7th February, and the correspondence which has taken place in regard to the ventilation of the Wallsend mine, I am instructed by my Directors to say that they wish to withdraw the request made in my letter of the 13th January for the submission to arbitration of the matters referred to in Mr. Inspector Dixon's notice of the 6th January. They desire me to state for your information that the portion of the mine more particularly mentioned by Mr. Dixon is not being worked for coal-getting, but only for necessary work in preparation for the completion of the system of ventilation by means of a fan, and that the works in connection with this ventilation have been in progress since May, 1887, and the fan was ordered from England so long ago as 10th September last year, and is now on the way and expected here in March.

Under these circumstances, my Board desire me to submit to you that a further inspection might be made by Mr. Dixon, in order to satisfy you that the Company is taking all necessary steps to avoid ground for complaint.

I have, &amp;c.,

F. W. BINNEY,  
Secretary.

The Examiner of Coal-fields.—H.W., 9/2/88.

After consultation with the Examiner, I submit that the question at issue is one which should be settled by arbitration or by a competent Court. Therefore the owners should either withdraw the objection, so that proceedings may be taken for non-compliance with the notice, or they should appoint an arbitrator, so that the question may be settled by arbitration.—H.W., 10/2/88.

Submitted. Approved.—F.A., 11/2/88.

## No. 21.

The Under Secretary for Mines to The Secretary of the Newcastle-Wallsend Coal Company.

Sir, Department of Mines, Sydney, 13 February, 1888.

Referring to your letter of the 9th instant, in which, by instruction of your Directors, you state that they desire to withdraw the request for the submission to arbitration of the matters referred to in Mr. Inspector Dixon's notice, and ask that a further inspection might be made of the mine, in order that the Department may be satisfied that the Company is taking all necessary steps to avoid ground for complaint, I have the honor, by the direction of the Secretary for Mines, to inform you that it is thought that the question at issue is one which should be settled by arbitration or by a competent Court, and that the objection should either be withdrawn, so that proceedings may be taken for non-compliance with the notice, or an arbitrator appointed to settle the question by arbitration.

I have, &amp;c.,

HARRIE WOOD,  
Under Secretary.

## No. 22.

Mr. F. W. Binney to The Under Secretary for Mines.

Sir, Newcastle-Wallsend Coal Company, Sydney, 14 February, 1888.

I beg to acknowledge your letter of the 13th instant, in reference to mine of the 9th instant, and to state that in writing to request the withdrawal of the offer to submit the matter to arbitration the intention of the Directors of the Company was to leave the course free for any other steps the Minister might think fit to take in reference to the notice given by Mr. Inspector Dixon in his letter of the 6th January last. At the same time my Board thought that the Minister would probably be good enough to direct a further inspection by Mr. Dixon, on the information given in my letter as to the steps this Company was taking in reference to the ventilation.

I have, &amp;c.,

F. W. BINNEY,  
Secretary.

The contention of this Department is, that at the date of the Inspector's notice they were working in violation of the Coal-mines Regulation Act, and that the question should be determined by arbitration or by a Court of Law. Until the owners either withdraw their objection or appoint an arbitrator the hands of the Department are tied. The period within which proceedings can be taken has nearly expired, and the delay on the part of the Company, if persisted in, will have the effect of preventing the question being tested. It cannot be supposed that the owners desire to prevent the matter being brought into Court, and, therefore, they should at once withdraw their objection, or, if they prefer, appoint an arbitrator.—H.W., 15/2/88. Approved.—F.A., 15/2/88.

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No. 23.

The Under Secretary for Mines to The Secretary of the Newcastle-Wallsend Coal Company.

Sir,

Department of Mines, Sydney, 16 February, 1888.

In answer to your letter of the 14th instant, to the effect that in writing to request the withdrawal of the offer to submit the matter of the notice served on the Company to arbitration the intention of your Directors was to leave the course free for any other steps the Minister might think fit to take in reference to such notice, I have the honor, by instruction of the Secretary for Mines, to point out that the contention of this Department is, that at the date of the Inspector's notice the owners were working in violation of the Coal-mines Regulation Act, and that the question should be determined by arbitration or by a Court of Law, and that until the owners either withdraw their objection or appoint an arbitrator the hands of the Department are tied. The period within which proceedings can be taken is nearly expired, and the delay on the part of the Company, if persisted in, will have the effect of preventing the question being tested. It is not to be supposed that the owners desire to prevent the matter being brought into Court; and, therefore, it is thought they should at once withdraw their objection, or, if they prefer, appoint an arbitrator.

I have, &amp;c.,

HARRIE WOOD,

Under Secretary.

No. 24.

Mr. F. W. Binney to The Under Secretary for Mines.

Sir,

Newcastle-Wallsend Coal Company, Sydney, 21 February, 1888.

In reply to your letter of the 16th instant, I have the honor to inform you that the intention of the Board was to withdraw any objection to proceedings being taken by the Minister in regard to the notice given in Mr. Inspector Dixon's letter of the 6th January last. As, however, the Minister does not consider my letter of the 14th instant a sufficient withdrawal of the objection, I beg now, on behalf of the Company, to withdraw any objection raised by the Company which in any way prevents action on the part of the Minister for Mines in respect of the complaint made by Mr. Inspector Dixon in his notice of the 6th January last.

I have, &amp;c.,

F. W. BINNEY,

Secretary.

Proceedings may now be taken to enforce the penalty under the Act.—H.W., 21/2/88.  
Approved.—F.A., 21/2/88. The Examiner, 21/2/88.

No. 25.

Report by The Examiner of Coal-fields.

Re case *v. J. Y. Neilson*, Manager of the Wallsend Coal Company.

Sir,

Coal-fields Office, Newcastle, 13 March, 1888.

This was a prosecution for a breach, by the defendant, of the provisions of section 25 of the Coal-mines Regulation Act of 1876, in such a manner as to constitute an offence against the said Act. The facts given in evidence in proof of such offence were briefly as follows:—

In the latter part of last year the defendant, as manager of the said mine, by sinking a certain shaft, called the Jubilee shaft, and driving certain headings, called the Jubilee headings, 234 yards in length from the said shaft to the main road of the mine, opened new ground in the said mine.

On the 5th January, 1888, Mr. John Dixon, Inspector of Collieries, accompanied by me, made a careful inspection and examination of the said Jubilee district, and the system of ventilation practised therein. On such inspection he found in a narrow bord at the bottom of the Jubilee shaft 300 cubic feet of highly inflammable gas accumulated, and for a distance of about 180 yards in length in the Jubilee headings numerous blowers, all exuding highly inflammable gas. By the system of ventilation practised in that gassy part of the mine, the intake air proceeded down the Jubilee shaft, along the headings over the said blowers, and was then split by a single trap-door into two districts, in which 64 men, 5 boys, 5 horses, 30 men, 2 boys, 2 horses, respectively, worked. These men and boys all worked with naked lights. The Inspector considered this system of ventilation, in view of the risk of a sudden large outburst of inflammable gas in the said new gassy ground, to be highly dangerous to the workmen in the said splits, because the intake air was fouled with the inflammable gas exuding from the headings, and so fouled coursed to the faces where the men were working with naked lights, so that if a sudden outburst of gas in large quantities occurred an explosion was inevitable. Moreover, the Inspector regarded the single trap-door as insufficient, because, if it chanced to be permanently opened, the principal portion of the intake air which, when the door is shut, should circulate past the bords, &c., where the 64 men, 5 boys, and 5 horses are at work in the No. 3 split, would join the No. 4 and go to the 30 men, 2 boys, and 2 horses at work in the No. 4 split district, thus leaving the 64 men and 5 boys working there, with naked lights, with a considerably less quantity of Jubilee intake air than it is intended and it is so necessary they should be supplied with.

Mr. Rowan, Inspector of Collieries, also reported to me, as you are aware, that the quantity of explosive gas (carburetted hydrogen) in the Jubilee shaft narrow headings, when he inspected them on 9th and 11th January last, was much greater than ever he saw in the Bulli Colliery previous to or since the disaster.

Mr. Inspector Dixon proved that having formed the opinion he did, he gave, according to the provisions of section 25, full notice thereof, and of the above particulars in which the danger lay, to the defendant, and required the same to be remedied. The defendant referred the matter of the Inspector's complaint to his Directors in Sydney, and the Directors at first objected to remedy as required, and claimed to go to arbitration, but they afterwards entirely withdrew the reference to arbitration.

The complaints of the Inspector and his requisition to the defendant to remedy the same were not in any way attended to or complied with, and the causes of complaint still exist just as they were on 5th January, 1888. Indeed, the defendant said in his evidence in the case that he had no intention of doing what the Inspector required.

At

At the conclusion of the case for the prosecution, counsel for the defendant asked for a dismissal on the ground that the defects complained of were within section 12 and its sub-sections, and that the information should have been laid under that section, and not under section 25.

Counsel for the complainant, relying upon *in re* arbitration between Home Secretary and Fletcher, Queen's Bench Division, 339, replied that the danger was not in actual existence, but prospective, and that section 12 applies a remedy to existing danger only, while section 25 provides a precaution against future liabilities, as in the present case.

His Worship ruled that the information was properly laid under section 25, and that the facts proved sustained the information.

Several witnesses, mining experts, all but one colliery managers in the Newcastle District, were called for the defence to prove that the ventilation of that part of the mine was excellent, and no danger of the kind apprehended in fact existed. Counsel for the prosecution objected to the admission of any of this evidence, on the ground that the issue whether the danger in fact existed, as the Inspector thought, could only be raised at arbitration, as provided by section 25, and was not raised in the present case, and that the only issue in the case in such respect was when the defendant had, within twenty days, complied with the requisition of the Inspector's notice.

His Worship admitted all this evidence for the defence, although, as it appears subsequently from his judgment, he considered the issue to be as stated by counsel for the prosecution, and such evidence therefore immaterial, but deemed it prudent to allow such evidence to be given so as to satisfy the minds of workmen and other interested parties as to the safety of the mine.

His Worship found the defendant to be guilty of the offence charged, and adjudged a penalty of £1 or levy and distress, and delivered a written judgment, as follows:—

"In delivering judgment in this matter I consider it necessary to make a few observations on what has taken place.

"By the Coal-mines Regulation Act, 39 Vic. No. 31, of this Colony, an Inspector of Mines is obliged within a certain time to make an inspection of a mine—about every eight weeks—and report the same to the Minister for Mines if anything dangerous appears. Then the Inspector takes the steps named in the 25th section of the before-mentioned Act, as in this case. Now, this Act is expressly made, not for the purpose of annoying colliery managers or the proprietors of the mines, but for the safety of the people employed therein, as it has been found that men managing mines are not always the most careful; while even ignorance and the grossest carelessness prevail amongst men employed in mines, by which their lives are often in great danger, as in the Bulli catastrophe, the men having, however, at their own cost, under the 30th section of the Act, 39 Vic. No. 31, the power to employ two of their number to inspect the mine once a month, and go to every part, and their report to be recorded in a book at the mine kept for the purpose. So that the men have it in their own power to see that all is right, as well as the Government Inspectors. Every provision that man can make for the prevention of accidents, as far as can be seen, seems to have been made by this Act and the rules given to the men at collieries, and still, notwithstanding all, it is necessary that a person unconnected with the colliery should also supervise all workings, &c., as in this case. Now, from all I have heard of Mr. Dixon, the Inspector, a more competent man cannot be found for the duty, and what is more, a more honest, conscientious man. It has been said in Court that but for the Bulli catastrophe this would never have been heard of. Now, I cannot permit it to go abroad that this person was, or could ever be, actuated by any other feeling than of duty, nor his superior either, the Examiner of Coal-fields (Mr. Mackenzie). That ever-to-be-lamented accident at Bulli has, doubtless, had the effect of exciting the utmost vigilance; and therefore no reflections of any kind should in the least be cast on the officers appointed to carry out the regulations they are specially called on to perform, no matter where. The Inspector has done his duty by taking the course that he has taken, no matter whom he may offend; if otherwise, he would not be fit for his position, especially when the lives of fully ninety-three men might be at stake. And now I must in justice say a few words of the manager, Mr. Neilson, whom I have known for over a period of eight years, and I can safely say that I have ever considered him a most humane man, always spoken of as a careful one—one who would not for one single moment put the life of any man in jeopardy if he knew it. Yet, even this matter, as complained of by the Inspector, might have been unknown to him and not reported. Here I must observe that all managers or agents of mines are responsible for the acts of the officers beneath them, unless they can show gross and wilful negligence to their orders. In fact I laid this down in a colliery case from Minmi some time ago in this way or similar to it: 'A manager or agent is like the captain of a man-of-war, who gives his orders and sees them obeyed, and where disobeyed the delinquent is punished; so here, the man is either degraded or dismissed.' I have said this much in justice to the persons concerned, and now I deliver my judgment, which is as follows:—

"This action was properly brought under the 25th section of the Act, 39 Vic. No 31, as in the latter portion it states that the Court, if satisfied that the owner or agent has taken active measures for complying with the notice or award, but has not with reasonable diligence been able to complete the work, may adjourn any proceedings taken before him, or punish such offence; and if the works are completed within a reasonable time no penalty shall be inflicted. Now, as evidence for the defence, all highly practical men, accustomed to fiery mines in the mother-country, have said, upon oath, that the portion of the mine called the Jubilee headings was perfectly safe at the time they visited it, and that the intake air from that shaft, from improvements made, is perfectly pure, and that the blowers give little or no gas off from the floor, and neither is there any likelihood of the slightest danger to the men in splits Nos. 3 and 4, I feel satisfied that the mine is perfectly safe, and the men's lives in no way placed in jeopardy now, so far as human forethought can devise. Here, I regret to say, I consider the portion of the Act already stated does not apply to the remedy effected, but to the inattention of the Inspector's notice. It may happen that similar cases may occur, so many coal-mines are being opened, perhaps presided over by men who may try to defy all legal authority or moral responsibility in their greed for obtaining money, not caring for the lives of those working for them so long as they can obtain any benefit for themselves. It therefore appears to me that in wording this section the framers of this Act had this in view, and therefore made it imperative that the Inspector's notice on all occasions should be attended to. Consequently I find myself unable to deal with it as I could wish. Now, the remedy is effected by its not being perfected under the provision made by the notice referred to, and therefore I am compelled, in support of the inattention paid to the Inspector's notice, to inflict a fine as a caution to others; which fine in this case

case will be merely nominal. I therefore order you, John Young Neilson, to pay a fine of £1; if not paid directly, to be levied by distress. At the same time I have found from the evidence before me that the mine is perfectly safe, so far as human wisdom can foresee."

An application for costs by counsel for the complainant was refused.

The defendant stated in open Court that he refused and still refuses to do what the Inspector requires of him.

I have, &c.,

JOHN MACKENZIE,  
Examiner of Coal-fields.

### No. 26.

#### Minute by The Minister for Mines.

*Re* case of the Examiner of Coal-fields *v.* J. Y. Neilson, Manager of the Wallsend Coal Company.  
22nd March, 1888.

I HAVE carefully read the reports of the Police Magistrate's decision in this case, also Inspector Dixon's evidence, where he states he inspected the mine on the 5th January and the 6th and 7th March, and I feel bound to express my surprise at the said decision. The Police Magistrate appears to have decided the case upon the evidence of mine managers, whose interest it must be to defeat the action of the Department. They spoke of the condition of the mine on the date when the proceedings commenced, and set aside the evidence of those officers who spoke of the condition of the mine when the complaint was made, and the evidence of Inspector Dixon as to the state of the colliery the day before the hearing commenced, which I consider very unjust to the public and the Department. If this line of conduct is continued it will be of no use for the Department to institute any proceedings for offences against the Coal-fields Regulation Act. The Minister for Justice' attention might be called to this case.—F.A.

The Under Secretary for Justice.—H.W., B.C., 26/3/88.

### No. 27.

#### The Police Magistrate, Waratah, to The Under Secretary for Justice.

Examiner of Coal-fields *v.* John Y. Neilson, Manager, Wallsend Coal Company.

Sir,

Waratah, 3 April, 1888.

I am in receipt of papers connected with the case noted above for explanation of my decision thereon, together with a minute from the Minister for Mines in reference thereto.

\* I append the following: If the Minister, who carefully read the evidence, &c., &c., as stated in the minute, had dissected the officers' evidence before condemning me, and studied the information, he would have found in the latter, as laid by Mr. Mackenzie:—

"And did find a certain part of the said mine, to wit, the places in the vicinity of that part of the said mine known as the Jubilee shaft, dangerous, so as, in his opinion, to threaten bodily injury to persons working in the parts known as the Jubilee districts, inasmuch as inflammable gas was being engendered in the Jubilee headings."

This was on the 5th January, 1888, yet, notwithstanding this most serious charge, Mr. Dixon did not again visit the place when about ninety-six or ninety-eight men were at work, and whose lives were being endangered, until just before the holding of the Court, a considerable time, which, I think, any unprejudiced and disinterested person would be rather surprised at. Then take the evidence of the Examiner of Coal-fields. He goes with Mr. Dixon the same day, 5th January, and, on examination, states:—"I cannot say whether there was a dangerous quantity of gas there; the quantity of gas was one of the elements of ventilation. At the furthest point to which I was carried I did not see any gas that was an element of danger to ventilation. The spot is within 20 yards of the bottom of the Jubilee shaft. At the place I was carried to the air was pure and the gas insignificant in quantity. Mr. Bonsfield, the overman, told me that there was more gas than ever there was in the Bulli mine, and that was my experience from my examination. I did not order the men out. I went with a naked light myself. I did not see any danger from the headings on the day I was there."

Yet this is the day Mr. Dixon was with his superior, Mr. Mackenzie, and the day on which the information was laid.

Mr. Dixon in examination states:—"On the 5th of January the mine was dangerous and defective, and tending to the bodily injury of the persons working there."

Yet the Examiner of Coal-fields, who accompanied him, gave a different opinion. And, again, I don't call the Jubilee shaft any benefit to ventilation at all.

Mr. James Rowan, Inspector of Collieries, stated:—"I inspected the Jubilee district on two occasions, 9th and 11th January last." On examination, said:—"Before the completion of the Jubilee shaft there was complete insulation of air; the air from the Jubilee shaft would tend to explode the accumulated gases; the mine was safe before the Jubilee air-shaft was put down; the ventilation was much more complete now since the Jubilee shaft was made, provided there was no great outburst of gas."

Mr. Bates, Colliery Inspector, who I understood always attended to the mine, named in Mr. Dixon's examination, was not called, although I was given to understand he had been within the precincts of the Court.

For defence,—

Thoms Bonsfield, overman in charge of the Jubilee workings, stated:—"I never told Mr. Mackenzie that the Wallsend mine was a more firey mine than the Bulli; have never been to Bulli."

Seven managers of mines were also examined, none of whom I had ever seen before, except Mr. Turnbull, to whom I was introduced during the adjournment of the Court, and then only about a minute, yet by report I have every reason to believe that these persons are highly gifted in their profession, and as such are as highly respectable as any men, no matter whatever their positions may be, in New South Wales, and utterly incapable of saying anything in the witness-box but what they know and verily believed to be true, even to save a brother manager. All these persons declared there was no danger whatever,

whatever, and that the ventilation was good and sufficient. By the 5th sub-section of the Coal-mines Act, 39 Vic., section 12, "the following General Rules shall be observed in every Colliery"; full power is given to the Examiner or Inspector where a mine is dangerous:—

"Every workman shall be withdrawn therefrom, and the Examiner or Inspector shall inspect the same, and if the danger arises from inflammable gas shall make such inspection with a locked safety-lamp, and in every case shall make a true report of the conditions of such mine, or part thereof; and no workman shall, except in as far as necessary for inquiry into the cause of danger, or for the removal thereof, or for exploration, be readmitted into the mine, or such part thereof so found dangerous, until the same is stated by the Examiner or Inspector to be safe."

Now, neither the Examiner nor the Inspector took the course laid down by law where a mine is dangerous. The Examiner of Coal-fields himself went within a few yards of the Jubilee shaft with a naked light the day the workings were reported dangerous.

Any person on carefully reading and comparing the whole evidence, &c., will easily perceive the motives I had in giving such a decision, chiefly an anxiety to uphold authority as far as possible consistent with right, in order to prevent any ill-feeling to exist—expressions of which were not wanting during the continuance of the case, and which might hereafter operate antagonistically to the Department.

It is with extreme regret I must observe that it appeared to me from the evidence of the officers that the notice was all-important, whilst the lives of ninety-eight men might be sacrificed at any time without any measures being further taken to provide against it by visiting the mine again, and acting on the 5th sub-section of section 12, although not done as it ought to have been done at first if danger existed.

I have, &c.,

R. I. PERROTT,

Police Magistrate.

Submitted.—A.C.F., 6/4/88.

In reference to paragraph (marked \*), the Police Magistrate to be at once written to requesting him to withdraw same, and to apologize to the Minister for Mines for his insulting reference to that gentleman. Mr. Perrott's (P.M.) conduct in penning this paragraph shows an unfitness for his position which I cannot pass over lightly. Report to be sent to the Minister of Mines for his perusal.—W.C., 9/4/88.

The Under Secretary for Mines.—A.C.F., B.C., 9/4/88.

#### No. 28.

The Under Secretary for Justice to The Police Magistrate, Waratah.

Sir,

Department of Justice, Sydney, 9 April, 1888.

Referring to the second paragraph of your letter of the 3rd instant, furnishing an explanation of your decision in the case of the Examiner of Coal-fields *v.* John Y. Neilson, Manager Wallsend Coal Company, in which you reflect on the action taken by the Minister for Mines in the matter, I am directed by the Minister for Justice to request that you will withdraw the paragraph referred to and apologize to the Minister for Mines, for what Mr. Clarke considers your insulting reference to that gentleman.

I have, &c.,

ARCH. C. FRASER,

Acting Under Secretary.

#### No. 29.

Minute by The Minister for Mines.

*Re* case of the Examiner of Coal-fields *v.* the Wallsend Coal Company.

25 April, 1888.

THE Police Magistrate appears to have failed to recognize the drift and object of the prosecution. He appears to think the complaint was that the mine, or some part of it, was dangerous. If so, the proceedings should have been taken under section 12 (*vide* sub-section 5), whereas the proceedings were taken under section 25, the complaint being, not that the mine or any part was dangerous, but that the practice, namely, of allowing the intake air to pass along gassy headings to the working places, where a number of men and boys were working with naked lights, was dangerous. The only question before the Court was whether the Company were guilty of an offence against the Act, in that they had failed to comply with the notice. The Company did not object to remedy, and, therefore, they were, under the 25th section of the Act, tied down to the one issue.

F.A.

The Under Secretary for Justice.—H.W., B.C., 25/4/88. Submitted.—A.C.F., 30/4/88. Copy of Minister for Mines' minute to be sent to Mr. Perrott, P.M., for perusal, and, if he desires, for any further report.—W.C., 4/5/88.

#### No. 30.

The Under Secretary for Justice to The Police Magistrate, Waratah.

Sir,

Department of Justice, Sydney, 4 May, 1888.

Referring to your letter of the 3rd April last, and previous correspondence, respecting the decision given by you in connection with the case of the Examiner of Coal-fields *v.* John Y. Neilson, Manager of Wallsend Coal Company, I am directed by the Minister of Justice to forward for your perusal, and for any further remarks you may desire to offer thereon, the enclosed copy minute of the Minister for Mines in regard to this matter.

I have, &c.,

ARCH. C. FRASER,

Under Secretary.

## No. 31.

## The Police Magistrate, Waratah, to The Under Secretary for Justice.

Waratah, 8 May, 1888.

Sir,

I have the honor to acknowledge receipt of your letter of the 4th instant, enclosing a copy of a minute from the Minister for Mines, in the case of the Examiner of Coal-fields *v.* John Y. Neilson, Manager of the Wallsend Coal Company, and in reply thereto beg to say that I was guided by the evidence, *pro* and *con.*, given in the case, as I conceived it my duty to be so guided, and gave my decision accordingly, upholding the action of the Government officers (notwithstanding the arguments of Mr. J. H. Want, Queen's Counsel), and holding that the case was properly brought under the 25th section of the Act, and imposed a penalty which I thought the justice of the case demanded.

I am quite prepared to give any further explanation, if the Minister for Mines thinks it necessary.

I have, &amp;c.,

ROBT. I. PERROTT,  
Police Magistrate.

Submitted.—A.C.F., 10/5/88. Minister for Mines for approval.—W.C., 26/5/88. The Under Secretary for Mines.—A.C.F., B.C. 26/5/88.

## Copy of Shorthand Notes.

Wallsend Police Court—Thursday, 8 March, 1888.

Before Mr. R. I. Perrott, P.M.

John Mackenzie (Examiner of Coal-fields) *v.* John Young Neilson.

THIS was an action brought by John Mackenzie, Examiner of Coal-fields, acting under instructions from the Honorable the Secretary for Mines, against John Young Neilson, as Manager of the Newcastle-Wallsend Coal Company, for a breach of the Coal-mines Act, 39 Victoria No 31. The following is the information :—

New South Wales to wit: Be it remembered that on the twenty-seventh day of February, in the year of our Lord one thousand eight hundred and eighty-eight, personally came and appeared before me, the undersigned, one of Her Majesty's Justices of the Peace in and for the Colony of New South Wales, John Mackenzie, of Sydney, in the Colony aforesaid, Examiner of Coal-fields for the Colony of New South Wales, duly authorized to prosecute in this behalf, and informs me that John Young Neilson is the agent of the Newcastle-Wallsend Coal Company, who are the owners of a certain coal-mine, situated at Wallsend, in the Colony aforesaid, called the Newcastle and Wallsend Coal Company's Colliery; and that on the fifth day of January, in the year one thousand eight hundred and eighty-eight, John Dixon, of Newcastle, in the said Colony, Inspector of Collieries for the northern district of the said Colony, did inspect the said Newcastle and Wallsend Coal Company's coal-mine, and did find a certain part of the said mine, to wit, the places in the vicinity of that part of the said mine known as the Jubilee shaft, dangerous, so as, in his opinion, to threaten bodily injury to persons working in the parts known as the Jubilee districts, inasmuch as inflammable gas was being engendered in the Jubilee headings, and did find that there was a liability of a larger outburst of inflammable gas occurring at any time therein, and that the air current from the said Jubilee shaft, after coursing through the said Jubilee headings, where inflammable gas was exuding—ventilating two splits of sixty-eight and thirty men respectively, who worked with naked lights, and that a single trap-door was placed on the main road between the said Jubilee headings. And that the said Inspector John Dixon, did thereafter give the said John Young Neilson, agent of the Newcastle-Wallsend Coal Company as aforesaid, notice in writing, dated the sixth day of January, one thousand eight hundred and eighty-eight, and did thereon complain of the matter aforesaid, and require the said John Young Neilson, as such agent as aforesaid, to remedy the matter of complaint aforesaid, and did state in such notice the particulars in which he, the said Inspector, considered the said part of the mine dangerous. And that the said John Young Neilson did not remedy the same forthwith. And he, the said Inspector, reported the said matter of complaint to the Minister for Mines. And that the said John Young Neilson did not within seven days after receipt of such notice as aforesaid make objections in writing to the Minister for Mines stating the grounds on which he objected to remedy the matter so complained of as aforesaid. And that the said John Young Neilson has failed to comply with the requisition of the said notice, given by the said Inspector, and remedy the matter complained of as aforesaid. And that more than twenty days have elapsed since the receipt of such notice. And the said informant further informs me, the undersigned, that he verily believes that the matter of complaint aforesaid is not provided against by any express provision of the Act 39 Victoria No. 31, or any special rule to be observed in the working of the said Newcastle-Wallsend Coal Company's mine, contrary to the provisions of the Act 39 Victoria No. 31, whereupon the said informant prays that I, the said Justice, will proceed in the premises according to law.

JOHN MACKENZIE.

Exhibited at Wallsend, in the said Colony, on }  
the day first above written, before me— }  
ROBERT I. PERROTT, P.M., Justice of the Peace.

*Mr. Want*: In the list to-day, your Worship, there is a case of Mackenzie *v.* Neilson, in which I appear for the defendant, and as I have only just arrived from Sydney, I would ask your Worship to allow the case to stand over until 12 o'clock. If you will consent to this adjournment it will give me an opportunity of looking up the case. I have consulted my friends on the other side, and they would appear to have no objection.

*Mr. Edmunds*: I appear for the prosecution, your Worship, and I am quite satisfied.

*The Police Magistrate*: You have no objection.

*Mr. Edmunds*: No; I have no objection to a postponement.

*The Police Magistrate*: Of course that is a matter which you gentlemen are at perfect liberty to arrange between yourselves.

Mr.

*Mr. Want*: This is a case in which the decision will rest on matters of fact, and not of law. We all know that your Worship has a very good knowledge of mining matters, and I would therefore ask you to be good enough to inspect this colliery for yourself. The complaint here is as to three different things—that a door is required to improve the ventilation; second, a dangerous outflow of gas; and third, that thereby men were in danger of bodily injury. I am perfectly sure that your Worship is well able to judge of these things, and my clients wish to be at once relieved of the imputation of having done anything of this kind, and to have any suspicion hanging over their colliery. What you will have to decide are matters of fact, and these are as to whether it is true or not these lives were endangered; and as we know that your Worship is anxious to give a fair and proper decision, and one on the merits of the case, we therefore ask your Worship, after hearing the evidence about what is complained of, to do us the favour of inspecting this portion of the colliery that we are charged with having left in a dangerous condition. It is now in operation, and I think your Worship knows sufficient about mines to say whether it is in a dangerous condition or not better than any of the witnesses can tell you.

*The Police Magistrate*: I shall be very happy to visit the mine and see it for myself, if the other side have no objection.

*Mr. Edmunds*: I am afraid we shall be obliged to take a slightly different view of the question, your Worship, to that which has been taken by my learned friend on the other side. At the same time I may say that we have no objection to your Worship inspecting the mine, if you should wish to do so; but as to the necessity of it, I think there will be some difference between my learned friend and myself. I think there will also be some difference of opinion as to the law of the case.

*The Police Magistrate*: Oh, of course I can quite understand that lawyers will always differ.

*Mr. Edmunds*: However, the time to consider the law and the other circumstances of the case is after your Worship has heard the evidence.

*The Police Magistrate*: I am quite at the service of both parties, if I can be of any use in assisting you to an arrangement. Of course the chief thing which I will have to guide me will be the evidence that is brought before me in the prosecution of the case, and then I shall be able to judge, having heard the evidence, whether it is necessary to visit and inspect the mine or not. I have no doubt that the evidence in this, as in other cases of a similar kind, will be very conflicting. I may tell you, gentlemen, that the defendant appeared before me several days ago, when the information was read and the plea taken. If you wish for the information you can have it read.

*Mr. Want*: Thank your Worship. I do not think it will be necessary to read the information, because I have a copy.

*Mr. Edmunds*: And I have a copy also, your Worship.

*The Police Magistrate*: The clerk will read the record of the case so far as it has gone.

The clerk read as follows:—"Examiner of Coal-fields v. John Young Neilson, charged with a breach of the Collieries Act. Information read. Defendant pleaded not guilty, and case postponed until Thursday next, 18th inst., on the application of the defendant. Costs of the day allowed—one witness, two days, £2 2s.; and professional costs, £2 2s.—R. I. PERROTT, P.M."

*The Police Magistrate*: In fact you will find the substance of the information in the summons which has been served on the defendant, and I cannot correct it in the slightest degree. I am told that these gentlemen, who are experienced and scientific men, should not be present in Court while the other witnesses are giving their evidence; but I will leave it to you, the gentlemen who are engaged on the other side, whether they should be asked to leave the Court. If you think that it is desirable that they should not be present, I will make the order.

*Mr. Want*: I would like a short adjournment, your Worship, in order that I may make myself acquainted with the facts of the case. I have not yet had time to go into the matter, and would be glad if my friend does not object for an opportunity to do so.

*Mr. Edmunds*: I have no objection to a short adjournment to meet my friend's convenience.

*The Police Magistrate*: This Court stands adjourned until 12 o'clock this day.

On resuming at 12 o'clock,—

*The Police Magistrate* said: The first thing to be done now is to read the information over to the defendant, if you require it.

*Mr. Want*: We do not think it will be necessary, as both of us have copies.

*The Police Magistrate*: Do you wish the witnesses in this case to leave the Court?

*Mr. Edmunds*: I think there is no objection to such an order.

*The Police Magistrate*: In that case, I think it should be done. I presume the case will depend largely upon the opinions of the scientific gentlemen who are to give evidence. Under the circumstances, therefore, I think I ought to make the usual order.

All witnesses were then directed to leave the Court until called on to give evidence.

*The Police Magistrate*: Those gentlemen who are experts, and who are present to give evidence, can have the use of my private room.

*Mr. Edmunds* then said: I appear here, your Worship, to represent the Examiner of Coal-fields, Mr. John Mackenzie, the complainant in this case, and I may state that this prosecution is brought under the 25th section of the Coal-mines Regulation Act of 1876. It may be well first of all, so that I may present the case clearly to your Worship, for me to read to you the section of the Act under which this charge has been laid. I will read the words of the section, which are as follows:—"If, in any respect (which is not provided against by any express provision of this Act or by any special rule), any Inspector finds any mine or any part thereof, or any matter, thing, or practice in or connected with any such mine, to be dangerous or defective, so as, in his opinion, to threaten or tend to the bodily injury of any person, such Inspector may give notice in writing thereof to the owner or agent of the mine, and shall state in such notice the particulars in which he considers such mine or any part thereof, or any matter, thing, or practice, to be dangerous or defective, and require the same to be remedied, and unless the same be forthwith remedied the Inspector shall also report the same to the Minister. If the owner or agent of the mine objects to remedy the matter complained of in the notice he may, within seven days after the receipt of such notice, send his objection, in writing, stating the grounds thereof, to the Minister, and thereupon the matter shall be determined by arbitration in manner provided by this Act in relation to the special rules, and the date of the receipt of such objection shall be deemed to be the date of the reference. If the owner or agent fail to comply either with the requisition of the notice given by the Inspector when

no objection is sent within the time aforesaid, or with the award made on arbitration within twenty days after the receipt of such notice or the making of the award (as the case may be), he shall be guilty of an offence against this Act, and the notice and award shall respectively be deemed to be written notice of such offence: Provided that the Court, if satisfied that the owner or agent has taken active measures for complying with the notice or award, but has not, with reasonable diligence, been able to complete the works, may adjourn any proceedings taken before them for punishing such offence, and if the works are completed within a reasonable time no penalty shall be inflicted. No person shall be precluded by any agreement from doing such acts as may be necessary to comply with the provisions of this section, or be liable, under any contract, to any penalty or forfeiture for doing such acts." It provides, as your Worship sees, that the Inspector—if, in his opinion, the mine is dangerous—may go into it and give notice that the same be remedied; and then the section proceeds, "If the owner or agent of the mine objects to remedy the matter complained of in the notice, he may, within seven days after the receipt of such notice, send his objection, in writing, stating the grounds thereof, to the Minister, and thereupon the matter shall be determined by arbitration in the manner provided by this Act." The section proceeds further:—"If the owner or agent fail to comply with the requisition of the notice given by the Inspector when no objection is sent within the time aforesaid or with the award made on arbitration within twenty days after the receipt of such notice or the making of the award (as the case may be) he shall be guilty of an offence against the Act, and the notice and award shall respectively be deemed to be written notice of such offence." So that, in the first place, if the owner or agent object to remedy the thing complained of he may refer the matter to arbitration; and if he does not do that, and fails to comply with the requisition contained in the Inspector's notice, then he is guilty of an offence under the Act. Now it appears to me that this is a very positive enactment indeed. We must discard altogether any consideration of what should be done if the owner or agent objected to remedy. He is to go to arbitration, the Act says, and then the arbitrators will decide whether he is right in objecting or not. What I say is that we may discard this altogether, because I am in a position to show you that there has been no reference to arbitration in this case. The owner or agent here has not taken the only step which the law allows him to take if he objected to do what the Inspector told him.

The case stood thus: The notice of a dangerous practice in the opinion of the Inspector has been given, and the owner has not remedied the matter. The Act then says, the owner having failed to comply with the notice or the award, "if within twenty days after the receipt of such notice, or the making of the award, as the case may be, he shall be guilty of an offence against this Act, the notice and the award shall respectively be deemed to be written notice of such offence." So that the Act puts the notice in this position, that it will have the same effect as the award, had the defendant gone to arbitration, because the proper course was either to comply with the notice in the first place, or go to arbitration and settle the point. This is a very reasonable and judicious proviso, and one which has been acted upon in Great Britain and everywhere else where similar circumstances are likely to arise. Then there is a proviso regarding the adjournment of the case:—"Provided that the Court, if satisfied that the owner or agent has taken active measures for complying with the notice or award, but has not with reasonable diligence been able to complete the works, may adjourn any proceedings taken before them for punishing such offence, and if the works are completed within a reasonable time no penalty shall be inflicted. No person shall be precluded by any agreement from doing such acts as may be necessary to comply with the provisions of this section, or be liable under any contract to any penalty or forfeiture for doing such acts." The object of this section is to give the Mining Inspector (a man on the proper performance of whose duties so much depends in a district like this, and who, as recent circumstances have shown, holds the lives of the men in his hands) great authority in the supervision of mines, and great power in cases which must always arise, and which are not to be met by any express provision of the Act or special rule of the mine. And it seems to be an extremely wise provision to make, because in the working of coal-mines there must always be great liability of unforeseen circumstances happening, of events of which there may be some slight indications which in a very great degree jeopardise, if they do not immediately destroy, the lives of those engaged in the underground workings. Now, this is the object of the Inspector's authority, and the extent of it is very great. Therefore the very fact of an owner or agent not complying with the notice within a specified time renders him guilty of an offence under this Act, such being the plain interpretation which the words of this section bear, and the interpretation which I, on behalf of the Crown, consider is the one to be placed before your Worship for your guidance. Now, I wish to briefly advert to the circumstances of this particular case. Mr. Dixon is an Inspector of Mines, residing in Newcastle, and supervising the mines of the Northern District, and, of course, it is his duty, as a man who is extensively engaged in this work, to search for any indications of gases, which are the cause of such disasters as that which recently happened at Bulli. He would be unfit for his position, and unfit to undertake the responsible duties which he is discharging, if, after such a terrible calamity as that at Bulli, he did not exercise the most careful scrutiny over the mines in his district, in order to avert a similarly terrible result. Now, going into this Wallsend mine, perhaps the greatest mine in the world, and one which I am sure has been most admirably managed—going down into this mine, and to a part of it known as the Jubilee workings, which are marked on the plan, he finds circumstances existing in that part of the mine which in his opinion—and as the Crown now contend, a correct opinion—were dangerous to the lives of those working there. For these circumstances the Act itself did not provide, nor did the special rules of the mine. The particular part of the mine into which the Inspector went is called the Jubilee district. There is a Jubilee shaft, and from this shaft there is a drive up towards the workings; first of all, one heading for a short distance, and then this heading is split into two for several hundred yards towards the workings. These splits are through new and virgin country, country which, in the opinion of most experts, is liable to contain inflammable gases—and large quantities of inflammable gases. On looking along this heading he found what no doubt startled him—he found a number of blowers. It would be impertinent in me to explain to your Worship what these blowers are.

*The Police Magistrate:* I understand the meaning of the term very well.

*Mr. Edmunds:* Now, if ever a Mining Inspector required to do something it was in this case. He found not one or two but several blowers in these Jubilee headings. Consequently, he closely inspected the system of ventilation in that particular part of the mine. He found that the ventilation of the mine, or rather for this particular part of it, was down the Jubilee shaft, and the intake of air was through this shaft, and coursed along the Jubilee headings, passing over all these blowers, and so carrying with it  
whatever

whatever inflammable gases were exuding from the blowers. The air was then split into two portions, one of which went into that part of the workings known as No. 3 split, in which a large number of men were engaged; I think sixty-four men, five boys, and five horses. All the air for these men, boys, and horses was brought down the Jubilee shaft and over all these blowers. Next the Inspector found that the other portion of the air was carried into No. 4 split, where thirty men, two boys, and two horses were engaged at work, all the air which they were breathing coming over all these blowers from the intake of the Jubilee shaft. Mr. Dixon at once said that this was a defective arrangement. Now, as to whether that opinion be right or wrong I shall have very little to say to your Worship, because that question is not an issue here. All that we have to do is the fact that the Inspector formed the opinion that the ventilation was defective. More than that, he formed the opinion also that the system of ventilation in the mine was defective in another respect, that the door which split this current of air was a single trap-door. He, of course, knew from the result of an inquiry of which the defendant himself, Mr. Neilson, had the honor to be a Royal Commissioner—he knew from the report of that Commission that it was a dangerous practice to have a single door under such circumstances, and he regarded that as a defective part of the system of ventilation, as well as the other matter. And besides this, there appears to have been no trapper boy to stand at the door and work it. At all events the mere fact of having only one door is a second defective point in this system of ventilation, although they are not required to remedy that. The Inspector found, as I have said, these two defects, all the air going over a large number of blowers, and the split into which this air was being drawn being regulated by only one trap-door. It will be unnecessary for me, your Worship, to point out to you why Mr. Dixon considered this arrangement a defective one. My learned friend, the counsel for the defence, may examine Mr. Dixon on this point, although I cannot see in what way anything that Mr. Dixon may say will be material to the issue. The blowers are obviously defects, because all these men were allowed to work with naked lights, thus fouling the air they had to use. Now, it may not have caused the evil, but there is a strong probability that a large quantity of gas outrushed at Bulli, and coming in contact with the naked lights used by the men who were working there, caused the great loss of life that lately occurred. It would seem that these gases are sent by Providence to warn men of their danger, and had the finger of Providence, which pointed out the danger at Bulli, not been disregarded, the terrible result in loss of life would not have taken place. Mr. Dixon would not have been true to his position and to his responsibilities had he not gone to Mr. Neilson, the agent of this colliery—this colliery which is so admirably managed—and given him the notice contained in these words:—

J. Y. Neilson, Esq., Colliery Manager, Wallsend,—

Sir,

Yesterday (Thursday), accompanied by Mr. J. Mackenzie, Examiner of Coal-fields, I carefully inspected the workings in the vicinity of the Jubilee shaft in connection with the Newcastle-Wallsend Coal Company's Colliery, and found inflammable gas very freely exuding from numerous blowers in the floor of the Jubilee headings. Also in the narrow bord, 36 feet in length, 6 feet wide, and 5 feet 9 inches high (near the shaft bottom), inflammable gas could be detected in the Davy lamp, 9 inches from the roof at a point 7 yards from the face, and 2 feet 4 inches from the roof 3 yards from the face, and 3 feet 5 inches from the roof at the face.

2. Having by such inspection proved beyond a doubt that inflammable gas was being engendered at the above-named places, and in view of the liability of a large outburst of inflammable gas occurring at any time, I hereby, in accordance with the provisions contained in the 25th section of the Coal-mines Regulation Act of 1876, give you notice that, in my opinion, it is a dangerous practice to allow the air current from the Jubilee shaft to ventilate one split of about sixty-eight men, and another split of about thirty men, all working with naked lights, after such current of air has coursed through the Jubilee headings, where the gas is exuding.

3. I would also draw attention to the practice of having only a single trap-door on the main road between the Jubilee headings, where, in my opinion, two doors are necessary.

4. I have therefore to urge your serious and immediate attention to the above-named matters, with a view to have them remedied as speedily as possible.

I have, &c.,

JOHN DIXON,

Inspector of Collieries.

Forwarded for the information of the Honorable the Secretary for Mines.—J.M., 1/1/88. The Under Secretary for Mines, B.C., 7/1/88. To be annexed to yesterday's papers on same subject.—J.M. Vide papers 88-503 and 359 herewith.—G.W.H., 11/1/88.

There was at the bottom of the Jubilee shaft a narrow bord which had acted as a reservoir for the gas up to that time. It was found that there was a large quantity of gas stored there. Then again also in the narrow bord, 36 feet in length, 6 feet wide, and 5 feet 9 inches high (near the shaft bottom), inflammable gas could be detected with the Davy lamp 9 inches from the roof at a point 7 yards from the face, and 2 feet 4 inches from the roof 3 yards from the face, and 3 feet 5 inches from the roof at the face. Now, it may be suggested that it was Mr. Dixon's place to suggest a remedy for this defective ventilation, but I can assure your Worship that the law does not call on Mr. Dixon to do anything of the kind.

*Mr. Want*: If that be true, how are we to know what there is to be remedied, or how to do it?

*Mr. Edmunds*: I will show you exactly what the danger was of which Mr. Dixon complained, and the opinion he formed of the danger. I will prove the notice that was given the defendant, and that nothing has been done to remedy what he considered dangerous; now the Act which is in force in Great Britain, and which, fortunately for us, is exactly the same in the provisions applicable to this case.—

*The Police Magistrate*: The English Act has not been adopted here.

*Mr. Edmunds*: But the English Act, although not adopted in its entirety, is applicable. We have simply embodied its provisions in our own law, and the section is precisely the same, so that any decision given under it will be applicable to our own case. The English Act being the same as ours in this particular, and having been interpreted by the Court of Appeal in England, the opinions of Lord Esher and the other Justices will, of course, be applicable to this case. The case referred to in the report of the Court of Appeal is the Secretary of State for the Home Department *v. Fletcher*. The words of the section in the English Act being precisely the same, as I have said, as those of the 25th section in our Act, Lord Esher having read the section, the 46th of the English Act, proceeds to say:—"In this case three points were taken, two of which are of considerable importance. The Inspector of Mines for the district having inspected the appellant's mine, came to the conclusion that the use of open lamps in the mine was a source of danger, and acting, as he stated, under the Coal-mines Regulation Act, 1872, he made a requisition on the mine-owner to remedy that matter. The mine-owner has a strong opinion that the use of open lamps is more safe under the particular circumstances of the case than the use of safety-lamps. He therefore objected

objected to comply with the notice, and the matter went before an umpire, who gave a decision agreeing with the Inspector. He has made his award, and two objections are taken to it: First, that he had no jurisdiction in the matter, and, secondly, that if he had any jurisdiction, he has acted in excess of it. There was a third objection, that the umpire was not properly appointed, but that was abandoned. It is contended that the matter dealt with in the award is already provided for by the general rules of the Act, and also by the special rules, and is therefore outside the provisions of section 46 of the Act, so that no arbitration could have taken place under that section. I think, however, that neither the general rules contained in the 6th and 7th sub-sections of section 51 nor the special rules to which we have been referred are applicable to this case. The necessity for withdrawing workmen from a dangerous mine, and the regulations as to safety-lamps, where they are used, are wide of the question in the present case, which is, whether it is necessary for the safety of the workmen to stop the use of open lamps. The opinion I have come to on the second point does not make the Act so preservative of the safety of the workmen as I could have wished, but that does not affect the construction I feel bound to put on the words of the statute. We have to follow the general rule of construction, and put on the words used their ordinary meaning, and see to what conclusion that leads. Now, going through the 46th section, we find, first of all, that the Inspector has to see whether any mine, or part of a mine, or any matter, thing, or practice in or connected with such mine, is dangerous or defective, so as, in his opinion, to threaten or tend to the bodily injury of any person. Then he is to give a notice and state, not merely that the mine or practice is dangerous, but the particulars in which he considers it is so, and to require the same to be remedied. He is not told to say what he thinks to be the remedy, nor to require that remedy to be carried out. When the complaint is brought to the notice of the owner, agent, or manager, if he objects, not to a remedy proposed, but to remedy the matter complained of, he is to send an objection in writing stating his grounds to a Secretary of State, and thereupon the matter shall be determined by arbitration. What is the matter to be determined by arbitration? The Inspector has required a matter or practice to be remedied, the owner has stated his grounds for objecting to remedy the matter complained of, and the requisition of the Inspector and the objection to it of the owner are the matter which is to be determined by arbitration—that is, the question is whether the requisition of the Inspector is one to which the objections of the owner form a sufficient answer. That is all that is to be determined. There being no words which enable the Inspector to name a remedy, the arbitrator has no question of a remedy before him. If the arbitrator finds that the objections of the mine-owner are unfounded, the requisition of the Inspector stands. If after that the mine-owner does not remedy the matter complained of, he must take the consequences, but the arbitrator has nothing to do with the consequences of the mine-owner's neglect; that is for another tribunal. Applying these principles, I think the award goes beyond what I have stated to be the power of the arbitrator. The award should have followed the requisition of the Inspector, and pronounced that the matter—that is, the working the mines with open lamps—was dangerous or defective, so as to threaten or tend to the bodily injury of the persons employed in and about the said colliery. But the arbitrator has determined that the mines are to be worked with safety-lamps—that is, he has determined what is the remedy which should be adopted, and directed that to be followed. He has substantially found that the complaint is well-founded, though he has gone beyond his powers in other respects. I can see no reason, therefore, why the award should not go back to him, so that he may put it into form. When that is done it will be for the mine-owner to remedy the defect; for if he does not, he will, if the opinion of the next tribunal is against him, be liable to penalties under the Act." Then Lord Bowen says:—"There are two points in this case to which I will address myself. Whether the arbitrator has jurisdiction, and whether the award is in proper form? As to the first question, it seems to me that none of the general or special rules apply to the matter which is in dispute in this case, which is, therefore, a proper matter for arbitration. As to the other point, there is no more familiar rule than that an arbitrator ought in his award to follow the submission and only determine what is submitted to him. If he is to find out what should be done in the particular case, a direction to that effect would be found in the submission; if to say what is to be done generally, that also would be found in the submission. Applying this, the power given to the arbitrator is limited to determining the matter in difference which has arisen under the 46th section. The Inspector must first of all have come to the conclusion that the mine, or part of a mine, or any matter, thing, or practice in or connected with the mine, is dangerous or defective, so as, in his opinion, to threaten or tend to the bodily injury of any person; next he is to give notice in writing of his opinion, and is to state the particulars in which he considers the mine, part of a mine, matter, thing, or practice, is dangerous or defective; and lastly, he must require the same—that is, the thing of which he is complaining—to be remedied. In the present case the matter required to be remedied is the working of the mine with open lamps. The mine-owner sent in his objections, and thus the matter was ripe for arbitration. The umpire had to determine whether the matter complained of was dangerous, and whether the requisition for a remedy was proper; in other words, whether the matter was so dangerous as to require a remedy. The umpire ought to confine himself strictly to the authority given him, and that does not include any power to determine what is the right remedy, or to order that it shall be adopted. His award is, therefore, in my opinion, wrong in form; but as the arbitrator has in fact determined the matter submitted to him, I do not think we ought to set aside the award, but it ought to be remitted. I do not mean to suggest that there can be any other remedy for the matter complained of than to leave it off. It is sufficient for the present purpose to say that the award is wrong in form, and must be sent back to the umpire." And Lord Fry adds:—"The two questions to be decided both arise under section 46. The first inquiry is whether the matter dealt with by the requisition and notice is provided for by any general or special rule. The requisition relates to the habitual use of open lamps, and this is declared dangerous. It seems to me clear that this is not a matter dealt with in the Act or in the special rules; and if that is so, it was within the jurisdiction of the Inspector. The thing to be remedied is the practice which the Inspector has found to be dangerous, and the Act deals with objections by the owner to remedy, not the danger, but the matter complained of. Whether the matter complained of ought to be remedied is, therefore, the question about which a dispute arises, and that is the dispute which the arbitrator has to determine, and he has not to deal with anything further. I think the award ought to follow the requisition, and to state that the danger exists, and ought to be remedied, because that is the subject-matter of the dispute, but it is beyond the competence of the arbitrator to direct what is to be done to remedy the danger. Inasmuch, however, as the true matter in dispute was whether the requisition of the Inspector was right, and that has clearly

been determined by the umpire, I think the award ought to go back to him to be dealt with." Now, it is quite clear from the decision in the case which I have just quoted that, upon the words of the Act itself, if the defendant objected to remedy the matter complained of, he had only one course to take. That course was to give notice to the Minister, and then must ensue the arbitration on the point whether the Inspector was right or wrong, and whether his opinion should be followed or not. That matter was to be decided by arbitration. Then if the agent or owner does not go to arbitration, which is really what has happened in this case, then the Act states that the notice shall be the notice that an offence has been committed, the words being, "that if the owner or agent fail to comply with the requisition within twenty days he shall be guilty of an offence under the Act." So that I may state briefly, in conclusion, the exact issues of fact which remain to be settled in this case under the construction of the statute. The first is whether the Inspector gave the notice under the Act of a continuance of a practice in his opinion dangerous to the lives of the men employed in the mine, and which was not provided for specially in the Act or in the rules of the mine. The second is, did the owner or agent proceed to arbitration; and then, if he did not proceed to arbitration, did he remedy the matter complained of within twenty days. So that my learned friend, in saying that the question was as to whether Mr. Dixon was right or wrong, took—I will not say an erroneous view—but a view which cannot be sustained by—

*Mr. Want*: The Act says, "If the owner or agent fails to comply with the notice"; but did the defendant in this case fail to comply with the requisition?

*Mr. Edmunds*: Of course; you do not allow me to finish.

*The Police Magistrate*: The information charges the defendant with not complying with the requisition of the notice.

*Mr. Want*: Exactly, your Worship.

*Mr. Edmunds*: It is precisely following the words of the section all through, and making the defendant's neglect an offence within the meaning of the section. The words in the information are:—"And that the said John Young Neilson did not, within seven days after receipt of such notice as aforesaid, make objections in writing to the Minister for Mines, stating the grounds on which he objected to remedy the matter so complained of as aforesaid, and that the said John Young Neilson has failed to comply with the requisition of the said notice, given by the said Inspector, and remedy the matter complained of as aforesaid, and that more than twenty days have elapsed since the receipt of such notice." Now, my learned friend says that it will be necessary for your Worship to decide whether Mr. Inspector Dixon was right or wrong in his opinion; but I submit to your Worship that that is not the issue here at all, and that the nature of Mr. Dixon's opinion cannot be considered here at all. If the learned counsel for the defence intended to raise that issue, he can do it on a subsequent notice, by pursuing the proper course, and by remitting the case to arbitration. And I submit that if he wishes to dispute the decision of the Inspector respecting the state of the mine, he must go to arbitration, and there decide the matter. But if, as in this case, he receives notice, and does not go to arbitration, then, when he comes before this Court, it has simply to be shown that he received notice, and that he did not comply with the requisition of the notice within twenty days. We will prove that the defendant did not comply with the requisition of the notice; and where there is no arbitration the section which I have quoted places the notice in exactly the same position as the award would stand in in the event of there having been arbitration and a consequent award. The Act puts a defendant who does not go to arbitration in the same position when he receives the notice as it would do when the award was made; in other words, disobedience to the notice under the circumstances which I have stated is equivalent to a disobedience to the award of the arbitrators.

*The Police Magistrate*: It would seem to me that no notice was taken of it at all, and that there was no attempt made to improve what the Inspector complained of. And the complaint now is that there is an immense amount of inflammable gas exuding, and that therefore serious bodily injury is threatened to the men working in the mine. This, I may say, is one of the most important cases that has ever come before a Court of Petty Sessions. I have never yet had such an important case before me.

*Mr. Want*: Your Worship is quite right; the case is a most important one.

*Mr. Edmunds*: The point which I wish to make clear to your Worship is that my learned friend must not go into the question as to whether Mr. Inspector Dixon was right or wrong.

*The Police Magistrate*: Of course, that will have to be done.

*Mr. Edmunds*: Well, your Worship, I submit that it should not be done in this Court. The question as to whether the Inspector was right or wrong in the opinion which he expressed about the mine is a matter for arbitration, and the defendant in this case has not gone to arbitration. So that, for the purposes of this prosecution, the notice is just the same as to the award, because the Act says, "If the owner or agent fail to comply either with the requisition of the notice given by the Inspector when no objection is sent within the time aforesaid, or with the award made on arbitration within twenty days after the receipt of such notice or the making of the award (as the case may be), he shall be guilty of an offence against the Act, and the notice and award shall respectively be deemed to be written notice of such offence." Now, suppose, for instance, that there has been an arbitration, and that Mr. Neilson had consented to be a party to it, what would have resulted? The arbitrators would have made an award, and what would that have resulted in? Either Mr. Neilson would have had to remedy the matters complained of according to the requisition (11, 12, 13, 14, 15, and 16 of the Inspector) or he would not. If he does not remedy the defect according to the award, then he is prosecuted in this Court. I submit, therefore, that this Court cannot inquire whether the award was right or wrong. The Act places that duty upon the arbitrators. And then all that would need to be shown in that case would be the fact that there had been an award made in the usual way, and that the defendant had not complied to its terms within twenty days. Now, I submit that under the circumstances the notice is to be taken as standing precisely in the same position as the award, where there has been an award. What I submit is, that if my learned friend wishes to get behind Mr. Dixon and the information, and say that Mr. Dixon's opinion was wrong, he will endeavour to do something which the Act never intended he should be allowed to do. That should have been done by arbitration. He cannot come here now and question the opinion of the Inspector no more than if there had been an award he could come in here and question the award had the defendant not obeyed it. Therefore, the only question here which your Worship has to consider is, did Mr. Dixon give notice of a practice, in his opinion, dangerous under the Act; second, did the owner or agent proceed to arbitration; and third, did the owner or agent remedy the matter complained of within the time allowed by the Act. And if I establish these facts, then apart altogether from the question

question as to whether Mr. Dixon was right or wrong in his opinion, your duty—and I will admit that Magistrates have to perform unpleasant duties sometimes—is to inflict the penalty provided in the Act. That penalty is not a large one, and cannot exceed £10.

*Mr. Want*: What does that matter?

*Mr. Edmunds*: The case is of vast importance, though it may not involve a large pecuniary penalty. At the same time I think that no case has ever come before a Police Magistrate which involves indirectly the lives of so many persons. And if the lives of those persons are to be protected by the officials discharging the duties of Inspectors of Collieries, there is only one way in which it can be done, and that is by taking advantage of the powers given in the 25th section of the Act. If there is a danger which is likely to break out, and which, though not in actual existence, is likely to occur at any moment—as in a sudden outbreak of inflammable gas as at Bulli—then the only way the Inspector can deal with this possible danger is by a notice under the 25th section, such as was served on the defendant in this case. I have read a decision on the point given under the provisions of a section which is precisely the same as the 25th section of our Act, so as to satisfy your Worship. If the owners or agent of a mine think the Inspector is wrong, then the Act says send notice of this to the Minister and you shall have an arbitration to decide whether it is or not, but unless you do this you must obey the Inspector's requisition. The importance of the Inspector's duty demands that respect shall be paid to his opinion; but if he be wrong, or if you think so, then take him before the proper tribunal to test his opinion, but you shall not treat his notice with contempt. You shall not disregard or disobey the Inspector, whoever you may be—be you the manager or owner of the largest or the smallest colliery in the Colony. Therefore, if your Worship finds that the Inspector did give notice, and that that notice was treated with contempt, then it will be your duty (although it may be a painful duty in one sense) to inflict the penalty which the Act provides. Although the punishment is a small one, it will, I hope, be a preservative of great consequence, and it is in this sense that your duty will be a pleasurable duty, because you will be doing something to preserve the men employed in this industry from danger. You are maintaining the authority of the Inspector of Collieries, whose decision must either be set aside on arbitration or respected by these colliery managers, who must not be allowed to set themselves up to ignore the decision of an officer of the Government, whose duty it is to see that proper protection is afforded to the men who are employed in these mines.

*Mr. Want*: If my learned friend is right, then all that is necessary to prove us guilty is that notice was sent and was disregarded. I thought that this inquiry should certainly last several days, but if my friend's contention be sustainable—and I do not think it is—then the case should not occupy more than ten minutes.

*Mr. Edmunds*: Quite right; it ought to be settled within that time.

*Mr. Want*: But I shall show that you are utterly wrong.

*Mr. Edmunds*: Will you pardon me? I will leave entirely to your Worship the construction of this section of the Act, and if you agree that my interpretation is correct, if Mr. Neilson will plead guilty—

*Mr. Want*: I cannot allow that to be done, because I am desirous of tendering a large amount of evidence as to the present condition of the mine. I cannot plead guilty, because the last part of the section provides that if the Magistrate sees fit he need not inflict any penalty at all, provided it can be shown that certain remedy is being adopted to remove the matter complained of. I think I will be able to show my learned friend and your Worship that not only is he utterly wrong in his contention, but that he cannot go on with his case. We do not want to go into any technicalities, and I, on behalf of my client, want to know what we are charged with here. The object of counsel for the Crown is evidently to shut our mouths and prevent our getting in evidence as to the present state of the mine, but we want the public, and the whole world for that matter, to know what condition the mine is now in. If we are guilty, nothing is too bad for this Company in the way of punishment. And I now challenge my learned friend to waive all technicalities of every kind and let this case be tried on its merits. I am willing now to withdraw an objection which otherwise, I contend, must be fatal to the Crown case. Now, my learned friend says that it is under the 25th section of the Coal-mines Regulation Act which he is proceeding, but I can show your Worship that that section has nothing whatever to do with this case. He states that the Inspector has only to form an opinion as to the condition of a mine, and then, unless the agent or owner goes to arbitration, he may be fined if a remedy is not applied within a certain time. We are brought here charged with not doing a certain thing, whether we have applied the remedy or not. This 25th clause refers to cases for which no provision has been made in any other part of the Act. Now, the first part of the 25th section says:—"If in any respect, which is not provided against by any express provision of this Act, or by any special rule," &c., clearly providing that such a thing may be dealt with in some other portion of the law. Then they give us notice calling on us to remedy certain things. Who are to tell us how to remedy, or what kind of remedy it is to be? Any man, of course, knows how to put a prop in a mine, but we are called on to do certain other things to prevent bodily harm accruing. But there the question of ventilation comes in, and there are special provisions in the Act dealing with the matter. The first part of the section, as I have said, speaks of "an express provision of this Act" or "special rule" of the mine; now, if I can show you that there is an "express provision" in the Act which deals with what we are charged with, then must not the prosecution fall to the ground?

*Mr. Edmunds*: I quite admit it.

*Mr. Want*: Very well. I say that there is an express provision in this Act under which the complaint of yours comes. It is all very well to bring such cases here; but I will ask your Worship to look at the 12th section, sub-sections 2 to 6, which deal with the question of adequate ventilation:—

2. An adequate amount of ventilation shall be constantly produced in every mine to dilute and render harmless noxious gases; to such an extent that the working places of the shafts, levels, stables, and workings of such mine, and the travelling roads to and from such working places, shall be in a fit state for working and passing therein.
3. An adequate amount of ventilation shall mean not less (as a minimum) than 100 cubic feet of pure air per minute for each man, boy, and horse, which shall sweep undiminished along the airway past each working place.
4. Within six months after the commencement of this Act every mine shall be divided into districts or splits of not more than seventy men, and each district shall be supplied with a separate current of fresh air. All intake air shall travel free from all stagnant water, stables, and old workings, and no place shall be driven more than 35 yards before the current of air without a cut-through, put-through, or bratted-up within 3 yards of the face of such working.

5. If at any time it is found by the person in charge of a mine or any part thereof, or by the Examiner or Inspector, that by reason of noxious gases prevailing in such mine or such part thereof, or of any cause whatever, the mine or the said part is dangerous, every workman shall be withdrawn therefrom, and the Examiner or Inspector shall inspect the same (and if the danger arises from inflammable gas shall make such inspection with a locked safety-lamp), and in every case shall make a true report of the condition of such mine or part thereof; and no workman shall, except in so far as is necessary for inquiry into the cause of danger or for the removal thereof or for exploration, be readmitted into the mine, or such part thereof as was so found dangerous, until the same is stated by the Examiner or Inspector to be safe. Every such report shall be recorded in a book which shall be kept at the mine for the purpose, and shall be signed by the person reporting.
6. All entrances to any place not in actual course of working and extension, and suspected to contain or be liable to engender dangerous gas of any kind, shall be properly walled or fenced off, so as to prevent access thereto.

It would have been absurd to have withdrawn all these men from the mine until the case had been settled by arbitration. Now I will read to the end of these rules, and your Worship will find that there is no provision in them requiring the Company to stop their works under a penalty. These are the remaining rules:—

7. Whenever any safety-lamp is required to be used it shall be first examined and securely locked by some person duly authorized for that purpose, who shall keep the key thereof.
8. Every shaft or pit which is out of use or used only as an air-pit shall be securely fenced to the satisfaction of the Examiner or Inspector.
9. Every working or pumping pit or shaft where the natural strata are not safe shall be securely cased or lined or otherwise made secure.

*The Police Magistrate*: I think the stoppage of works under a penalty was under the 34th section of the Act.

*Mr. Want*: Exactly so, your Worship; but then the Crown here are prosecuting us under the 25th section. That section, as your Worship will see, provides only for doing things by arbitration which are not provided for by any express provision or rule. The reason for that is this, that the Act draws a distinction between ventilation and something being merely wrong with the mine. With regard to the ventilation, if anything be wrong with it, they may take the men out at once, and it is provided for by the Act rather than by rule; and, therefore, in any case it cannot be brought under the 25th section. There are twenty-one days in which to remedy the matter complained of; but you may arbitrate for six months, and the men are kept at work there all the time. They cannot prosecute us under this 25th section in any way that I can see, because there is another part of the Act which applies to the offence that is charged. The information says:—"Did find a certain part of the said mine, to wit, the places in the vicinity of that part of the said mine known as the Jubilee shaft, dangerous, so as, in his opinion, to threaten bodily injury to persons working in the parts known as the Jubilee districts, inasmuch as inflammable gas was being engendered in the Jubilee headings, and did find that there was a liability of a larger outburst of inflammable gas occurring at any time therein, and that the air current from the said Jubilee shaft, after coursing through the said Jubilee headings, were inflammable gas was exuding—ventilating two splits of sixty-eight and thirty men respectively who worked with naked lights, and that a single door was placed on the main road between the said Jubilee headings." This last is as to ventilation. Now, so far as I think that they cannot prosecute us under this 25th section while this section 12 and its sub-sections remain in existence. But, if your Worship takes a different view to me on this point, there are still the merits of the case, which ought to be considered, and we ought to be allowed to introduce evidence to show the present condition of the mine. They have charged us with three distinct things, and you have to say whether we are guilty or not. What the Crown has really done in this case is to come here and say, as we have given you a certain notice under the 25th section of the Coal-mines Regulation Act, and as you have not complied with that notice or asked to go to arbitration, therefore you are guilty of a breach of the Act. They might have some grounds for doing this if they could show that we had not remedied, but they do not do that. We are charged here, as I have said, with three distinct offences, and it is for your Worship to say whether we are guilty of them or not, which you cannot do unless you agree to the reception of evidence. This is a case which demands that inquiry should not be "burked" by the Government. If his Worship the Police Magistrate goes down this mine he will soon see that the owners and the manager have been grossly and cruelly wronged; and having done this the Crown now come here and attempt to shut the mouths of those interested in the mine. Although they come into Court and repeat their charges and bring this thing to an issue, they do not want to allow evidence to be taken. They put us in a corner, and then refuse to allow us to move out of it. But they go further than this,—they charge us here with not having remedied the things complained of, and, therefore, they will have to go into the facts of the case, and show that the defects of which they made complaint have not been remedied. As to the matter not having been remedied, our reason for coming here is that the whole world may know the condition of the mine, and the perfect safety in which the men are now working. We court the fullest inquiry, and is it right under such circumstances for the Crown to "burk" investigation in this way, and, after making a wrong report as to the state of the mine, shut our mouths? Now, I rely upon this fact that they cannot proceed, for the reasons I have stated, under this 25th section. As the case required immediate attention other steps should have been taken, by withdrawing the men from work, and going on under the 12th section. If they had done this—if they had pursued the only course which the law permitted them, to take and withdraw the men from the mine—who would have dared to have sent the men back again? But even if I am wrong in this matter you will have to go into the merits of the case to see whether we are or are not properly charged with doing a most disgraceful act; but, in any case, I hope your Worship will not allow inquiry to be "burked" in this way, but that you will, for the advantage of the public and the men in this mine, allow the country to know all about its present condition, by receiving the evidence which I am prepared to tender.

*Mr. Edmunds*: I have said before that this case is one of vast importance, inasmuch as it is the first case that has occurred in this Colony in which the provisions of section 25 of the Coal-mines Regulation Act have been enforced. This is the only section in the Act by which such a case as this, involving a probable

probable sudden outburst of coal-gas can be met. My learned friend, the counsel for the defendant, overlooks the distinction between the danger from gas actually existing in a mine and the danger from a probable outburst of such gas occurring in future. And, in overlooking the distinction, my learned friend tries to make out that we are charging the defendant with having such a quantity of inflammable gas in the mine as would tend to produce an explosion. We are charging the defendant with no such thing. We are charging the defendant with having gases there which show a probability of a greater outburst, as is proved by the very words of the Inspector's notice:—

2. Having by such inspection proved beyond a doubt that inflammable gas was being engendered in the abovenamed places, and in view of the liability of a large outburst of inflammable gas occurring at any time, I hereby, in accordance with the provisions contained in the 25th section of the Coal-mines Regulation Act of 1876, give you notice that, in my opinion, it is a dangerous practice to allow the air current from the Jubilee shaft to ventilate one split of about sixty-eight men, and another split of about thirty men, all working with naked lights, after such current of air has coursed through the Jubilee headings, where the gas is exuding.
3. I would also draw attention to the practice of having only a single trap-door on the main road between the Jubilee headings, where, in my opinion, two doors are necessary.
4. I have, therefore, to urge your serious and immediate attention to the abovenamed matters, with a view to having them remedied as speedily as possible.

The danger, as I have said before, was pointed out by the finger of Providence, and it is the future danger, and not the present risk, which is the question here. My learned friend made some remark about the Crown "burking" inquiry. I say that, so far from this being the case, the Crown is coming here for the first time to have this section construed and its provisions applied. And I think the officers of the Crown deserve credit for bringing this danger to light, showing their honesty of purpose and independence of action. They now come here to get the proper legal interpretation of the section, and of the way in which it is to become operative. The interpretation, which we say is the correct one, is that, after the notice is given and disregarded by the owner or agent (should he refuse to go to arbitration), then the penalty comes in for setting the notice at naught. Because, as I have shown your Worship, in the event of the owner or agent not going to arbitration the notice is exactly the same as the award had there been an arbitration. It is just the same as if the award was broken after having been arrived at by a difficult and costly inquiry. Would my learned friend attempt to come into Court and say that the award, too, was wrong, and that there was no danger in the mine? It is for disobedience of the notice—just as it might have been for disregarding the award, had it been given against him had there been an arbitration—that the defendant is being tried before this Court. We state in the information that "the said John Young Neilson has failed to comply with the requisition of said notice," and nothing else; and it is for non-compliance with this requisition that the defendant is here. It is not that the notice is wrong; it is not that the defendant's mine was in such a condition that large quantities of inflammable gases were liable to be exuded: it is that he has not complied with the notice. This is the very charge in the information. Now I will deal with what my learned friend calls his technical objection. My learned friend says that this is not a case which comes within this 25th section at all, and that we should have taken advantage of other provisions in the Act; and he also states that we want to burk inquiry. We are doing no such thing. If Mr. Neilson is found guilty of this offence, this small penalty clause alone can be imposed on him. He cannot be prosecuted again. I say that we will then serve him with another notice that the same thing is going on, because we conceive it to be our most solemn duty to do so, and then Mr. Neilson can go to arbitration and have the question fully gone into. Where, then, is the use of such observations as my learned friend indulged in?

*Mr. Want:* The notice does not say one word about this thing tending to cause bodily harm. I will read the notice through, and ask your Worship's attention to this fact:—

J. Y. Neilson, Esquire, Colliery Manager, Wallsend,—  
Sir,

Glebeland, 6 January, 1888.

Yesterday (Thursday), accompanied by Mr. J. Mackenzie, Examiner of Coal-fields, I carefully inspected the workings in the vicinity of the Jubilee shaft in connection with the Newcastle-Wallsend Coal Company's colliery, and found inflammable gas very freely exuding from numerous blowers in the floor of the Jubilee headings. Also in the narrow bord, 36 feet in length, 6 feet wide, and 5 feet 9 inches high (near the shaft bottom), inflammable gas could be detected in the Davy lamp 9 inches from the roof at a point 7 yards from the face, and 2 feet 4 inches from the roof 3 yards from the face, and 3 feet 3 inches from the roof at the face.

2. Having by such inspection proved beyond a doubt that inflammable gas was being engendered at the abovenamed places, and in view of the liability of a large outburst of inflammable gas occurring at any time, I hereby, in accordance with the provisions contained in the 25th section of the Coal-mines Regulation Act of 1876, give you notice that, in my opinion, it is a dangerous practice to allow the air current from the Jubilee shaft to ventilate one split of about sixty-eight men, and another split of about thirty men, all working with naked lights, after such current of air has coursed through the Jubilee headings, where the gas is exuding.

3. I would also draw attention to the practice of having only a single trap-door on the main road between the Jubilee headings, where, in my opinion, two doors are necessary.

4. I have, therefore, to urge your serious and immediate attention to the above-mentioned matters, with a view to have them remedied as speedily as possible.

I have, &c.,

JOHN DIXON,

Inspector of Colliceries.

Now, where is there a syllable about this causing bodily injury to anybody?

*Mr. Edmunds:* I am not to be put off my argument, but I will deal now with this new objection of my learned friend. Just listen to the words of the notice:—"I hereby, in accordance with the provisions of the 25th section of the Coal-mines Regulation Act, &c." Why, Mr. Dixon directs the attention of the defendant to the section itself in using these words. It will be well if your Worship reads the notice yourself.

The Police Magistrate then read the notice.

*Mr. Want:* There is nothing about "threatening bodily injury" in that.

*Mr. Edmunds:* The Inspector states distinctly the particulars in which he considers the mine dangerous, and has given notice, as he had a right to do, to have it remedied; and adds:—"I hereby give you notice"—he having found out that there was a liability to large outbursts of inflammable gas—"that, in my opinion, it is a dangerous practice to allow the air current from the Jubilee shaft to ventilate one split of about sixty-eight men, and another split of about thirty men, all working with naked lights, &c." Yet my learned friend says that this does not threaten bodily injury to anyone. How could a sudden outburst

outburst of inflammable gas coming on men who were working with naked lights do anything else than tend to their bodily injury? So that I submit to your Worship that this prosecution is properly brought under this 25th section; and the notice of the Inspector tells the defendant the particulars in which the mine is dangerous.

*Mr. Want*: I say that this notice refers to what is contained in the 5th sub-section to section 12.

*Mr. Edmunds*: How can that be, when the writer himself refers to the 25th section.

*Mr. Want*: His referring to the 25th section does not necessarily bring the notice under that section.

*Mr. Edmunds*: He told the defendant he was proceeding under the 25th section of the Act. Now, with reference to the other part of this case, as provided for in the special rules. I may tell your Worship that this case has not been brought without full consideration of that point; and this prosecution was not undertaken under this section in order, as my learned friend says, to "burk" inquiry, but rather so that the colliery managers would understand that they would have to do what the Inspectors told them, or else have a full inquiry by arbitration. If the arbitration goes against them they must carry out the award; and not having gone to arbitration they must equally obey the notice of the Inspector; and if they do not obey this notice they commit an offence under this Act, for which they are accordingly liable. And I, as representing the Crown here, say that I would consider it to be a thing very injurious to the administration of this Act if these people could come in here and say that the notice or the award was wrong, because it is necessary, in deciding a matter of this kind, that the Judge should not only be one who was experienced and trained in the law, but one who was acquainted with scientific matters, and with coal-mines particularly. It may be that there is a Police Magistrate here and there who could undertake such duties; but, as a rule, Police Magistrates are men who merely administer the law as they find it; and it may be that such a case as this would come before a gentleman who could not carry himself beyond this administration of the law. Therefore, it was that this tribunal of arbitration was constituted, to ascertain whether the Inspector was right or wrong in requiring certain things to be done. I quite agree that this is a case which demands the fullest inquiry, and no doubt the defendant will have the fullest inquiry given him by-and-bye, because we intend to serve him with another notice to have the thing complained of remedied. Now I will proceed to deal with the point raised by my learned friend that this is a case which is provided for by a special section of the Coal-mines Regulation Act. Fortunately for us we have a decision by one of the highest authorities—by the Court of Appeal in England—binding us to a certain construction of these words. And the words in the English Act are precisely the same as those in our 25th section. The case to which I refer is headed:—"In the matter of the arbitration under the Coal-mines Regulation Act of 1872, between Her Majesty's Secretary of State for the Home Department and Herbert Fletcher," and is reported in 18 Q.B.D. part 3, page 339:—"In an arbitration under S. 46 of the Coal-mines Regulation Act, 1872, the duty of the arbitrator is limited to determining whether the matter complained of by the Inspector is dangerous and ought to be remedied, and he has no power to determine what is the proper remedy, or to direct that any particular remedy be adopted."

Our section 25 re-enacts what is the law in England, and the section in the English Act is that from which ours has been taken; and so we have the advantage of an English decision on these words. Section 46 of the English Act is as follows, and your Worship will see that it is exactly the same as our section 25:—

"If in any respect (which is not provided against by any express provision of this Act or by any special rule) any Inspector finds any mine, or any part thereof, or any matter, thing, or practice in or connected with any such mine, to be dangerous or defective, so as, in his opinion, to threaten or tend to the bodily injury of any person, such Inspector may give notice in writing thereof to the owner or agent of the mine, and shall state in such notice the particulars in which he considers such mine, or any part thereof, or any matter, thing, or practice, to be dangerous or defective, and require the same to be remedied, and unless the same be forthwith remedied the Inspector shall also report the same to the Minister. If the owner or agent of the mine objects to remedy the matter complained of in the notice, he may, within seven days after the receipt of such notice, send his objection in writing, stating the grounds thereof to the Minister, and thereupon the matter shall be determined by arbitration in manner provided by this Act in relation to the special rules, and the date of the receipt of such objection shall be deemed to be the date of the reference. If the owner or agent fail to comply either with the requisition of the notice given by the Inspector, when no objection is sent within the time aforesaid, or with the award made on arbitration, within twenty days after the receipt of such notice or the making of the award, as the case may be, he shall be guilty of an offence against this Act, and the notice and award shall respectively be deemed to be written notice of such offence. Provided that the Court, if satisfied that the owner or agent has taken active measures for complying with the notice or award, but has not with reasonable diligence been able to complete the works, may adjourn any proceedings taken before them for punishing such offence, and if the works are completed within a reasonable time no penalty shall be inflicted. No person shall be precluded by any agreement from doing such acts as may be necessary to comply with the provisions of this section or be liable under any contract to any penalty or forfeiture for doing such acts."

*The Police Magistrate*: That is word for word with the 25th section of our Act.

*Mr. Edmunds*: Just so. Now the facts of this case are put the same as those with which your Worship has to deal here. This was the case—that there was a liability, a danger of a sudden outburst of gas—not merely a danger from gas actually existing in the mine, but from a probable sudden outburst. That is precisely the same as the case with which your Worship has to deal here. Here, too, there were the same indications of a liability to a sudden outburst of gas, by gas actually existing.

*The Police Magistrate*: Yes, that is pretty well understood. There might be very little gas existing at one time, and a great deal at some other time.

*Mr. Edmunds*: Now, the sub-section which has been quoted by my learned friend refers to gas actually existing. We are not complaining of the actual existence of the gas, but of the liability to a sudden outburst.

*The Police Magistrate*: There are many ways of getting rid of that gas. In the neighbourhood of volcanic rock, or where there is igneous formation, there is always a large amount of gas.

*Mr. Want*: It is only the ventilation that is complained of in this case.

*Mr.*

*Mr. Edmunds*: And then on the point that this case comes under another section than the 25th, there is the decision of the English Court on facts exactly similar in which action was taken under the same section.

*Mr. Want*: The facts are not the same.

*Mr. Edmunds*: Well, I contend that they are; and our Act in this respect is the same as the English one. In England also they have special rules the same as ours. But the Court of Appeal held that the liability to a future outburst did not come under the Act or under the special rules, and therefore we are right in taking proceedings under the 25th section. This very point was raised in the English case, the grounds of the objection to the award being that the umpire had held that there was danger of a future outbreak of gas. These sub-sections were there held to apply to something else, and were not applicable to the facts of that particular case. Now, what did the Judge say in the case:—"It is contended that the matter dealt with in the award (says Lord Esher, Master of the Rolls) is already provided for by the general rules in the Act, and also by the special rules, and is therefore outside the provisions of section 46 of the Act, so that no arbitration could take place under that section. I think, however, that neither the general rules contained in the sixth and seventh sub-sections of section 51, nor the special rules to which we have been referred, are applicable to this case. The necessity for withdrawing workmen from a dangerous mine, and the regulations as to safety-lamps, where they are used, are wide of the question in the present case, which is whether it is necessary for the safety of the workmen to stop the use of open lamps. The opinion I have come to on the second point does not make the Act so preservative of the safety of the workmen as I could have wished, but that does not affect the construction I feel bound to put on the words of the statute. We have to follow the general rule of construction, and put on the words used their ordinary meaning, and see to what conclusion that leads. Now, going through the 46th section, we find, first of all, that the Inspector has to see whether any mine, or part of a mine, or any matter, thing, or practice in or connected with such mine, is dangerous or defective, so as, in his opinion, to threaten or tend to the bodily injury of any person. Then he is to give a notice, and state not merely that the mine or practice is dangerous, but the particulars in which he considers it is so, and to require the same to be remedied. Where does his duty stop? At requiring the matter to be remedied." If Mr. Inspector Dixon had known of this judgment he could not have more closely followed the instructions which the judgment conveys. Then the other Judges (Lords Bowen and Fry) entirely concur, and go into a further discussion on the same point of law. Now, I submit that in this case, the facts being the same—

*Mr. Want*: The facts are quite different altogether.

*Mr. Edmunds*: I invite my friend's attention to the report, which shows that the facts are the same in this case as in the one in question. What was the danger in the English case? The liability of a future outburst of gas. What is the danger in the mine here? Just the same liability to a future outburst. What is the law in England with regard to this? That certain things should be done when there is a certain quantity of gas in the mine. This applies to the liability of future outbreaks. Then how can my learned friend say that the facts here are not the same, when they are precisely the same.

*The Police Magistrate*: It appears to me that the Legislature has seen fit to appoint certain persons to examine collieries in Australia. It appears to me that the chief thing is whether the Inspector has done his duty in what he has done, and whether the Inspector's notice not being attended to he can proceed further. This is the question I think for me to deal with without going into the question of right or wrong at all. This is the thing I have to try, and it seems to me that the notice of the Inspector was not attended to.

*Mr. Want*: It was, as a matter of fact, attended to.

*The Police Magistrate*: Supposing the danger had been removed in the meantime. There are certain penalties which colliery owners are subjected to, but which need not be applied. But it is useless, and I cannot help saying it at once that it is useless for the Government to have these examinations of mines made unless the decisions of their Inspectors are upheld.

*Mr. Want*: But it would be just as wicked if innocent colliery managers were found guilty of something which they had not done.

*Mr. Edmunds*: We will show that in his notice the Inspector states he formed his opinion from certain facts. That opinion may be right or wrong, but the defendant did not dispute it by going to arbitration. Instead of doing this, he entirely disregarded it, and this, I contend, has made him guilty of an offence under the Act. That is the case for the Crown.

At this stage the Court adjourned for half an hour.

On resuming at 2:30 p.m.,—

John Mackenzie was called in and examined:—

*Mr. Edmunds*: You are the Examiner of Coal-fields in New South Wales? I am.  
Is this the *Gazette* notice of your appointment?

*Mr. Want*: You need not do that. We will admit Mr. Mackenzie's appointment.

*Mr. Edmunds*: Very well.

*Mr. Want*: We will also admit the authority to prosecute. We intend to fight the case on the merits.

*Mr. Edmunds*: Did you lay the information in this case, Mr. Mackenzie? I did.

And you did this by virtue of your office as Examiner of Coal-fields? Yes.

I want to ask my learned friend if he will admit the proclamation of the Hunter River District?

*Mr. Want*: Yes.

*Mr. Edmunds*: Then there are some documents which we may as well put in now—Mr. Mackenzie's report to the Minister.

*Mr. Want*: I want to see that. It might have reference to the State House.

[Copy of Inspector Dixon's letter to defendant, dated 6th January, 1888, with Mr. Mackenzie's minutes thereon, was then admitted in evidence.]

*Mr. Edmunds*: Did you forward this document which I hold in my hand as a report to the Minister for Mines under section 25 of the Coal-mines Regulation Act?

*Mr. Want*: Do not answer that question. I object to this matter altogether.

*Witness*: I did.

*Mr.*

*Mr. Want*: I object to the witness giving his answer when I objected to the question. Be good enough in future, Mr. Mackenzie, not to answer the questions when I tell you not to do so until my objection is heard.

*Witness*: You told me not to answer the question, but I was not aware that I was not to do so simply because you told me.

*Mr. Want*: I object to this document being allowed to go in as a report.

*Mr. Edmunds*: You produce a copy of a letter to the defendant? Yes.

I may state, for your Worship's information, that this is merely a copy of Mr. Dixon's notice to Mr. Neilson, the defendant, and it was sent to the Minister with this minute by Mr. Mackenzie on the margin, "Forward for the information of the Secretary for Mines.—J.M., 7/1/88," and addressed to the Under Secretary for Mines. My friend will admit, I presume, that it was received by the Minister for Mines.

*Mr. Want*: I will. Might I ask the witness, whether, before he sent in that letter or report, he visited the mine himself?

*Witness*: Yes; I visited it in company with Mr. Dixon.

*Mr. Want*: On the 5th of January last? Yes.

Will you tell me whether this plan (produced) is a representation of the Jubilee shaft which you and Mr. Dixon visited on the 5th January? The headings are correctly shown on that plan.

Is the shaft correctly shown? Yes. (After a pause)—Well, no. These workings (*pointing out certain portions on the plan*) were not there then. There was no connection between what is known as the shallow bord and the heading.

Would you tell me was [the connection complete between the Jubilee shaft and this main heading? Yes.

In other words, both these headings were carrying a current of air from the Jubilee shaft? Yes, a current of intake air across numerous blowers, about seventeen in number. When I was there we did not count the blowers.

Did you know, as Examiner of Coal-fields, that these headings had been driven first of all from the main heading towards the Jubilee shaft, and from the Jubilee shaft towards the main headings? They both gave out.

Now I did not ask you that? But I will state it—

Just answer my question? They both contained gases—

We will say that something else contains gases unless you try and keep quiet and answer the questions that I am putting to you.

*Witness*: You must not think that I am going to be led up to a thing by you. I must answer questions in my own way.

*Mr. Want*: Well, if you continue this line of conduct I will just ask his Worship to tell you, Mr. Mackenzie, to answer my questions in a proper way.

*Witness*: But I am doing so.

*Mr. Want*: You are not. I did not ask you anything about blowers.

*Witness*: But you will hear of them, though evidently you do not want to.

*Mr. Want*: Do you know that your Inspectors had examined the Jubilee headings from the main heading before the connection with the Jubilee shaft? An Inspector has done so, but I cannot say that it has been done by Inspectors.

And, therefore, if there were any blowers in this Jubilee heading, as the works went along your Inspector would see it while the work was being done? I cannot say. The Inspector will be able to answer for himself.

Well, as a skilled witness, I want to know what you think about it yourself? I cannot tell you; the Inspectors will do so.

Will you kindly answer my question as a skilled witness. In passing through the headings these blowers would show themselves? Yes.

Was any other work being done in any other heading while you were there? No, none—none in the Jubilee gassy heading.

Is it not a fact that when you saw or inspected these headings they were being used simply as a means of ventilation? This heading—

Will you answer my question yes or no. Were they, or were they not, conduit pipes for ventilation? I will answer you, but I must explain at the same time.

Just answer my question, please? Yes; but they were carrying foul gases to the main workings.

I did not ask you that? Well, I must explain. This was taking the foul air to the men who were working up there in the main working.

You wish to add something to that, do you? Yes; the air was forced down this Jubilee heading and came in contact with the foul gases exuding from the bottom of the Jubilee shaft and the Jubilee heading.

In sufficient quantities to interfere with the proper ventilation? It came in such quantities that if there had been a sudden outburst of gas there would have been serious explosion, such as occurred at Bulli some time ago.

Will you be good enough to answer my question. Did this foul air interfere with the ventilation—I want a yes or no? It did not interfere with the ventilation, but it was taking the air which had become foul with gas to the men who were working with naked lights.

Did you object to this foul air as far as the ventilation of the mine was concerned? I had nothing to do with it. The Act does not allow me to object. I only went with the Inspector.

Can you see any objection to it so far as the ventilation of the mine was concerned in supplying the air to the men? We are not talking about ventilation.

Excuse me, I am, and I want you to answer my question? Well, you are taking the air which has become foul with explosive gas to these men. I fully support my Inspector in reporting the matter.

Do you or do you not see any objection to this ventilation so far as the men were concerned? I do. Why? Because the air was foul with explosive gas.

In your opinion, when these blowers are once cut and no other work is being done there, do they decrease or increase? Well, they have been known to last for years. They have been piped up, but for years the gas has been exuding.

In that heading, as you saw it, with no work being done there, would these blowers increase or decrease in quantity? They might continue as they were, or they might decrease. I do not know that they would decrease, but they might continue in their present state for years. That is the experience which I have had from Home. I do not say that they would increase; they might continue for years, or they might decrease.

They would not increase? No; I would not say that they would not increase. I would be very foolish to say that. The blower that I saw was not likely to increase.

Have you seen the workings this morning or yesterday? No, I have not.

Have you seen them since you were down with Mr. Dixon? I am not the person—it is the Inspector.

But I am a bit curious about what you saw? No; I have not seen the workings since, but apparently you have.

Have you got any idea of the amount of air that was passing through the workings when you were down there? No, but Mr. Dixon measured the air. There were 6,600 feet in No. 3, and about 11,000 going up the two ends. There was an average of about 6,000 cubic feet of air going up each heading to ventilate Nos. 3 and 4 splits.

Where were the nearest men to that working when you saw it? There were no men working when I was down.

Do you know where the men were working? They were working here and there, in this part of the main workings (pointing out certain places on the plan), but really it is the Inspector who should tell you this.

The men were working some distance away from the Jubilee heading? Yes, in the returned air which was foul with gas. I went with the Inspector to see the mine, because I had to send a report on it to the Minister. Bosfield, the overman, told me that the men were working in the returned air fouled by gas.

What did he tell you? He said that there was more gas there than ever there had been in the Bulli mine. He was very anxious that I should go across and see how a light would be whipped out.

Was that your own experience from examination? It certainly was.

You did not order the men out? No, I did not.

Then I presume that you saw no danger at that time? Well, we could not say, because we had naked lights ourselves. We were looking for a future outburst.

But at that time you saw no danger? I cannot tell. It was a dangerous practice, and we might have been blown up ourselves.

And that was why you went with the naked light? No; we did not know of it till we got there.

Did you, as a matter of fact, see any danger from gas while you were in the mine? I looked upon it myself as a dangerous practice.

Now I will have an answer to my question. Did you or did you not see any danger in these workings from gas, as you saw them on that day? No; I cannot say that I did, but—

We will wait for the "but." We are going to have that down first. You can now make your explanations? After walking along the Jubilee heading and seeing the numerous blowers and the quantity of gas exuding from the floor, I thought it a dangerous practice, in view of some future sudden outburst of gas which might occur at any time. I thought it was dangerous to the men who were working there with naked lights in this air, which was fouled by explosive gas.

I asked you concerning the workings as they were? Oh, I know that you want me to say what suits you.

Was it the light you objected to? Yes.

*Mr. Edmunds*: I think it is now time, your Worship, that I entered formally my objection to this line of examination. It is utterly immaterial to the issue before your Worship what Mr. Mackenzie may have thought or may not have thought. The Act says that the Inspector is the person to examine the mine, and if he thinks that there is a dangerous practice, he is to give notice to the owner or agent and report to the Minister. If the Inspector reports, and no arbitration ensues from his action, then the owner must comply with the requisition in the notice which the Inspector serves upon him. It is utterly immaterial, therefore, what Mr. Mackenzie or any other expert whatever thought of the mine. The issues are whether the Inspector formed such an opinion, whether he gave the requisite notice to have the matter remedied, and whether the owner or agent has complied with this notice and remedied the defect complained of. But whether a witness thinks so and so is quite immaterial to the issue before you, because the defendant has his method of procedure laid down in the Act, and if he thinks that the opinion of the Inspector is a wrong opinion, then the court of arbitration provided for by the Act will settle that matter. But the defendant here not having proceeded to arbitration, he was bound to comply with the notice of the Inspector, and it is only a waste of time to go further with this line of examination. I am bound to take objection to it, and to the incurring of serious expense to the country by allowing this to go further. I therefore ask your Worship's ruling.

*Mr. Want*: With regard to the incurring of grave expense, I am sure that that will not disturb your Worship.

*The Police Magistrate*: No, it will not.

*Mr. Want*: If we wanted to save expense we would simply plead guilty and pay the 40s. fine, and avoid what will now cost us hundreds of pounds. My learned friend ought to know that this is not merely a pecuniary matter; we are fighting this as a matter of principle, and because we consider that we were right in doing what we did do, and we want the public to know it. Your Worship has to decide whether that objection is properly made at this time.

*Mr. Edmunds*: No.

*Mr. Want*: I am willing to admit that Mr. Mackenzie's evidence is nothing, but while we have him here—and we know that he is an authority on coal-mining—we have a right to get his opinion. I want to get from him the fact that there was no work being done in these headings, and that when these blowers were cut in this way there was no probability of their increasing; and I want to show you both by this witness and by others that there was no cause to fear any future outbreak of inflammable gas; it was simply a question of air going along which was fouled by gas. We have a number of witnesses here who are prepared to show that this mine is the best ventilated mine in the Colony, and the Crown now come in and try and shut this evidence out in the way that they have done. To amuse the Government

Inspectors and to please them we have made certain alterations which really remedy the matters complained of. First of all, I will admit there was an intention to arbitrate. Mr. Mackenzie now admits that there were no men working there at all, and that the matter involved was simply a passage of air, but I propose to show you that we have actually, at some cost, remedied these things. But I will go further and say that as none of these gentlemen have been down in the mine lately they are not in a position to say whether we have remedied this thing in twenty days or not. As the men worked along the headings they opened the blowers, but there was no gas, and there can be no possibility of any future injury, because there is no work being done. I propose to show that there are two headings connected, and that it was simply a question of ventilation, and then I wanted to ascertain from Mr. Mackenzie the state of the mine when he visited it. The Crown allege that dangerous elements existed in this mine, and say that there is a liability to the outburst of inflammable gases, and they charge us with not remedying the same thing forthwith. If we show that we have done something to remedy all this, then there is an end of this case.

*The Police Magistrate*: That is what I thoroughly understand.

*Mr. Want*: That was why I wanted your Worship to go down and see the mine for yourself, and ascertain whether it had been remedied or not. Having Mr. Mackenzie in the box we have a perfect right to ask him whether his Inspectors had gone through the mine to ascertain whether the complaint had been rectified or not. And if he did do it within twenty days, then the Crown are put out of Court altogether. These workings were simply used as a means of ventilating the mine, and the remedy which we effected there had the effect of destroying any danger whatever that existed.

*Witness*: I never said anything of the kind.

*Mr. Want*: I did not say that you said so, Mr. Mackenzie; I said that myself; it is a very strange thing that you cannot keep quiet for a while; it seems to me, your Worship, that there is a great amount of feeling being imported into this case. It seems to be a case of Bulli! Bulli!! Bulli!!!

*The Police Magistrate*: If danger existed in the mine, it was quite right that the Inspectors, warned by the accident at Bulli, should have drawn attention to it.

*Mr. Edmunds*: Certainly, your Worship; the officers would not be doing their duty unless they were made more active and watchful by this Bulli accident.

*The Police Magistrate*: I read a great deal about this Bulli accident, and I have come to the conclusion that that great catastrophe would not have occurred if these men had done their duty.

*Mr. Want*: Well, we merely want to show that our workings are all right.

*Mr. Edmunds*: Of course if the question before your Worship were as to whether the remedy had been applied or not, my learned friend would be quite right in endeavouring to show that the mine was safe. But that is not the question before the Court. The question is, has the defendant complied with the requisition. He can call all the mining managers in the world, and he would have a perfect right to do it if the circumstances were as he has stated. Now what is the requisition of the notice—to remedy the system of ventilation so as not to take this foul air over to where the men were working. If the defendant can show that he has complied with the requisition by changing the system of ventilation and by putting up a double trap-door, then, of course, it is an answer to the complaint made here. What they have to show is that they have remedied this dangerous practice; but, instead of doing that, my learned friend has tried to get in evidence to prove that it was not at all necessary, and that there never was any danger at all. Their course should have been to have taken the case to a court of arbitration, and if they had not obeyed the award then you would be the judge, and evidence could be received on that point. But now you are the judge as to whether the defendant has obeyed the notice or not. We are now thrown back upon the notice, and we ask you to say whether they got it, and whether or not they obeyed it. But whether the Inspector was right or wrong in his opinion is, as I said before, quite immaterial to the issue, and the questions that have been asked Mr. Mackenzie on that point are quite irrelevant. Let my learned friend show that the defendant has remedied the complaint which we have made, and has changed the system of ventilation, if he can.

*Mr. Want*: I simply want to show the state which this mine is in, and the state which it was in when the Inspectors visited it, and I say that there has been no alteration since. If I can prove that there was no danger then, and that there is no danger now, that will be sufficient as proving that the matter complained of has been remedied. (*To Witness*): Did you go into the narrow bord in the Jubilee shaft? No.

Were you carried through it? No.

Were you carried through a portion of it? Yes; but Mr. Dixon was the person named in the Act to examine it.

Were you carried by someone along this narrow bord? Yes; for about 20 yards from the shaft.

There was a good deal of water there? Yes.

And there was a good deal of gas there? I cannot tell you what the quantity of gas was that was there, but I could smell it; the place was full of gas; I was going to the narrow bord, but there proved to be no occasion for me to go any further; I came from the tunnel mouth.

And you did not get to the foot of the Jubilee shaft at all? No; but I was within 20 yards of it.

And you say that at that time the place near the Jubilee shaft was full of gas? No, I did not say that. I said that Mr. Dixon has said so.

Well, what do you say? I do not know; I was not there.

Did you not say just now that some place was full of gas? No; I could not have said so of my own knowledge. I was not there to have seen it, and there was no necessity for me to see it.

What is that you say, no necessity for you, the Examiner of Coal-fields, to see this? No; I went with the Inspector.

What did you go with the Inspector for? Because I preferred to go with him.

Why did you not wait till the Inspector came up and reported to you? I went with him to ascertain what he thought about it.

But you could have found that out when he came up. Now, will you tell us why you went down with him? Because I chose to do so.

Will you not tell me your reason for going down? Because I chose to go. I went down to see what the Inspector's opinion was.

*Mr. Edmunds*: You are Mr. Dixon's superior officer? Yes.

*Mr.*

*Mr. Want*: Was that your only reason for going down into the mine to find out what the Inspector's opinion was? Yes; I went to see what his opinion was, and also to form my own. I went down to see whether his opinion was correct or not.

Now, what did you see when you got down there; did you see any place that was full of gas? I couldn't say. Mr. Dixon will tell you all about that.

You know the place where they carried you to and put you on a seat? Yes. They tumbled me into the water, and I remained there.

There was no quantity of gas in that place? Yes; there must have been gas, because it was going towards the heading.

Was there any gas there? I cannot tell you.

Did you or did you not see? I did not go there specially to see that place. I went there to see the ventilation of the mine.

You went to see the ventilation of the mine? Yes, and to see whether it was not a dangerous practice that they were adopting.

Now, was there, or was there not, any quantity of gas at the place where they set you down? I cannot tell you.

Although you went there to see whether there was or not? No; I did not say so. I went to see the condition of the narrow bord.

Now, I ask you again, was there, or was there not, gas there in any quantity, and would not the presence of this gas in any quantity be one of the things that gave an element of danger to the ventilation of the mine? It was; but I do not look for it at that point. I might as well have looked for it down here (pointing to a certain portion of the plan).

Now, having arrived at the last point of your inspection, did you see gas there which formed an element of danger in the ventilation? That was not the last point of inspection. Another place was the last point of inspection.

Well, at the place you inspected near the Jubilee shaft, was there, or was there not, any gas which would be an element of danger to the ventilation? Mr. Dixon will tell you.

Now, I will have an answer from you. At the point to which you were carried, did you see gas in such a quantity as to be an element of danger to the ventilation? No, I did not; but I wish to add to that—

Wait a minute till this goes down.

What I wished to say was that within 20 yards of the Jubilee downcast shaft, down which all the pure intake air was coming from the surface, coursed along the Jubilee headings, where numerous blowers of gas were exuding for about 180 yards in length. And this air is protected by a single trap-door—

Is this answering my question? Yes. The men were working with naked lights in Nos. 3 and 4 split district.

We have your opinion at last? Yes; and if you had allowed me you would have had it before.

At the place where you were carried to the air was pure and was not mixed with gas? There was a little gas, but it was an insignificant quantity.

Do you happen to know that the greater part of Mr. Dixon's complaint was about the gas from this narrow bord being brought down to where you were sitting? I do not think so. I think you will find that you are wrong, but Mr. Dixon will answer this for himself.

*The Police Magistrate*: I now see what you are aiming at.

*Mr. Want*: We contend that if there was no gas there a week afterwards, the gas which was seen by the Inspector must have been remedied by us. There was no gas at the bottom of the shaft.

*Witness*: I was not speaking of the bottom of the shaft.

*Mr. Edmunds*: My objection to my learned friend's question is that he is going into the matter as to whether Mr. Dixon was right or wrong in the complaint that he made. That has nothing to do with the matter which is now before your Worship; but in any case, Mr. Dixon will be here to speak for himself.

*The Police Magistrate*: Yes; he must stand or fall on his own evidence.

*Mr. Want*: These two gentlemen, Mr. Mackenzie and Mr. Dixon, were in the mine together, and if we can show that one said there was no gas there at all—

*The Police Magistrate*: I understand what you are driving at.

*Witness*: Excuse me. I never said that no gas existed there. What I said was that there was an insignificant quantity of gas.

John Dixon called in and examined:—

*Mr. Edmunds*: You are an Inspector of Collieries? Yes.

You are an Inspector for the Northern District? Yes; stationed in the Northern District.

Will my learned friend admit Mr. Dixon's appointment—we have the proclamation of *Gazette* notice here?

*Mr. Want*: Yes, we will admit all that.

*Mr. Edmunds*: Do you know the Newcastle-Wallsend Mine? I do.

Is that mine in the Northern District? Yes.

Who are the owners of that mine? The Newcastle-Wallsend Coal Company.

And who is the person having, for the time being, the care and direction of this colliery?

*Mr. Want*: We will admit at once that the defendant is the agent for the owners of the mine.

*Mr. Edmunds*: As an Inspector of Collieries, did you inspect the Newcastle-Wallsend Mine on the 5th January, 1888? I did.

Did you find there any practice in existence which, in your opinion—

*Mr. Want*: I object to that. Let the witness answer as to what he found in the mine.

*Mr. Edmunds*: All right. Did you find any special practice in that mine—

*Mr. Want*: Ask him what he found there at once.

*Mr. Edmunds*: But the Inspector might have found coal or water or gas there.

*Witness*: I found a practice existing in that mine on that day which, in my opinion, was dangerous.

*Mr. Want*: What was that practice?

*Mr.*

*Mr. Edmunds*: I am going into that matter presently. We will have all that by-and-bye. (*To the witness*): To what extent, in your opinion, was the practice that you found there dangerous? I consider that it was highly dangerous.

In what manner was it dangerous? Its continuance tended to the bodily injury of the persons employed in the vicinity.

*Mr. Want*: He has evidently read the section.

*Mr. Edmunds*: Yes, under my advice. We have read it together.

*Mr. Want*: I know you have.

*Mr. Edmunds*: Now, what was that practice which you observed in the mine on that occasion? The practice that I saw was this, the coursing of a current of air impregnated with inflammable gas into two splits or districts where naked lights were being used.

Was there anything else defective or dangerous —

*Mr. Want*: Let him go on himself without suggesting answers.

*Witness*: Well, that was the practice that I saw.

*Mr. Edmunds*: Will you show us on the plan exactly what you did see? I came from the main workings down the main road to the Jubilee heading—going down the Jubilee headings or down a section of the Jubilee headings, where I found numerous blowers of inflammable gas. I passed down to the Jubilee shaft and swung across the Jubilee shaft in a bucket into this narrow bord. In that narrow bord there was standing gas. The thickness of the gas in the face of that narrow bord was 3 feet 5 inches; 3 yards back from the face it was 2 feet 4 inches; 7 yards back from the face it was 9 inches; and from that point it tailed off to the lip of the shaft. Three measurements had to be taken of it, and I reckoned there were somewhere about 300 cubic feet of inflammable gas in the bord at that time.

After that, what did you see? We came back over the blowers again to the point marked D on the plan B on the main road; then round this narrow bord or continuation of the main road to the place hanging canvas.

Well, and after that? After that I passed out, as I was then pretty wet.

Now, I want you to say what you thought of the system of ventilation?

*Mr. Want*: I object.

*The Police Magistrate*: That will not weigh with me one bit.

*Mr. Want*: But it may bring us into other things.

*Mr. Edmunds*: Now, will you describe the system of ventilation that you found in practice there? The system of ventilation was in taking the air down the downcast Jubilee shaft and along the Jubilee headings, where I found the blowers, and into the two splits called No. 3 and No. 4.

Do you know how many men were working in these splits? Sixty-four in one split and thirty in the other.

How was the air current regulated? The air current here was split partly by a regulator marked on the plan B; and this split by this trap-door.

How many trap-doors? It was a single door.

Was there no trapper boy there? No, no trapper.

Now, I want to ask you what your opinion is, or whether you formed any opinion at all as to the system of ventilation; and, if you did form an opinion, what that opinion was? Yes; I formed an opinion as to the ventilation at the time of this inspection.

And might I ask if your opinion of the ventilation is still the same? Yes; and that opinion is that it is a dangerous practice to utilize the intake air which has already been impregnated with inflammable gas.

To utilize the intake air in what? In ventilating places where people are working with naked lights.

Have you also formed an opinion as to the trap-door? Yes?

What was it? I considered that a single trap-door was not enough.

And you still hold that opinion? I do.

In what respect, in your opinion, was this system of ventilation dangerous? Through the air being impregnated with inflammable gas.

But in what way? Through the gas coming into contact with naked lights.

Do you mean by that, the gas coming in? Yes; I saw that if any inflammable mixture was allowed to come in and get in contact with naked lights there would be an explosion.

Now, was there danger from the gas in the mine at the time that you saw it? Yes.

Are you speaking of the actual quantity of gas that was then exuding or what? I am not speaking of the actual quantity of gas which was in that part of the mine, but of the gas which might be there? There was something more than that, there was always the liability to a sudden outburst. I had that in my mind when I was answering your question.

*Mr. Want*: There is one remedy for that, which is never to open the mine at all.

*Mr. Edmunds*: Now, I will ask you again, in what respect do you consider having only one trap-door affects the ventilation? The matter is very simple. Supposing that one trap-door were open, the current of air would pass through the door and get in the furthest split by the shorter road. It would rob the large split of its due. If the door were open, the air would pass into the smaller split known as No. 4, and would rob the men working in No. 3, through which the air should pass if it took its proper course.

How would this affect the men in No. 3 split? They would not have so much air as if that door were opened.

Would the air which they would obtain be at all sufficient? Not according to the requirements of the Act—not nearly sufficient.

After your inspection, did you send this notice to Mr. Neilson:—

J. Y. Neilson, Esq., Colliery Manager, Wallsend,—

Sir,

Yesterday (Thursday), accompanied by Mr. J. Mackenzie, Examiner of Coal-fields, I carefully inspected the workings in the vicinity of the Jubilee shaft in connection with the Newcastle-Wallsend Coal Company's Colliery, and found inflammable gas very freely exuding from numerous blowers in the floor of the Jubilee headings. Also in the narrow bord, 36 feet in length, 6 feet wide, and 5 feet 9 inches high (near the shaft bottom), inflammable gas could be detected in the Davy lamp 9 inches from the roof at a point 7 yards from the face, and 2 feet 4 inches from the roof 3 yards from the face, and 3 feet 5 inches from the roof at the face.

2. Having by such inspection proved beyond a doubt that inflammable gas was being engendered at the above-named places, and in view of the liability of a large outburst of inflammable gas occurring at any time, I hereby, in accordance with the provisions contained in the 25th section of the Coal-mines Regulation Act of 1876, give you notice that, in my opinion, it is a dangerous practice to allow the air current from the Jubilee shaft to ventilate one split of about sixty-eight men and another split of about thirty men, all working with naked lights, after such current of air has coursed through the Jubilee headings, where the gas is exuding.

3. I would also draw attention to the practice of having only a single trap-door on the main road between the Jubilee headings, where, in my opinion, two doors are necessary.

4. I have therefore to urge your serious and immediate attention to the above-named matters, with a view to have them remedied as speedily as possible.

I have, &c.,  
JOHN DIXON.

I did.

Having served that notice, did you do anything else as Inspector of Collieries? Yes; I reported the matter to the Minister for Mines.

*Mr. Want*: Was the report in writing? Yes. The extract marked A is the report referred to.

*Mr. Edmunds*: Do you know Mr. Neilson's signature? Yes.

Perhaps my learned friend will also admit that this letter was written with Mr. Neilson's knowledge?

*Mr. Want*: Yes; we will admit it.

*Mr. Edmunds*: You received this as a reply from Mr. Neilson? Yes.

Have you received any other reply? No.

This is the letter:—

(88-895.)

Newcastle-Wallsend Coal Company, Sydney, 13 January, 1888.

Sir,

I am instructed to write you in reference to a notice given by Mr. John Dixon, Inspector of Collieries, dated the 6th January instant, to Mr. Neilson, this Company's Colliery Manager, of which you have doubtless been informed, and will explain the particulars as to ventilation at the several places mentioned, which will, I think, show that the complaints made by Mr. Dixon cannot be sustained. In reference to paragraph No. 1, there are, no doubt, several small fissures from which a small quantity of gas exudes, but not sufficient to be likely to cause bodily injury to the miners.

These fissures at first only gave off about 40 feet of gas per hour. Since opening out some two months ago this amount has considerably decreased by the natural drainage of the gas. Even taking the maximum of 40 feet per hour, 600 cubic feet of fresh air per hour would be sufficient to dilute and render harmless this quantity of gas, whereas 90,000 cubic feet of pure and undiluted air at only 300 feet from the surface are passing these places at the rate of 400 feet per minute, and no irregularity in the details of ventilation can possibly diminish this quantity. I therefore respectfully submit there can be no danger from the gas from these fissures in the vicinity of the bottom of the Jubilee shaft. With regard to the narrow bord, no doubt a small quantity of gas is to be found, but the gas exuding from this place is included in the 40 feet above-mentioned, and cannot possibly do any harm to any person, as the place cannot be reached without the assistance of the sinking-engine at the ventilating shaft, except by swimming. On Mr. Dixon's visit recourse was had to the sinking-bucket to swing him into this place. I therefore submit this place cannot be a source of danger. In ordinary course of working the ventilation in this place would be properly attended to.

In reply to paragraph 2 of Mr. Dixon's letter, in which he states that by the inspection above referred to he has proved beyond a doubt that inflammable gas is being engendered in the above-named places, and in view of the liability of a larger outburst of inflammable gas occurring at any time, &c., &c., I would observe that the shaft mentioned by Mr. Dixon, known as the Jubilee shaft, is one that the Company has just completed sinking for the purpose of providing improved ventilation in a portion of their mine which it is intended to open out, that the Company has driven over 30 chains through virgin coal to connect with this ventilating shaft, during which time gas has nearly always issued from small fissures at the faces of drives, and been sufficiently ventilated by ordinary brattices. The connection is now complete, leaving the coal all open for the gas to drain off. All workings are suspended up to within 400 yards of the ventilating shaft bottom, so that it is impossible for a larger outburst to take place, and there can be no risk to any one until working is resumed there.

In regard to paragraph 3 in Mr. Dixon's notice, I have to point out that the matter of the door does not in any way affect the question of gas in the Jubilee heading.

In conclusion, I am desired to say that during the sinking of this ventilating shaft Mr. Dixon has frequently visited the same, and any suggestions he has made have been attended to. Mr. Bates also has visited the shaft, and the same remark may be made as to him.

The sinking of this ventilating shaft has but recently been finished, and the connection with the Company's tunnel workings just completed. A very powerful Grubal fan is about ready for shipment from England, with the intention of making the ventilation of the Wallsend Mine as good, if not better, than it has ever been.

My Board feel, however, that there does not exist sufficient ground for the notice given in Mr. Dixon's letter, and I am directed, therefore, to say that if you should consider, after inquiry, that it is necessary to take any action in regard to Mr. Dixon's notice, the Company claim to have the matter referred to arbitration, in terms of the clause of the Coal-fields Regulation Act, section 25.

I have, &c.,  
F. W. BINNEY,  
Secretary.

The Honorable the Minister for Mines, Sydney.

This notice having been received within the prescribed time, the matter must now be referred to arbitration, in terms of the Coal-mines Regulation Act, section 25.—H.W., 15/1/88. Submitted. Approved.—F.A., 13/1/88.

You received this seven days after the notice was sent? Yes.

I propose, your Worship, to put in all correspondence that passed between the defendant's Company and the Minister for Mines, if my learned friend has no objection.

*Mr. Want*: I am much obliged to you, but I will do my own work.

*Mr. Edmunds*: The Minister for Mines received letters from Mr. Binney, the Secretary of the Newcastle-Wallsend Coal Company, on the 24th January and 21st February, and these letters I propose to put in evidence. They are as follows:—

(88-1,738.)

Newcastle-Wallsend Coal Company, Sydney, February, 1888.

Sir,

I have to acknowledge your letter of this date, and, in reply, have to inform you that I have had no Board meeting since my interview with the Minister. My Directors meet on Thursday, when I shall report the result of my interview with the Minister, and will then communicate with you further.

I have, &c.,  
F. W. BINNEY,  
Secretary.

Harrie Wood, Esq., Under Secretary for Mines, Sydney.

Submitted for the information of the Minister.—H.W., 8/2/88. Seen.—F.A., 8/2/88. Regret might be expressed that the owners think it necessary to refer this matter to the Board of Directors, instead of allowing their agent (Mr. Neilson) to deal with it, as the delay caused thereby may defeat the intentions of the Act.—H.W., 8/2/88. Submitted. Approved.—F.A., 9/2/88. Mr. Binney, 9/2/88.

(88-1,738.)

Newcastle-Wallsend Coal Company, Sydney, 1 February, 1888.

Dear Mr. Wood,

I have read your letter of the 31st, and from the reference to your letter of the 18th it would seem that you had not received my acknowledgment of same sent on the 24th January; is this so?

I am, &c.,  
F. W. BINNEY.

Harrie Wood, Esq.

Inform that the letter referred to had been read, and take the action directed by the Minister on that letter.—H.W., 1/2/88. Mr. Binney informed and action taken on 2nd February, 1888. Mr. Binney reminded, 7th February, 1888. Newcastle-

Sir, Newcastle-Wallsend Coal Company, Sydney, 24 January, 1888.

I have the honor to acknowledge your letter of the 18th instant, informing me that you are directed by the Secretary for Mines to call upon this Company to appoint an arbitrator at once, in terms of the Coal-fields Regulation Act, section 35, in respect to the complaint lodged by Mr. Inspector Dixon.

I laid your letter before my Board on the 19th instant, and expect, in the course of a few days, to be able to give you the name of the arbitrator appointed by this Company.

I have, &c.,  
F. W. BINNEY,  
Secretary.

Harrie Wood, Esq., Under Secretary for Mines, Sydney.

Submitted for the information of the Minister.—H.W., 5/1/88. Seen. As the question involved in this case is one of danger to the miners working in the Company's mine, no time should be lost in having it settled.—F.A., 1/2/88.

Sir, Newcastle-Wallsend Coal Company, Sydney, 14 February, 1888.

I beg to acknowledge your letter of the 13th instant, in reference to mine of the 9th instant, and to state that in writing to request the withdrawal of the offer to submit the matter to arbitration the intention of the Directors of the Company was to leave the course free for any other steps the Minister might think fit to take in reference to the notice given by Mr. Inspector Dixon in his letter of the 6th January last. At the same time, my Board thought that the Minister would probably be good enough to direct a further inspection by Mr. Dixon, on the information given in my letter as to the steps the Company was taking in reference to the ventilation.

I have, &c.,  
F. W. BINNEY,  
Secretary.

Harrie Wood, Esq., Under Secretary for Mines, Sydney.

The contention of this Department is that, at the date of the Inspector's notice, they were working in violation of the Coal-mines Regulation Act, and that the question should be determined by arbitration or by a Court of law. Until the owners either withdraw their objection, or appoint an arbitrator, the hands of the Department are tied. The period within which proceedings can be taken has nearly expired, and the delay on the part of the Company, if persisted in, will have the effect of preventing the question being tested. It cannot be supposed that the owners desire to prevent the matter being brought into Court, and therefore they should at once withdraw their objection, or, if they prefer, appoint an arbitrator.—H.W., 15/2/88.

Submitted. Approved.—F.A., 15/2/88. Mr. Binney, 16/2/88.

Sir, Newcastle-Wallsend Coal Company, Sydney, 9 February, 1888.

In reference to an interview which I had with the Minister for Mines, your letter of the 7th February, and the correspondence which has taken place in regard to the ventilation of the Wallsend mine, I am instructed by my Directors to say that they wish to withdraw the request made in my letter of the 13th January, for the submission to arbitration of the matters referred to in Mr. Inspector Dixon's notice of the 6th January. They desire me to state for your information that the portion of the mine more particularly mentioned by Mr. Dixon is not being worked for coal-getting, but only for necessary work in preparation for the completion of the system of ventilation by means of a fan; and that the works in connection with this ventilation have been in progress since May, 1887, and the fan was ordered from England so long ago as 10th September last year, and is now on the way, and expected here in March. Under these circumstances, my Board desire me to submit to you that a further inspection might be made by Mr. Dixon, in order to satisfy you that the Company is taking all necessary steps to avoid ground for complaint.

I have, &c.,  
F. W. BINNEY,  
Secretary.

The Under Secretary for Mines.

The Examiner of Coal-fields.—H.W., 9/2/88.

After consultation with the Examiner, I submit that the question at issue is one which should be settled by arbitration or by a competent Court. Therefore, the owners should either withdraw the objection, so that proceedings may be taken for non-compliance with the notice, or they should appoint an arbitrator, so that the question may be settled by arbitration.—H.W., 10/2/88.

Submitted. Approved.—F.A., 11/2/88. Mr. Binney.—13/2/88.

Sir, Newcastle-Wallsend Coal Company, Sydney, 21 February, 1888.

In reply to your letter of the 16th instant, I have the honor to inform you that the intention of the Board was to withdraw any objection to proceedings being taken by the Minister in regard to the notice given in Mr. Inspector Dixon's letter of the 6th January last. As, however, the Minister does not consider my letter of the 14th instant a sufficient withdrawal of the objection, I beg now, on behalf of the Company, to withdraw any objection raised by the Company which in any way prevents action on the part of the Minister for Mines in respect of the complaint made by Mr. Inspector Dixon in his notice of the 6th January last.

I have, &c.,  
F. W. BINNEY,  
Secretary.

Harrie Wood, Esq., Under Secretary for Mines, Sydney.

Proceedings may now be taken to enforce the penalty under the Act.—H.W., 21/2/88. Submitted. Approved.—F.A., 21/2/88. The Examiner, 21/2/88.

*Mr. Want*: I have no objection to anything going in which has any connection with Mr. Neilson as colliery manager.

*Mr. Edmunds*: I wished your Worship to know exactly what had transpired between the Minister for Mines and the defendant here. This is all the correspondence.

*The Police Magistrate*: It appears that the offer of arbitration was made first, and then withdrawn.

*Mr. Want*: Yes, in order to allow them to come into Court?

*Mr. Edmunds*: Now, Mr. Dixon, referring to your notice, in which you say that, in view of the liability of a large outburst of inflammable gas occurring at any time, I hereby, in accordance with the provisions contained in the 25th section of the Coal-mines Regulation Act of 1876, give you notice that, in my opinion, it is a dangerous practice to allow the air current from the Jubilee shaft to ventilate one split of about sixty-eight men and another split of about thirty men, all working with naked lights, after such current of air has coursed through the Jubilee headings, where gas is exuding. I would also draw your attention to the practice of having only a single trap-door on the main road between the Jubilee headings, where, in my opinion, two doors are necessary. I have therefore to urge your serious and immediate attention to the abovenamed matters, with a view to having them remedied as speedily as possible. I want to ask you if you are in a position to say whether there has been any remedy to this complaint? No; there has been no remedy.

For either of these complaints? No, for neither of them.

Has the system of ventilation been in any way changed? The system of ventilation now is the same as when I notified the manager. The single door is there, and is the same.

Do the men still work with naked lights in Nos. 3 and 4 splits? They do.

And have they continued to do so? So far as I know, they have worked with naked lights all through.

Did you make another careful inspection of the mine in order to ascertain whether your requisition had been complied with or not? Yes, I did. I inspected it to see if the matters had been remedied, and I found the mine the same as it was on the 5th January.

When

When did you make this further inspection? Yesterday.

Were there any men working in the splits Nos. 3 and 4 then? Yes, men working in both splits with naked lights.

The system of ventilation is a pretty costly thing? Yes; but it depends mainly on the circumstances.

I am referring to this particular case. Is not the system of ventilation a thing that cannot be easily changed in a day or two? It can be changed, but it would cost money.

Is it a fact that the ventilation is the same now as at the time of your notice? Yes.

What would be the effect to the Company of which Mr. Neilson is the agent in case the men were compelled to work with safety-lamps instead of with naked lights? I should think that the working with safety-lamps would be more costly. A man would naturally demand more for getting coal per ton with a safety-lamp than with a naked light.

About how much more would a man working with a safety-lamp charge per ton? I can only give you an opinion about that, but I should say the cost would be about 3d. per ton. However, this is simply my opinion.

What had been done in that narrow bord since your last inspection—what alterations did you find in the narrow bord?—

*Mr. Want*: He has said there was no alteration.

*Witness*: No, I did not. I said that another heading had been made in the narrow bord, and that the standing gas had been removed. The current of air was coursing through.

And did you also look in the split where the blowers were? Yes.

Did you still find indications of inflammable gas? I did.

You still found inflammable gas exuding? Yes.

*The Police Magistrate*: Was it a straight wall or bord from which the gas was coming? A straight heading.

*Mr. Want*: Were the men working there yesterday? Yes; right down on the Jubilee headings, working the coal.

You do not mean making the heading a little wider or anything of that? Yes; but that is working the coal.

Am I to understand you to say that, when you saw this on the 6th January, you found this mine in a state which was dangerous and defective, and which threatened bodily injury to the men who were working there? Yes, I do. But this occurred on the 5th January.

You have not seen that mine since then until the day before yesterday? No. I have not been down since then until yesterday.

Were you in any part of the mine till yesterday? No.

And you swear that it is in the same condition now as you have described? No, I never swore that. I said that the air was travelling the same way.

Did you not say that you found this mine in the same condition? No, I did not.

Did you not say that there have been no complaints except the complaints referred to in my notice? Yes, of that character—that is, in the course of the current of air and the trap-door.

Is there now in that mine anything which would indicate that it is dangerous or defective, or that there is anything in any part of the mine dangerous to the persons who are working in it? I hold —

Answer the question, yes or no? I do not think that I should be called upon to give a simple yes or no to a question like that.

*Mr. Edmunds*: The witness may say yes or no to the question, and explain afterwards.

*Mr. Want*: If the Police Magistrate goes down into that mine to-morrow, will he find anything there which is dangerous to anybody, or defective, or tending to the bodily injury of the persons working in the mine? Yes, he will.

Now, let us have your explanation? Whoever visits the mine to-morrow will find that there is gas still exuding in the Jubilee heading, and that this air is still being forced into Nos. 3 and 4 splits where the men are working with naked lights, and where there may occur a sudden outburst of gas.

There may occur a sudden outburst? Yes.

But that may occur in any colliery? No, not in any colliery; but I have good grounds for thinking the causes of these splits are in what is termed virgin ground. And it is well known that where inflammable gas is found in this sort of ground that there is liability to an eruption and an outburst of gas.

What, another outburst? No; I mean the same one.

But we have had it now about three times? There are some foul spots in there which might foul the whole length of the heading in a very short time, when this foul air coming into contact with naked lights would necessarily result in an explosion.

Especially if there were dynamite there;—is not that so, Mr. Dixon? Well, I see you are getting rather restive. You had better start again.

I shall have a good stock of information when I am done with you. Now, what is there in that mine which is dangerous or defective;—what is dangerous in it? The exuding of gas.

And what is defective? The door.

The door. And what did you find there which you think tended to the bodily injury of the persons working in the mine? That is my opinion.

How much of that mine has been worked through virgin ground? About a couple of hundred yards, I should think.

What is the difference between driving through virgin ground and fresh ground? In virgin ground gas may be found in faults.

Did you ever come across any blowers in that mine before? Never.

As a matter of fact, these few blowers that are there —

*Mr. Edmunds*: "Few blowers," indeed.

*The Police Magistrate*: There might be enough there to blow us all up.

*Mr. Want*: No; I will insure your Worship's life for a farthing against any danger from gas in that mine. (*To Witness*): How many blowers are there? I will not give a guess, because it is very difficult to speak when men are shovelling coal about. I think it is safe to say that there is half the quantity already mentioned.

So that anyone going along there will see one-half the quantity that you did? I do not say that, because there is now more ground open. Can

Can you point out half a dozen blowers in the mine? I think I could.

Now, you say that you complained about this system of ventilation, and you stated also that it could have been improved by the expenditure of money;—what would you recommend? I do not propose to recommend anything. It is not my duty at all. I daresay the system of ventilation could be changed, but it would cost money. I am not here to advise anyone.

Was there any remedy, in your opinion, for the defects you state you saw in the ventilation of the mine? Yes, there was.

What was that remedy? It is not for me to advise or to recommend any remedy.

I do not care whether it is or not. Never mind your Inspectorship at all, but answer my question. I ask you this—you say this to the owners of the Colliery, "Remedy this defect as soon as possible"—now what do you mean? I meant that these things should be remedied, and I ask Mr. Neilson to remedy that.

*The Police Magistrate:* The remedy is to be devised by the arbitrators, and it is not for the Inspector to say what the remedy shall be.

*Mr. Want:* Exactly, your Worship; but what I want to get from the witness is a statement as to what his remedy would have been.

*The Police Magistrate:* The remedy would rest with the arbitrators.

*Mr. Want:* No, I do not think so. I am not asking the witness what he would do as an Inspector of Collieries, but I am asking him his opinion as a person who is skilled in the matter.

*The Police Magistrate:* Yes. The Inspector is in a very peculiar position; if he give advice and a certain thing is done it may fall to his duty by-and-bye to condemn what has been done by his advice. I, therefore, do not think that he should be asked to state what he would have done in the matter.

*Mr. Want:* But this is done as a cross-examination about the defendant's knowledge of coal-mining. I may have the idea that Mr. Dixon is a new chum at this business. I mention this to show you that I have a right to demand that my questions shall be answered.

*The Police Magistrate:* I understand you well, but still I do not think the witness should be asked to answer the question. It might place him in a very awkward position by-and-bye.

*Mr. Want:* Well, I will ask your Worship to take a note of it.

*The Police Magistrate:* You will find plenty of people who will suggest a remedy, and then ask the Inspector what his opinion is about it, and as to whether the proposed alterations meet his views or not.

*Mr. Want:* All right. You say that one cause of complaint was with regard to the door, and you say also that this prevented the men from getting the quantity of air required by the Act? Yes.

So that one of your causes of complaint might have been a breach of sub-section 3 of section 12? No; what I contend is, that the door might have prevented the men from getting the proper amount of air required by the Act.

Now, you say in one of these letters that there is a statement made there complaining that the Inspector has examined this work before the Jubilee shaft was reached at all. Is it a fact that you and others were there while these headings were worked up, and before the effect of the junction with the Jubilee shaft? It is a fact that I was not there, but I believe Mr. Bates was. I was not in with him. And it is another fact that I never gave advice about that, as the letter states.

Suppose these blowers that you saw there had been struck before the men effected the junction, inflammable gas would have gone down to where the men were working from the Jubilee shaft without any ventilation? Yes.

And I suppose that the air would then be very much worse than it is now? That is what I cannot tell you, because I was never down there.

Don't you think that if it was bad then it would be worse now? I do not call the Jubilee shaft any benefit to the ventilation at all.

You say that this narrow bord was full of gas? I did not say anything about its being full of gas. I said that there were about 300 feet of gas there. That gas would be making all the time, and this current of air would sweep the gas out across the shaft into the Jubilee headings on to these men.

Did you notice much of that gas coming out of the narrow bord? Well, unfortunately, we could not see it, but I know it was darting out everywhere then.

Now, I understand you to have said that this place you were in was dangerous and so forth—how long was it left without any other Inspector going to see it? You misunderstand my meaning of the word ventilation there. What I meant was that the place was always liable to a sudden outburst of gas.

And being liable to this sudden outburst of gas, how long was it before any Inspector went to see it again? Well, I did not go there again until yesterday.

Your first visit was about two months ago? Yes.

You have noticed in the Company's letters to the Minister that they make a request that you should go to see the place again? I have heard the letters read; but I had no request from the Minister for Mines to go and see the place again.

Could you detect any gas away from these blowers in any shape or form? No; no gas apart from the blowers, and what was standing in the bord when I examined it.

I suppose these blowers you could detect by putting a light to them? You could detect them about 20 yards away by listening to them. They have since decreased in sound on account of other headings having been opened alongside of them. This has been done since the 5th January.

Will you tell me what quantity of air was passing through the headings—did you test this on the 5th January? I did. It was about 13,000 cubic feet per minute.

Could you give me any idea of the quantity of gas that was coming from these blowers? No, I cannot. That can only be gauged in one way.

*The Police Magistrate:* That is the very thing I wanted to ask.

*Mr. Want:* Were not these blowers something like those lights which one sees in tobacconists' shops? Yes, something like that.

But you cannot give me any idea of the quantity of gas that comes from these blowers? No; I do not profess to be able to do that.

And can you give me any idea of the quantity of gas that would be required to make an explosion? Well, you can easily get that information. The Royal Commission that reported on the subject state that you can get an explosion with 4 per cent., but the school that we have been taught in teaches 9 per cent. as likely to cause an explosion. But another school that has been started, and I think they are right, say that 4 per cent will cause an explosion. We can learn a great deal from that. *The*

*The Police Magistrate* : Are there any igneous rocks about there? No; it is shale, but it is in the fault that you get the gas.

Is it not the case that the coal which comes in junction with igneous rock very often destroys the gas? Yes.

And but for that, an immense amount of gas would be generated? Yes.

*Mr. Want* : What I want to know is this, do you know that there are four openings in that fault already? I cannot say. We might have passed through it three or four times. I have given you most unhesitatingly my opinion.

Just answer my question. Suppose these blowers were not there, is not the ventilation of that place complete? Yes; I should say that the ventilation was all right, if there were no gas there.

Then it is the quantity of gas that is there which alone causes you to find fault? Yes; it is the fact of this place making the gas and forcing it over to where the men are working that made me serve the notice on the defendant. I may tell you that, in view of recent events, I would have served a notice on my own father under similar circumstances.

I have no doubt of that. It is a question of whether there is enough gas there to foul the air? It is a matter of opinion all along.

Was it the quantity of gas that actually existed there, or was it the quantity that was liable to come there that induced you to give the notice? Yes, that is it—the liability of more coming there.

*The Police Magistrate* : You never can be sure of the amount of gas that will sometimes burst out.

*Mr. Want* : Will you tell me this: If there was no increase of gas—and there might not have been any increase—would there be any harm at all, that is, putting aside the possibility of which you speak? As long as there is a liability there, and this cutting of the downcast shaft—

You do not appear to have heard what I said. I say putting aside possibilities? Yes; but we cannot put aside possibilities.

But supposing this—? I do not presume to say that there is so much gas being made there now as on the 5th January. I have told you that several times over.

But supposing there is no increase of gas from these blowers, would there be any danger to the men working in the mine? You are supposing something now from my notice.

Answer my question. Supposing that the gas had not increased at all since the 5th January, is the amount of gas there now detrimental to anybody? What is the use of asking me that, when men are actually working there now.

Will you just answer my question. Is the amount of gas there likely to be injurious to anybody? I cannot tell you; I am not in a position.

*The Police Magistrate* : Will not 5 per cent. of gas affect a man working in a mine? Yes; 5 per cent. of gas will affect a man in more ways than one, because it might get up a fire about him, and if we get it up to 9 per cent., its influence would be greater even from the miner's point of view.

Will 30 per cent. of gas destroy life? Yes.

And 5 per cent. of gas mixed with the intake air would cause an amount of prostration, while 2 or 3 per cent. would weaken a man so that he would feel it after a time? Yes.

*Mr. Want* : Was the gas coming out interfering with the ventilation? I cannot tell you the amount of gas that was coming out.

Can you give me any idea now as to the effect the gas had on the ventilation? No; not unless I knew what amount of gas was coming out of the place. The gas may be coming out more quietly than it did on the 5th January.

At 6 o'clock the Court adjourned until 10 o'clock on the following day.

#### FRIDAY, 9 MARCH.

The Court met at 10 a.m.

*Mr. Edmunds* said: I tender your Worship the general and special rules of the Newcastle-Wallsend Coal Company's mine, which are as follows:—

#### GENERAL RULES UNDER THE COAL-MINES REGULATION ACT, 1876.

The following general rules shall be observed in every colliery:—

1. Within one year and six months after commencing the working of any bord, stalls, or longwall workings in any mine, there shall be made and completed at least two separate and distinct openings to the day or surface from such mine, intercommunicating with each other, by means of either of which openings all persons employed in the colliery may at all times whatsoever pass in or out. Provided that if in any mine such bords, stalls, or longwall workings shall have been commenced before the passing of this Act, and without a second such opening as aforesaid, the same shall be completed at or before the termination of the year one thousand eight hundred and seventy-seven. And the owner of every mine wherein such two openings shall not be completed as aforesaid shall be liable to a penalty not exceeding one hundred pounds for every month during which the same shall remain incomplete.

2. An adequate amount of ventilation shall be constantly produced in every mine, to dilute and render harmless noxious gases to such an extent that the working places of the shafts, levels, stables, and workings of such mine, and the travelling roads to and from such working places, shall be in a fit state for working and passing therein.

3. An adequate amount of ventilation shall mean not less (as a minimum) than one hundred cubic feet of pure air per minute for each man, boy, and horse, which shall sweep undiminished along the air-way past each working place.

4. Within six months after the commencement of this Act, every mine shall be divided into districts or splits of not more than seventy men, and each district shall be supplied with a separate current of fresh air. All intake air shall travel free from all stagnant water, stables, and old workings, and no place shall be driven more than thirty-five yards before the current of air without a cut-through put through or bratticed up within three yards of the face of such working place.

5. If at any time it is found by the persons in charge of a mine or any part thereof, or by the Examiner or Inspector, that, by reason of noxious gases prevailing in such mine, or such part thereof, or of any cause whatever, the mine or the said part is dangerous, every workman shall be withdrawn therefrom, and the Examiner or Inspector shall inspect the same (and if the danger arises from inflammable gas, shall make such inspection with a locked safety-lamp), and in every case shall make a true report of the condition of such mine or part thereof; and no workman shall, except in so far as is necessary for inquiry into the cause of danger, or for the removal thereof, or for exploration, be readmitted into the mine, or such part thereof as was so found dangerous, until the same is stated by the Examiner or Inspector to be safe. Every such report shall be recorded in a book which shall be kept at the mine for that purpose, and shall be signed by the person reporting.

6. All entrances to any place not in actual course of working and extension, and suspected to contain or be liable to engender dangerous gas of any kind, shall be properly walled or fenced off so as to prevent access thereto.

7. Whenever any safety-lamp is required, it shall be first examined and securely locked by some person duly authorized for that purpose, who shall keep the key thereof.

8. Every shaft or pit which is out of use, or used only as an air-pit, shall be securely fenced to the satisfaction of the Examiner or Inspector.

9. Every working and pumping pit or shaft where the natural strata are not safe shall be securely cased or lined, or otherwise made secure.

10. Every working pit or shaft and entrance thereto shall be provided with means of communicating from the bottom of the shaft to the surface, and from the surface to the bottom of the shaft, by such distinct and definite signals as shall be prescribed by the Examiner.

11. All underground, self-acting, and engine planes on which persons travel shall be provided with some proper means of signalling between the stopping-places and the ends of the planes, at intervals of not more than twenty yards, and such places of refuge shall be at all times kept clear.

12. A sufficient cover over-head shall be used when lowering or raising persons in every working pit or shaft.

13. No single-linked chain shall be used for lowering or raising persons in any working pit or shaft, and no material shall be lowered or raised in the same cage with or in the opposite cage against any person.

14. To the drum of every machine used for lowering or raising persons, such flanges or horns, or such other appliances as shall be sufficient to prevent the rope from slipping, shall be attached.

15. A proper indicator to show the position of the load in the pit or shaft, and also an adequate brake shall be attached to every machine worked by steam or water power used for lowering or raising persons.

16. Every steam-boiler shall be provided with a proper steam-gauge, water-gauge, and safety-valve.

17. The fly-wheel of every engine shall be securely fenced to the satisfaction of the Examiner or Inspector.

18. Sufficient borehole shall be kept in advance and on both sides, to prevent inundations in every working approaching a place likely to contain a dangerous accumulation of water.

19. The roof and sides of every travelling road and working place shall be made secure, and no person, unless appointed for the purpose of exploring or repairing, shall travel or work in any such road or place until it is made secure.

#### Penalties.

##### Penalties for Offences against the Coal-mines Regulation Act, 1876.

31. If any mine be worked, and through the default of the owner or agent thereof, special rules have not been established for the same according to this Act, or the general or special rules have not been promulgated as hereinbefore provided, or if any of such general or special rules which ought to have been observed by the owner or agent of such mine be by him neglected or wilfully violated, he shall be liable to a penalty not exceeding twenty pounds, and to a further penalty of one pound for every day during which the offence continued after notice thereof in writing given by the Examiner or Inspector, and in default of payment of any such penalty to be imprisoned for any period not exceeding one month. And every person other than as aforesaid employed in or about any mine who neglects or wilfully violates any of the special rules established for such mine shall for every such offence be liable to a penalty not exceeding five pounds, or in default of payment to be imprisoned for any period not exceeding one month.

##### Penalties for offences not expressly provided for.

34. Every person who shall be guilty of any offence against this Act, or who shall wilfully violate or neglect to observe any provision of this Act, or any general or special rule established hereby or hereunder, for the violation or neglect of which no penalty is hereby expressly imposed, shall for every such offence be liable to a penalty not exceeding ten pounds.

#### SPECIAL RULES.

Department of Mines, Sydney, 4 December, 1876.

THE undermentioned Special Rules to be observed in the Newcastle-Wallsend Coal Company's Colliery, in the District of Newcastle, are now published in conformity with the provisions of the Coal-mines Regulation Act, 1876, 39 Victoria No. 31.

JOHN LUCAS.

##### Newcastle-Wallsend Coal Company's Colliery.

Special Rules for the conduct and guidance of the persons acting in the management of the Newcastle-Wallsend Coal Company's Colliery, in the District of Newcastle, and all persons engaged in or about the said colliery, framed under the Act 39 Victoria No. 31.

##### Viewer or Colliery Manager.

The viewer or colliery manager shall have full command over all other officers and persons employed in or about the colliery, who are to receive their orders from him, and to apply to him or to such other person as may be appointed to act on his behalf, for instructions as often as may be necessary; and he shall be responsible for the following duties being duly performed.

##### Overman.

The overman shall attend the pit every day; shall see that the rules in the different departments are closely and rigidly carried out; shall suspend any person infringing or attempting to infringe any rule, and order him out of the pit; shall receive the daily report of the deputy and fireman, and give immediate attention to any complaints, and inspect personally such parts of the mine as are reported to be unsafe, or in any way to need his attention; shall advise with daily and instruct deputies, firemen, screen-overseer, and engineer, on all points necessary, and shall observe the following general rules:—

1. Shall have full charge of all underground work.
2. Shall examine every day the different main and district air currents.
3. Shall visit every working place once each working day, and see that the hewer keeps his place sufficiently timbered; and shall suspend at once any miner neglecting or refusing to do so.
4. Shall see that a sufficient supply of timber is sent down the pit and into the different districts.
5. Shall see that the deputies, hewers, shifters, and all others under his charge in the pit, strictly and rigidly observe the rules applicable to them, and shall suspend immediately anyone infringing or attempting to infringe any rule, order him out of the pit, and report the same to the colliery manager.

##### Fireman.

1. The fireman shall be in the pit four hours before the workmen commence to draw coals, and shall examine carefully, with the safety-lamp, every working place where he has any reason to suspect the existence of gas.
2. Shall suspend "danger-crosses" in all places where the presence of gas is found, and when any working place (where gas has been found) is stopped, shall erect and keep up a "danger-cross" until work is started again.
3. Any person found with a candle or naked lamp beyond any "no naked light" board or "danger-cross," or any safety-lamp, shall be suspended.
4. No working place containing gas shall be set on until the miners in such places are supplied with a safety-lamp.
5. Before safety-lamps be taken into the workings, the fireman shall examine the whole lamp, and if it is all right, shall lock it for the hewer.
6. Any lamp receiving any injury shall be at once delivered up to the fireman or overman, and the fact reported to the manager.
7. No smoking shall be permitted in any place where the safety-lamps are used.
8. Any wheeler or other person injuring a door, and not immediately reporting the fact, shall be suspended.
9. Should there be any discharge of gas or any heavy fall of roof in progress, and the fireman apprehends any danger, he must replace all naked lights with safety-lamps, and send for the overman.

##### Whealers.

1. The wheeler shall report to the overseer first thing every morning the quantity and different lengths of props required for their hewers.
2. Shall take in, without delay, any timber the hewer may require; and neglect of this rule will be met by instant dismissal or a prosecution according to law.

Hewers.

## Hewers

1. Safety-lamps shall be used in any place where the overman or fireman considers necessary.
2. A "danger-cross" will be placed in each district where safety-lamps are in use, or in any place where gas is either found or suspected to exist, beyond which no naked lights are to be taken.
3. Hewers and shifters are cautioned against discharge of gas or the appearance thereof, or if faults, backs, or water be met with; and, on appearance thereof, if using naked lights, retire from such workings, and go for the overman or deputy.
4. Hewers shall be responsible for the timbering of their own working places, and report at once to the overman or fireman any deficient supply of timber, and more especially the supply of sprags, for the supply of which, if at station, the wheeler will be held responsible.
5. Before commencing to cut the coal, shall set sprags against the face, which must be placed not more than 6 feet apart on all the portions of undercut.

## Engineer.

1. The engineer shall once a day examine with the banksman the pit-ropes, bolts and hinges, main and cage chains, and shall see that the signal-rapper and wires are in good order.
2. Shall examine the working engine once a day, and see that the working parts are in repair, that the bell signal, the wire arms, and brakes are free and in good order.
3. Shall have the entire charge of the pit ropes and chains, and remove, reverse, and repair them when necessary.
4. Shall instruct the stoker in the working and regulation of the water-floats and steam-gauges, the shutting of valves when feeding the boiler, the safety-valves and dampers, and once a day shall see that they are free and in good order.
5. Shall examine from time to time all boilers, and see that they are properly cleaned, and shall have charge of all repairs to them, shall suspend the working of any boiler exhibiting weakness, or on which any valve or apparatus connected with it is out of order.
6. Shall have charge of all apparatus, crab, gin, cradle, ropes, and chains, and examine them from time to time to see that they be kept in good order.
7. Shall report daily all defects and alterations needed within his department to the colliery manager.

## Head Keeper.

1. The head keeper shall have charge of the platform, banksmen, and screens, check the observance of the rules by the banksmen and onsetters, receive the report of the banksmen as to any defects observed by them, and communicate immediately with the engineer or colliery manager.
2. Shall see that all fires are extinguished when work in the pit is done, and that the safety-bars are put across the shaft.
3. Shall see that the timber, rails, &c., necessary for each day's consumption are brought over to the pit, and sent down when required by the overman.

## Breaksman.

1. The breaksman shall examine once a day the engine, ropes, rolls, and horns, the ropes upon the rolls and signal bells, and shall report the result to the engineer.
2. Shall attend to the signal-board, and have a clear understanding with the banksman as to the signals in use both at coal work and at other times, and shall on no account start his engine until he has clearly understood the signal received from the banksmen.
3. Shall on no pretext leave the handle when the engine is in motion.
4. Shall examine particularly, from time to time during the day, the safety-valves and steam-gauges, and water-floats and shutting of valves, and see that they are free and in good order; shall have the charge of feeding the boilers, and be careful that one boiler is fed at a time, and that all communications with the other boilers are shut off; and shall have control over the firemen.
5. No other person shall attempt to work the engine without the permission of the engineer or colliery manager.

## Banksmen and Onsetter's Banksmen.

1. Shall examine (first thing) every morning the ropes, as they pass slowly from the engine, and the different shackles, springs, belts, hinges, chains, and cages, and shall generally observe them during the day; if any of these be faulty in any particular, the fact shall be immediately reported to the engineer or colliery manager.
2. Shall not allow any man in liquor to go down the pit.
3. Shall not allow any man to take his tools with him in the cage; all tools shall be sent down in the pick-skip.
4. When men are to ascend, the agreed sign shall be given, and the skips taken out of the cage.
5. Shall report to the head keeper any defect or violation of any rule.

## Onsetter.

1. The onsetter shall not allow any person to interfere with the rapper.
2. Shall report to the overman any violation of rules.
3. When men are to ascend the agreed signal shall be given by the onsetter only.

## Banksman Onsetters.

1. Shall not allow more than eight men at once in a cage.
2. Should either rope show the slightest defect he shall restrict the men riding in the cage with the better rope.
3. Any man refusing to leave the cage when ordered to do so shall be immediately suspended.
4. Shall have a clear understanding with the breaksman, and with each other, as to the signals in use.
5. Shall attend carefully to the signal-boards.

## General Instructions.

1. No person acting in a place of trust shall depute anyone to do his work without the sanction of the Manager.
2. No swearing or fighting is allowed in the mine.
3. It is particularly requested that the principal agents acquaint themselves thoroughly with rules applicable to themselves, and with those which they are to enforce on others. The hewers, boys, and all other workmen upon the colliery are required to inform themselves of the rules applying to themselves as well as to others.
4. Officers and heads of departments who fail in the due and right observance of the rules, or enforcing the same for the safety of the mine and workmen, subject themselves to degradation from their respective ranks. Workmen and boys who neglect the rules, or refuse obedience to the orders of the officers, shall be sent out of the mine, with a view to the investigation of the offence and the punishment of the offender.

N.B.—By the 34th clause of the 39th Victoria No. 17, it is enacted that "every person who shall be guilty of any offence against this Act, or who shall wilfully violate or neglect to observe any provision of this Act, for the violation or neglect of which no penalty is hereby expressly imposed, or any general or special rule established hereby or hereunder, shall for every such offence be liable to a penalty not exceeding ten pounds."

The above rules have been posted up in a public place on pit top, since 3rd September, 1877.

J. Y. NEILSON,  
Colliery Manager.

Wallsend Colliery, 25 September, 1877.

## MINERS' TERMS AND CONDITIONS AT WALLSEND COLLIERY.

From 6th February, 1873.

1. Coals to pass over a screen, with the bars three-quarters of an inch apart; coals to be cleaned and weighed at the bottom of screen, and paid for at 2,240 lb. per ton.
2. Thick coal to be paid per ton; thin ditto per ton; pillars per ton. Narrow work: Headings and walls, 6 feet wide, 8s. per yard; ditto, with narrow bords, 9 feet wide, 6s. 6d. per yard; narrow bords, 12 feet wide, 4s. per yard; ditto, 15 feet wide, 3s. per yard; ditto, 18 feet wide, 2s. per yard; turning off bords under 8 yards wide, 6s. per yard, for cutting out to 8 yards; small coal to be paid at the rate of 6d. per skip; out-winning headings and turning-off bords from winning headings, to be allowed two skips small for every yard over 4 yards thick. 3.

3. Men to work four men in a bord when required, and, in consideration thereof, to be paid 3d. per ton extra; all double places to be worked by the four mates.
4. The miners in ordinary bords will be required (when no facing is found) to hole the coal 4 feet deep (clear) and 4½ yards wide. Cut one side full height of seam before a shot will be allowed; the remaining 3½ yards to be holed the same depth before a shot will be allowed to be put in.
5. That the miners be supplied with sufficient timber, rails, sleepers, and a man to be sent to put down the road.
6. Any man or men taken away from the coal to work shift-work will be paid 10s. per day of eight hours, but not to receive skips for that day.
7. That the manager cause to be removed all small coal or rubbish, or pay the men for doing so, at a fair valuation.
8. That the water be kept down in each place, and all taken out ready for the men to start work.
9. That in the event of any men being taken out of their places (to which they were balloted) and sent into another, such men to return to the place, should it be started again during the quarter.
10. Should two or more sets of men be out of places at the same time, to ballot for such places that are next to be started.
11. Places crossing faults or being otherwise deficient to be a matter of consideration between manager and men; and places having to crop the coal for water to be paid 1d. per ton when such crop coal exceeds 6 inches. Any case of dispute to be decided by a board of arbitration.
12. That the manager cause to be removed from the face of all working places all full skips—the empty skips to be put back to face for miner's use. Turns to be regulated throughout the pit according to prices as near as practicable.
13. When any coal is to be taken off, or to be frilled, when pit is idle, the first ballot at the station to have the first chance, and so on, in the rotation of ballot during the quarter.
14. Miners' tools to be all sharpened and wedges rolled; and, at the end of each quarter, the tokens for each bord will be placed in the bord that has to run the number, each set of men to be supplied with twenty tokens, and to pay 1d. each short of this number at the end of the quarter.
15. Either party wishing to terminate the present agreement shall be at liberty to do so by giving fourteen days' notice, in writing, to the colliery manager, who alone has the authority to give or receive any such notice, or to cancel any such notice, given by either party.

Signed on behalf of Wallsend Coal Company,—

J. Y. NEILSON,  
Colliery Manager.

Signed on behalf of Wallsend Miners,—

THOMAS ALNWICK,  
Chairman,  
JAMES BAIRD,  
Secretary.

Witness.—A. Ross.

Rules, &c., admitted in evidence, with approval of counsel for defendant.

James Rowan was then called in and examined:—

*Mr. Edmunds*: You are an Inspector of Collieries in New South Wales? I am.

[The *Gazette* notice of the appointment of witness as Inspector of Collieries was produced. Counsel for defendant admitted the witness's appointment.]

Do you know the Newcastle-Wallsend Coal Company's mine? I do.

Did you go down that mine recently to inspect it? I did not inspect the whole of the mine. I inspected what is known as the Jubilee heading of that mine, and the two splits in connection with that heading.

These are the two splits numbered 3 and 4 in connection with that mine? Yes.

When did you inspect this portion of the mine? On the 9th and 11th of January last.

Did you examine the system of ventilation in this heading in the two splits? I did.

I will ask you to say what the system of ventilation was. Was it the same on both occasions? Yes, it was about the same.

Will you state now what the system of ventilation was? I travelled down the main tunnel and went down the Jubilee shaft, and found that there were 11,780 cubic feet of air per minute passing down the Jubilee shaft. I took a register of the quantity. In the two splits the amount of air was 13,000 feet per minute. Eventually the current passed up the main narrow heading to the regulator marked on the plan, and was there split into two divisions or currents. It then passed into the upper or No. 4 split, as indicated by the blue arrows on the plan. The other current, indicated by the red arrow, went into No. 3 split.

How many men were supplied with air in this way in No. 4 split? About thirty men.

And how many men were supplied in this way in No. 3 split? About sixty men and a few boys and horses.

What sort of lights did the men in this pit use? Most of them used naked lights in the main narrow heading and in No. 4 split, and again at the place marked hanging canvas.

Now, I want you to describe the country over which this current of air passed before it was split into two divisions? Before it was split it passed over about seventeen blowers, as marked on the plan.

Were these blowers giving out gas when you were there? Yes, they were exuding gas.

Did you try the quality and the nature of the gas exuding from the blowers? Yes; I found it to be light carburetted hydrogen.

*The Police Magistrate*: That would be something like powder? Yes; it was fire-damp.

*Mr. Edmunds*: And this carburetted hydrogen, I need scarcely ask you, is highly inflammable? Yes.

On these occasions, was the gas so exuding being carried by the current of air into Nos. 3 and 4 splits? Yes.

About the trap-door—did that split the current? Yes; I saw that the trap-door was splitting the current.

Was that door a single trap-door? It was.

*Mr. Want*: Have you had any experience in fiery mines? Yes.

Where? In Scotland.

And in this Colony? Yes.

Can you tell me, when you inspected this mine and saw what the ventilation was, whether there was a sufficient quantity of air passing through to fully destroy the bad effects of the gas? There was a sufficient current to take in gas and cause what would be an explosive mixture. When I made my inspection after I left the blowers there was a sufficient quantity of fresh air coming in to prevent it from being explosive.

Was that a long way in? I cannot say.

Was

Was not the ventilation, as you saw it, quite good enough for any colliery. Supposing you are a Colliery Inspector, or even that you were working there as a workman who merely wanted to be properly provided for, was there anything to be objected to in regard to the ventilation?

*Mr. Edmunds*: I object to this. This is going back over the same ground which we have touched on before. This is merely testing the accuracy of Mr. Dixon's opinion; and, as I have said before, the issue here is not as to whether Mr. Dixon was right or wrong. That was an issue which might have been considered at arbitration, but it cannot be considered here. The issue which your Worship has to deal with is not whether Mr. Dixon was right or wrong in his conclusions, but whether Mr. Dixon required the defendant in his notice to do a certain thing, and whether, within twenty days, the defendant complied with that requisition. That is really all you have to do with. My learned friend will only protract this inquiry to unnecessary lengths if he attempts to get in this evidence, and cross-examines witnesses, or calls on them to prove, that Mr. Dixon's opinion concerning the mine was not a correct one. It is not a question of expert's evidence at all, but merely whether the defendant complied with the requisition or not.

*Mr. Want*: My learned friend is arguing this point as if you had already decided it; but the point is one which your Worship will not have to decide until by-and-bye. I wanted to introduce evidence to show you that there is no defect in the system of ventilation, and that it would be impossible to remedy that which did not exist. My learned friend's argument is that there is a possibility of something happening. Now, how could he remedy that—how could he remedy a possibility? This is a thing which could not have been anticipated; and on that account it could not be remedied. In any case, the Crown should have proceeded under section 12. The next thing I want your Worship to know is the state of the mine when Mr. Dixon and Mr. Rowan saw it. What does remedying a thing mean? It means altering the existing state of affairs. We might have remedied this thing by hewing the coal out back and lowering the pressure of gas on the blowers. If we took your Worship through the mine and showed you that these blowers did not exist, and that the ventilation is almost perfect, then any person—be he Judge or Police Magistrate, however thoroughly versed in the law—must come to the conclusion that if this terrible state of affairs did exist when Mr. Dixon went through the mine, then it does not exist now, and therefore the matter must have been remedied. Having seen the mine yourself, and heard the evidence of the various witnesses, then you will be in a position to say whether the thing has been remedied or not, and we cannot be found guilty here. We cannot be fined for a thing which does not exist. The latter part of the 25th section says:—"Provided that the Court, if satisfied that the owner or agent has taken active measures for complying with the notice or award, but has not with reasonable diligence been able to complete the works, may adjourn any proceedings taken before them for punishing such offence, and if the works are completed within a reasonable time no penalty shall be inflicted." If the mine be perfectly safe now—and we contend that it is—we cannot be found guilty. Or your Worship may rely on the third point, that something having been done, which renders the mine safe, you need not inflict a penalty. On every one of these grounds I am entitled to show the Bench the facts of the case. You have already said that this is one of the most important cases that have ever occupied the attention of a Police Magistrate, or of the Press or the public; and, therefore, we want to show what the actual facts are in connection with the mine. I want to cross-examine the witnesses to show what the state of the mine was at the time of the Inspector's visit, and to show you what the state of it is now; and if this thing does not now exist we certainly should not be fined.

*Mr. Edmunds*: My learned friend argues away from my objection, and against something to which I do not object at all. My objection is not that the learned counsel for the defence cannot give evidence that they have not applied a remedy; far from it. My objection is that he cannot ask Mr. Rowan, or any other witness, whether, in his opinion, the conclusion arrived at by Mr. Dixon was right or wrong. My learned friend will persist in asking the opinion of the witness as to the ventilation. Now, my learned friend may call witnesses to show that there was no danger in the mine, although that is not now the issue. Let him show that the defendant has really remedied this matter, and that will be a real defence to the charge against him. But I submit that the opinions of experts are quite immaterial to the issue here—which is, whether notice was given, and whether the defendant complied with it, not having gone to arbitration. So long as my learned friend confines himself to such questions I will not object.

*The Police Magistrate*: There is no doubt that these things, as far as possible, should be gone into; at the same time we ought to see what authority the Inspectors had for their conclusions. No doubt, whatever is done in this case will serve as a precedent for the future.

*Mr. Want (to Witness)*: Look at the fissure marked on the plan, and say what quantity of air passes along there, and whether, apart from any future liability, was not the mine then perfectly safe?

*Witness*: So long as there was no sudden change of temperature, and everything went on like clock-work, there would be no danger.

Now, I ask you, if there was no large collection of gas taking place, would there be any danger? If there was no sudden outburst of gas the mine was below explosion point at that time.

Now, when you were down there, did you notice what has been called the narrow bord? Yes.

There was no return to that bord at the time you were there? It was driven about 10 yards from the Jubilee shaft; then it stopped dead; it had no connection with the heading.

Was there a large quantity of gas in that narrow bord? Yes; about 250 feet of accumulated gas.

Before this connection with the Jubilee shaft, had you seen any gas at all? No.

The circuit was completed, was it? No; I was over the shaft.

Before the Jubilee shaft connected the supply from this heading the air returning amongst these men would be very much worse, would it not? Well, I think there would be some liability to an explosion, simply because it would be loaded with carbonic acid gas. This lessened the liability to an explosion, but the fresh air coming down from the shaft was filled with carbonic acid gas.

Now, I want to know this: Was the air coming up here worse than it is now? Well, I say it was loaded with more carbonic acid gas.

Was it worse before than it is now? Well, in connection with that liability—I must put it in my own way. Before the Jubilee shaft was connected with the Jubilee headings the ventilation was safer, because the air would be mixed with carbonic acid gas.

I want to know whether the mine was safer then than it was after its connection with the shaft? I say it was safer than if an outburst of gas had taken place. If there is no large outburst of gas, the present system of ventilation is safe.

And

And now, as a matter of ventilation for the men—of giving the men fresh air—which was the more complete system, that which existed before or since the connection? Taking away any liability to an increase of the gas, the ventilation is more perfect with the Jubilee shaft since the connection. The present system is the best for supplying fresh air.

And gives the persons working in the mine a much larger supply of fresh air? I do not know what was the system before.

Could you not say that there was more air since the connection? No; I cannot go by the paper.

Now, will you tell me your experience in this matter. Would these blowers decrease or increase in intensity? It was a question of the reservoir from which they are coming. Do you wish me to give my experience in blowers?

I want you to answer my question. Having tapped these blowers, from your experience, do you think they would increase or decrease? Well, that depends on where the blowers come from; I cannot tell where they come from in this particular case. Possibly they might increase.

*The Police Magistrate*: Nobody could possibly tell.

*Mr. Want*: Did you notice that most of these blowers came from the floor? Yes.

And do you know that there are only about 18 inches of coal on the floor? I did not dig down to ascertain.

Would that 18 inches of coal leave a place for a reservoir? It might have come a long way further. Fire-damp will stand in a much lesser space, and can be traced for miles, perhaps.

Would not this pressure burst the coal up? It would require a good bit of pressure to do that. If you can produce pressure enough anything can be blown up; I could not give the resistance. If a certain man had had a fulcrum he could have moved the world!

Have you been down the mine since? No; and I cannot say whether any alteration has since been made in the state of affairs.

*Mr. Edmunds*: I believe that you are the Inspector who inspected the Bulli mine prior to the explosion? Yes.

And can you say that the quantity of explosive gas in the Newcastle-Wallsend mine was greater or less than the quantity of gas exuding in the Bulli mine prior to the explosion?

*Mr. Want*: Do not answer that question. Are we going to try this Bulli case all over again? Mr. Mackenzie, who is one of the most competent authorities on the matter, said it was dynamite or some other explosive matter, and not gas, which caused the explosion at Bulli.

*The Police Magistrate*: We do not want to go into the Bulli case unless we can help it. I imagine that the question which Mr. Edmunds desires to put is whether these blowers were equal to those which he saw in the Bulli mine.

*Mr. Want*: How would that help us? It is immaterial.

*The Police Magistrate*: I think it might as well be left out; but still these blowers show the necessity for inspection.

*Mr. Want*: We do not object to inspection at all. We are anxious that your Worship should inspect the mine, if you will.

*Mr. Edmunds*: Then this is the case for the Crown.

*Mr. Want*: Formally, now, your Worship, I wish to take the objection which I have mentioned already. I say that the charges which are made here against the defendant—and I ask your Worship so to rule—are charges which should not have been made under the 25th section of the Coal-mines Regulation Act, seeing that there are special provisions in the Act which deal with the matter complained of. I say also that the only remedy which the Crown has in this case is under the 12th section, where they can order the men out of the mine. The 25th section provides that the thing required to be remedied shall be remedied forthwith, and the words clearly prove that what is charged here cannot have been intended. The information speaks of "a larger outburst of inflammable gas," and a remedy could only be applied to this by closing the colliery and stopping the work. Now, if I am right in this point, the Crown cannot possibly prosecute us under the 25th section; and therefore they cannot possibly prosecute us under the 12th section, and this case must be dismissed. They have not charged us with anything under the 12th section, and on that ground too the case should be dismissed. What I wish to draw your Worship's attention to is this, that this is not a technical point which I am taking; but that the Act provides that for anything in the way of ventilation this 12th section and its sub-sections shall be brought into operation. Undoubtedly they are intended to apply to a contingency of this kind; and the 25th section could never have been designed to apply to a case like this, because it could not have applied to a set of circumstances which had no existence. If they proceeded under the 12th section, and could show that the presence of gas was "dangerous"—this was the word—they might order the men out of the mine. The very reason of passing this 12th section and its sub-sections was that there should be express provisions and special rules to this Act which would provide for explosions or for other contingencies which were dangerous to the workmen. Therefore, the only way the Crown can proceed is under this section 12; and the 25th section has nothing whatever to do with the case, and you cannot prosecute us under it. This was the reason only that the Company refused arbitration, and why we withdrew the offer to arbitrate. They thought, and think still, that the Government had no right to come to them under the 25th section and ask them to remedy something which did not and might not ever exist; and really it is what they are asking us to do. Any common-sense person would be perfectly right in saying that it was a monstrous thing to come and ask us to remedy a thing which might never happen at all. We may do several things towards abolishing the present evil, but we are not going to remedy such a thing as might never exist, or only exist in the future. You may call a thousand witnesses to prove that a certain thing should be remedied, but you cannot remedy what is merely a liability. That is impossible—it is out of the question. The Company now come into Court and ask the Government to take any steps they like to test the safety of the mine. But if they order our men out we can put them in again; and then they could come here and say whether an offence had been committed in putting the men back. No one knows what may happen in a coal-mine. The charge should have been brought under the 12th section, and if the Crown do this we are quite willing to go into Court and have the matter decided. But if it is considered desirable, I will withdraw these objections, although I believe them to be fatal, and allow his Worship to decide the case on its merits, and say whether Mr. Inspector Dixon was right or wrong in his conclusion.

conclusion from the evidence of the expert witnesses. I am willing now to withdraw this objection and go on under the 25th section, if this is agreed to. But I object to these questions as to whether there is liability or not. No man, as I have said, can tell what may happen in a coal-mine; for a mine may be perfectly safe one day—as this one is—and the next day be blown to atoms. There may be a reservoir 5 miles off, and it may break into the mine. The real question is, have we remedied this matter in such a way as to prevent the mine being dangerous or tending to the bodily harm of the workmen. At present I ask your Worship to rule that we cannot be brought up under this 25th section. It was their duty to have brought this prosecution under the 12th section, and then we could have gone into the question as to whether there was any danger from these gases or not.

*Mr. Edmunds*: My learned friend thinks that I am afraid of his objection. I do not think that this objection is of very much force, as I shall show, but in any case I should not be prevailed on to do such things as I do not wish to do. This objection is evidently met by the case which I have cited to your Worship from the Court of Appeal in Queen's Bench in England in 1872. It was decided in that case that the prosecution was properly brought, as it has been brought here; in other words, the highest Court has already decided that the proper way to bring this prosecution is to bring it under the section that it has been brought under in this Court. The law of this case is not a matter for decision now, because it has been settled already. My learned friend raised the objection that the law of this case is not as it has been cited by the Queen's Bench as being the law. The 12th section of the Act and special rules apply to gases actually prevailing in the mine, and not as to the liability of gases which do not exist and which cannot be provided for in the mine. The Court has decided that the proper course was to proceed under the 46th section, which is equivalent to our 25th section. My learned friend argues that this decision of the Queen's Bench in England is wrong. Well, let him attempt to argue the question before the Supreme Court of New South Wales. He would soon find that the question is not as to the quantity of the gas already existing, but as to the liability of gas in the future. If we had dared to bring a prosecution under the 12th section, my learned friend would soon get up and say that the law has already been decided, and that your Worship has nothing to do but rule accordingly. And to that argument I should have nothing to reply, except that that decision of the Court of Appeal of England is now the law. Now, as to the other part of the argument, that a liability cannot be remedied, and is not provided for in the 25th section, I will ask him to recall that part of the requisition calling on him to remedy the single trap-door.

*Mr. Want*: Mr. Dixon himself admitted that this was a breach of sub-section 3 of the 12th section.

*Mr. Edmunds*: I think he spoke in view of a future outburst of gas.

*The Police Magistrate*: I am clearly of opinion that the Crown are right in proceeding in this case under the 25th section of the Coal-mines Regulation Act. I am clearly of opinion about that. Mr. Dixon's evidence is very strong indeed.

*Mr. Edmunds*: I will answer my learned friend's case in this way: How can a liability be done away with by putting safety-lamps there? Mr. Dixon does not ask any remedy.

*The Police Magistrate*: If Mr. Dixon had ordered the men out without reason he would have been liable to punishment for it.

*Mr. Edmunds*: But, on the other hand, had he seen the liability to this sudden outburst he would be wanting in his duty had he not taken the proper steps.

*The Police Magistrate*: At the same time, I think a legal gentleman has a right to take every objection that he thinks fit in the interest of his client.

Objection overruled.

William Turnbull called in and examined:—

*Mr. Want*: I believe you are the Colliery Manager for the A.A. Company? Yes.

And have been so for twelve years? Yes.

And how much experience have you had in coal-mining? I have had a good many years experience.

How many years? I was sixteen years manager in England before I came out to Australia. I was eight years and three months in the Hetton Colliery, and eight years at another.

Have you had any experience in fiery mines or in mines subject to gas? Yes.

We have been told here that, on the 5th January last, this Newcastle-Wallsend Colliery was in a condition that was dangerous and defective, and which tended to the bodily injury of the persons working in it. We have been told that this condition of affairs existed on the 5th January;—now, have you lately examined this colliery? Yes; last Saturday, and again on yesterday.

Who examined it with you? Mr. Ross, Manager of the Newcastle Coal Company; Mr. Thomas, of the Stockton Company; Mr. Evans, who, I think, is Manager at the West Wallsend Colliery; and Mr. Croft, who used to be Manager at Minmi.

Did you examine that portion of the mine which is known as the Jubilee heading and shaft? Yes; we went down by the tunnel and called at the furnace all along the main road.

Did you examine carefully the Jubilee heading workings and the ventilation and so forth there? Yes, the headings that go towards the Jubilee shaft and so forth.

Now, in your opinion, was there anything there dangerous or defective or threatening to lead to the bodily injury of the persons working in the mine? At the time I visited the mine there was nothing there which was anything like dangerous.

Was there anything defective that you noticed? Nothing.

Was there anything at all observable in the mine tending, in your opinion, to the bodily injury of the persons engaged in it? Nothing at all.

Will you tell me what was the quality and degree of the ventilation of the workings on that occasion? The system was very good indeed.

How was the air as to purity and as to its being free from gas? There was not the least indication or showing of gas in the air.

How was the air as to purity and supply in the mine? It was quite pure.

Did you make a careful investigation to see whether this air was good or not? Yes, I did.

And what is your opinion now with regard to the ventilation? It is very good.

And there are no symptoms of gas or anything in the air at the present time? No; so far as I could see at that time there were no symptoms or indications of gas.

Is

Is not the ventilation there something above the average? Yes, a good deal above the average.

And is not the air in that mine a good deal purer than the average? Well, it is sure to be good from the shaft.

Did you measure the air to see what quantity was passing through this Jubilee shaft? No, I did not measure the air.

Do you know whether Mr. Thomas measured the air while you were in the mine? Yes, he did.

Did you notice what the amount of air was? No; I did not give the time, and had not an instrument, but I can tell pretty close by the lamp. Whatever lamp I am carrying I can tell pretty well with it.

From your experience you can closely ascertain what is the quantity of air without measuring it? Yes.

Now, did you examine the place where you were told that there was some gas exuding? I did.

Was there any quantity of gas there at all? Very little.

Was the amount of gas which was there worth noticing at all? No; if I were the manager of the colliery I should have taken very little notice of it.

Was the supply of air in the mine quite sufficient to wipe out whatever traces of gas might have been existing? Yes, quite sufficient, and enough to do away with a great deal more gas than was in the mine when I was there.

Did you try these blowers with naked lamps? Yes.

What quantity of gas did they give out? The biggest one would be something like to what we see in a tobacconist's shop for lighting a pipe or a cigar.

Would one of these blowers even keep alight? One kept alight for two or three seconds and then went out again. Most of them simply light and go out again.

Were they distinct or indistinct? You could just discern them.

The one that was the worst was up at the far corner in the narrow bord? Yes; I see this plan No. 1.

Does not that correctly represent the workings in the Jubilee shaft? Yes, sir.

Is there now a complete circuit from the Jubilee shaft back into the main heading? Yes. The reason that I called this the worst blower is because it was set in the coal. The others along the main heading I thought nothing at all about because they were in the floor.

How much coal was on the floor? I were told that there was 2 feet of coal —

*Mr. Edmunds*: Never mind what you were told.

*Witness*: Had there been any pressure under the floor it would have lifted the coal.

*Mr. Want*: These blowers that you saw there, would they, in your opinion, decrease or increase? I think they would decrease.

*Mr. Edmunds*: How can you say that?

*Mr. Want*: We can say it, and we will prove it. (*To Witness*): You have seen all these headings, but there are no blowers? There was a bit of a singing or fizzing out of one corner of the main road, but you will find that in all coal-mines.

And you think that this would die out because it has died out in other workings? Yes. The blowers were sure to die out as the workings went on.

Now, you say that there were no workings at all, that there were only two headings for the supply of air in the Jubilee heading? Yes, two narrow passages for the supply of air.

Now, with all your experience of these mines, you would say that there is nothing there at present to indicate a liability to a larger outburst of inflammable gas? On this question —

I say from what you saw there? What Mr. Neilson has done he is quite right in doing; no manager could do more than he has done, and he has gone the proper way to ventilate a mine where there is any gas.

Is there anything in that mine there now that would lead you as a colliery manager to think that there is any danger of a further outbreak of gas? There is no liability so far as anyone can see to a sudden outbreak.

Is not the probability in an opposite direction—that the liability is for the gas in these headings to decrease? Oh, no. No man can tell that.

*Mr. Want*: But—

*Mr. Edmunds*: Before my learned friend goes any further I ask that time shall be given to allow the answer of the witness to be put down in the depositions.

*Mr. Want*: You can have it put down by-and-bye if you like.

*Witness*: There is no possibility of any further increase in gas in the Jubilee headings.

*Mr. Want*: Do you not think there would be a decrease? Yes, but there might be an increase. No one can tell in our collieries, but I would almost guarantee that there will be no increase of gas in the Jubilee headings.

Now, I want you to tell his Worship with regard to this narrow bord, because we have been told that there was once a large quantity of gas there, whether gas would have disappeared if it ever was there? No; the gas is not there now.

*Mr. Edmunds*: There is surely no dispute about that.

*Mr. Want*: I do not know whether there is or not. I do not know what you are going to say. Now, I come to the third point. You know that there is a trapper-door marked on the plan B. Is not that intended to supply a quantity of men down here and to divide the air to them? Yes; that is its only purpose. It throws the air down and supplies the men at the end of the main heading.

Is not that door merely for the purpose of supplying a certain quantity of air to the men? Yes.

And it is purely and simply a question of ventilation? Yes.

Is it possible with a current of air to keep that door open? There is a large amount of air going there. Enough to keep the door open? No, not without its being propped open. If there were no air there the door would shut.

You stated just now that you would not have the door there at all? Yes. I would have hung canvas up, and that is all that is necessary.

How much air is coming down here when the door is opened? About 5,000 feet per minute.

Where are the men working? At the end of the main road. If they took that door out altogether they would get more air.

But that door is simply a means of regulating the air to the men one way or the other, to turn the current of air? Yes.

And is hung in that way? Yes.

Can you give me any idea of the amount of gas which is escaping out of these blowers? It would take a very clever fellow to do that. You will not get me to give an opinion about that. I would not like to have the trouble of covering it up. I like to have a large lot when I am at it.

You mean to say that it was not worth measuring? No.

Taking all these things into consideration, could the supply of air be more perfect? No, it could not be more perfect.

It was perfectly free from danger of every kind? Perfectly.

*Mr. Edmunds*: I think that you said that there was a blower in the narrow bord? Yes, if you can call it a blower.

There is inflammable gas coming out from it? Yes.

There is also a blower in the main heading? I saw no blower there.

Where then did you see something that was singing a bit? Down in the main heading, but it is not a blower.

Does that give out inflammable gas? No; it might be giving out pure air.

Did you find it? Yes. I passed it with a naked light. It might have been pure air.

Is it a usual thing for pure air to come out from or exude from coal? No; but it is a regular thing to get pure air from the surface.

Answer my question? The blower was so little that I could not tell.

You never found the gas at all that was causing the singing noise? I never found any gas.

Was the singing caused by gas? I do not know. If you call air gas, it might be so.

Is there anything else that would cause a singing noise there except gas? I do not know.

Do you call air gas? Sometimes I call air gas, and sometimes I do not. If you ask whether it was explosive gas or not, I say there was none.

Now, supposing we call air gas just for a bit of fun? Oh, you can have a bit of fun with me.

Well, suppose you do? I will take a lecture from you on gas and air some other time.

Did you find the gas that was causing this bit of singing? I never found any explosive gas.

That is not my question at all. Supposing you call air gas, did you find the gas that had been causing this bit of singing? No, I never did; it was that little you could not find it. I went to one corner first, and then to another, without finding it out. It was like a mosquito buzzing about.

From your experience, have you found that gas exuding from coal causes a singing noise? I have heard it many a time.

Have you ever heard air exuding from coal causing a singing? If you call gas air, I have.

I am asking you that. Did you ever find air exuding from coal causing a singing? No.

Then is it not gas you found coming from blowers in that mine? I cannot tell you. You will have to go into a lot of experiments to find that out.

If you went into all the experiments you could think of, can you tell me the name of the gas that you would expect to come from a blower? I would have to go under a proper examination to tell you that.

Can you not tell me the name of the gas that comes from blowers? No; I cannot enter into that.

*Mr. Want*: You are not a chemist, I suppose? No.

*Mr. Edmunds*: May I ask how many men's lives are dependent on your knowledge and caution? Well, I think there are some 2,000 men and boys employed by our Company.

And how many are working at one time? I should say about 600 or 800 men are now working in the pit that I have charge of.

Does not virgin coal country frequently contain large quantities of fire-damp? I suppose it does.

Do you only suppose that? I tell you that I do not understand going into this matter at all. I had no idea of that when I came here.

I am very sorry for you, but I must ask you to answer my question. Could not a man tell what quantity of gas was likely to exude from virgin coal country? No, no man living.

*Mr. Want*: Except Mr. Dixon.

*Mr. Edmunds*: Mr. Dixon did not say anything of the kind. He said that enough would come out that would likely be dangerous.

*Witness*: I could clearly understand that if a man could tell what he is coming to.

*Mr. Edmunds*: Yes.

*Witness*: Well, no man can tell where gas is likely to come from or the quantity of it.

*Mr. Want*: If that is my friend's argument, we could not open up any new collieries at all.

*Mr. Edmunds*: We will see. There is a certain thing called a safety-lamp. (*To Witness*): This Jubilee heading is through virgin country, is it not? I think so.

Do you not know that it is so? No; I have never been over the surface.

If you take that plan as correct, will you not admit that it is virgin country? Yes, if the plan is correct, it is.

Is not a line of fault in the coal a likely place for explosive gas to exude? Yes, a very likely place.

Do you know whether there is a fault anywhere near this particular part of the workings? Yes; we passed across a fault. It is not a great distance off the workings. It is shown on the plan exhibited by the defendant.

Can anyone foretell now the quantity of inflammable gas that may exude from that mine?

*Mr. Want*: Where?

*Mr. Edmunds*: I wish to put the matter generally. (*To Witness*): Can anyone tell the quantity of inflammable gas that may exude from that mine? No; no one can tell.

It might be very little? Yes; it might be very little, or it might be none at all, or it might be a large quantity. Take the mines all over the world, and no man can tell.

Or the mines in this new country? No; or all over the whole world. Besides that little bit of thing—

*Mr. Want*: We have got away from the Jubilee headings,

*Mr. Edmunds*: Do you remember giving evidence in the case of an explosion at Minmi? Oh, this is too far back for me; I always like to look for what is coming.

Do you remember giving evidence in the case of Joseph Croft for an alleged breach of the Mining Act in Newcastle? No, not against me.

Do you remember giving evidence in a case against Joseph Croft for an alleged breach of the Mining Act in May, 1882? Yes, I do; but I do not think that my evidence in that case was taken down. It was just given to the Bench.

Was

Was not the charge there that, indications of inflammable gas having appeared, he did not cause the work to be discontinued and to withdraw the men? I cannot say now.

Was not that the charge? I cannot say now; it is too far back.

Will you not say that the prosecution was brought about inflammable gas? Yes, I will say that.

Were there not some men burned in that mine? Yes; I think two men were burned on that occasion.

You say that two men have been burned? Yes, two men.

Did you not in the evidence which you then gave before the Court say that you agreed with everything that had been done in the management. Did you not say also that everything that could reasonably be done in the management of that mine was done? Yes.

In that case, did not the overman examine the place?

*Mr. Want*: I object to that question.

*Mr. Edmunds*: Well, then, I will change it.

*Witness*: I will not answer the question, so that puts an end to it.

*Mr. Edmunds*: Mr. Turnbull, you are here as a witness, and we will see if you attempt to refuse to answer any questions. I ask you now did you not say in that case that you knew of blowers to come up that in a few months would throw out 100 yards of gas? Yes, and I have known blowers that would do a long way more than that; and I have known where this happened too.

Do you happen to know of anything that is used in any part of the world as a precaution to save the lives of workmen from such dangers? Oh, yes, different things.

What are they? The most prevalent thing is to put a hole in.

Do you know any precaution which is taken so that miners working in such places may save their lives from these dangers? Certainly, the safety-lamp.

*Mr. Want*: He said mines of that kind.

*Witness*: Yes, mines of that description.

*Mr. Edmunds*: Is not the safety-lamp used in England in all mines in which there is a danger of such explosions? Certainly, all the deep mines; but all the shallow mines use the naked light.

That is not a complete answer to my question. Is not the safety-lamp used in England in all mines in which there is a danger of such explosion? In all gassy mines it is, but where there is no gas found they use the naked light.

When there is a danger of a sudden outburst of gas, is not the safety-lamp an absolute necessity for the preservation of life? Yes, if there is danger in the mine.

What difference does the use of the safety-lamp make to the owners of the mine? Sometimes it makes a great deal of difference.

In what way? When they have to put the coal out and fire shots it hampers them. There are lots of ways in which it makes a difference. There is the difference in the price of hewing the coal, and in some of the mines the coal cannot be worked with the safety-lamp.

I presume it makes the coal dearer? It makes it so much dearer that the mines cannot be worked to advantage.

Would the difference caused by the use of the safety-lamp amount to 3d. per ton? It would go into 1s. in some cases, but in no case would it be less than 3d. per ton. It would depend altogether upon the mine, and what kind of coal was being obtained from it.

*The Police Magistrate*: Do I understand from you that where the safety-lamp is used the mine has in some cases to be shut up altogether, because it would not pay to carry it on? Yes, in some cases.

What would be the increased cost of hewing coal in the Newcastle-Wallsend mine if safety-lamps were used? I would not use safety-lamps.

I did not ask you that question.

*Mr. Want*: But we will have it put down though.

*Witness*: I have not gone into anything but my own mine. It is not for me to say regarding others.

*Mr. Edmunds*: Do you know anything about the investigation conducted by the late Royal Commission in England into the working of coal-mines? It is just the same now as when I was a youngster. The final conclusion was that everyone should be careful. That is the chief thing.

*Mr. Want*: That was the finding of the Commission? Yes.

*Mr. Edmunds*: You are now speaking of the Royal Commission in England? Yes.

Do you know what percentage of inflammable gas in coal-mines this Commission found to be dangerous? If you go into this matter I do not know.

Do you know now what percentage of inflammable gas in the air coursing through a mine is dangerous to the lives of the workmen employed there? Well, I have seen it stated by some that 14 and 15 per cent. is dangerous, and others say that 10 per cent. is dangerous.

Then you say that between 10 and 20 per cent. of inflammable gas is dangerous to the workmen employed in the mine? Yes.

You think that nothing under 10 per cent. is dangerous? I never said that.

Do you say so now? I never said so.

Then what is the least amount of gas in a mine that is dangerous to the workmen? That is the lowest that I will speak of.

*Mr. Want*: Mr. Dixon mentioned 9 per cent. as being the lowest.

*Mr. Edmunds*: Did he? I think he said 4 per cent. (*To Witness*): Now, will you tell me what amount of gas would really be dangerous to the men? I think a small amount of marsh gas would be dangerous.

Perhaps you will tell us a little more? No; I know nothing more.

Then it comes to this, that you, as a colliery manager, know nothing about any gas in mines except about this marsh gas? No. I do not know much about this marsh gas either; but I would know more about it whenever I have to contend with it.

Do you know of any other kind of gas that exudes from coal and that is dangerous to miners except this marsh gas? No. I did not know that you were going to put one through an examination.

Well, you are an experienced colliery manager? Yes; but I have had to pay for my experience, and I am not going now to spout it out for nothing.

But you are brought here as an expert to give evidence for the defendant? Well, let them pay for their knowledge, as I did.

Then

Then I understand you to say that if you managed this Company of which the defendant is the agent you would not put up this trap-door? Are you going back to that again?

Just answer my question? No, I would not. I would have put up a canvas door.

Would you explain how a canvas door would be better than an ordinary trap-door? Anyone who understands ventilation would know. You would get more air.

If this door was down, or say the canvas was down altogether, what would be the consequence to the ventilation? The air would work right.

Would it not split into two districts? For that mode you were illustrating —

Now, I do not ask you that. What I want you to tell me is this: If the trap-door were down, would the air split into two districts? I will give you an answer. Take out the stoppings and the air would split.

If the wood door was down it would split? Yes; and that is the reason why I would not put a door there at all.

I wish you would answer my question? I cannot answer until I see the plan and ascertain where the stoppings are.

Now, if the wooden door was down and nothing else there in that mine, would the air split as now into two districts? Certainly it would.

And split as well as it does now? I do not say that.

But would it split as well as at the present time? Well, you will have to wait till I make an examination.

Really I am afraid I cannot stop. I ask you the question again? It will split upon this place more than the quantity of air required, but I have never been to the other place.

What would direct the air then in the No. 4 split? What would direct the air in No. 4 split?

I am asking you that question. If the door were down, would the air go as now? Take out all your stoppings and the air will go down.

But I want to know, if the door were down, would the air go into No. 4 split as it does now? Which do you call No. 4 split?

Well, No. 3 split then? Well, I quite see this, that the air would treble in quantity by the door being there.

Now, if the door were down, would more air travel into No. 4 split or not? No, there would not.

Would less air go into No. 4 split? I do not know that. I cannot tell. I observe that No. 4 split is at the side where the regulator is, but No. 3 is on the other side.

If the door were taken down and nothing else done, would not the whole of the air go into No. 4 split? I do not know. If you go and examine it I do not know that you will find where the air goes to when it leaves this door. But if you go upon "ifs" and "ands" —

*The Police Magistrate*: Was your attention drawn to the door when you were down? Yes.

*Mr. Want*: He saw it open and shut.

*Mr. Edmunds*: What is the use of that door at all? It is no use at all, and a canvas door would have done as well.

Do you think that two doors are at all of use in the ventilation of a mine? Well, I would not have two doors.

You would not have two doors in any mine? I did not say that. It will take you about six hours again on this point.

Do you think that two doors are any use whatever in the ventilation of a mine? I have seen three and four doors.

I ask you again, do you think that two doors are of any use in the ventilation of a mine? I have seen sometimes three and sometimes four doors used.

But do you think that two are of any use—that is my question? I do think that sometimes two doors are of use in the ventilation of a mine.

*Mr. Want*: The reason for putting that door there is to drive the air up to the men who are in the far heading? Yes, that is the apparent object of it.

Did you try in keeping the door open to see if sufficient air went up to the men? Yes, and quite enough went up.

Now, you told my learned friend that there was a singing noise on the main road, and that you went to find out what it was. Is it not a fact that you found that this blower came from gas that was not inflammable at all? Yes, and you will find it also where there is water got; sometimes at the bed of the water. Water in a mine will cause it.

What would it be? I cannot say.

Is it not a fact that when you found this the gas was not inflammable at all? Yes. In some cases you would think that the place was full of mosquitoes; sometimes you will find it very heavy, and sometimes light.

But it is not inflammable or dangerous at all? No.

Was that the character of the singing that you heard on this main road? Yes, something similar.

Now, you were asked about tapping the fault;—was not the fault tapped at three or four other places before that? Yes; it had been tapped through a good way.

That would relieve it of the presence of gas? Yes, about that part of it it would.

If there were gas there that would relieve it? Yes.

Now, you were asked about blowers which threw out 100 yards of gas;—was that in a mine like this, or in a dangerous gassy mine? It was a very gassy mine. I saw one that threw out 2 miles of gas in about an hour and a half.

*The Police Magistrate*: What was the depth? About 2,400 feet. That is where there is a big pressure.

*Mr. Want*: Are any of the mines in this district anything like that? Nothing like it at all.

When you said that in gassy mines there was a necessity of using safety-lamps, would you call this Newcastle-Wallsend mine a gassy mine? No, nothing like it. I think you might add that you will always find these deep mines the worst to deal with when working to the rise. Had there been a floor of gas the Jubilee shafts would have got it in this case, owing to the place dipping in this Jubilee heading. You will always find gas, even at a fault. You would have tapped it up higher; but if it were level, you are as liable to tap it at one place as another.

Well,

Well, now, you said that in gassy mines it was necessary to use safety-lamps, and you would not call this a gassy mine. Now, is there the slightest necessity of using safety-lamps in this mine? Not the slightest necessity.

Would any sane man dream of doing such a thing? No, he never would.

Are there plenty of mines about Newcastle in which similar blowers make their appearance? I would not say that, because I have not been down many of them. I have never seen any gas in the A.A. Company's mine, and I have not been down the others.

Do you know that these blowers have been tappered and have died out in other mines? No; I have never heard of that.

The use of safety-lamps would prevent the firing of shots? Yes, in some mines. Some mines use powder where safety-lamps are employed.

*Mr. Edmunds*: Do you say that there is a rise from the Jubilee headings? Oh, that Jubilee heading—it comes again.

Do you say that there is a rise along the main road to the Jubilee heading? Oh, no; I said it was a dip.

But is it a rise or a dip to the main road? Yes.

Then from what you said, if there was any gas in the country about the Jubilee shaft—

*Mr. Want*: I object, this is new matter entirely, and was not introduced by me.

*Mr. Edmunds*: Do you admit that there was a dip in the main road to the Jubilee shaft? I think there is.

*Mr. Want*: What the witness said, was that there was more gas found at the top of the fault.

*Witness*: I would never have come into Court until there were some scores of experiments into this.

*The Police Magistrate*: You come from the right part of the world.

*Witness*: I have seen some dozens of these experiments, and went through my facings with them. Had I been a Government Inspector, I would have tried them before I came into Court.

*Mr. Want*: You would not have been willing to stop the whole colliery?

*Mr. Edmunds*: And no sane man would have done so when safety-lamps might be used.

At 1:30 p.m. the Court adjourned.

On resuming at 2 o'clock p.m.,—

Richard Thomas was called in and examined:—

*Mr. Want*: What are you, Mr. Thomas? I am the Manager of the Stockton Coal-mining Company. And how many years have you occupied that position? For about two years.

And before that, what were you? I was about sixteen years previously a manager.

You hold a special certificate of competency for the management of coal-mines? I hold a certificate of competency from the Government.

From the Government of New South Wales? No, from the Government of Great Britain.

And during those sixteen years that you were a manager at Home you had charge of some of the most fiery mines in Wales? Yes.

I believe you examined this Newcastle-Wallsend Colliery? I did.

On what day? On Saturday, the 3rd March.

In conjunction with a number of other skilled colliery managers? Yes.

You know this portion of the mine which is called the Jubilee workings? I do.

Did you examine these workings critically? I did.

And I believe you examined them also with regard to the gas, the ventilation, and the general working of the colliery? Yes, so far as that portion of the mine was concerned.

Your Worship will remember that the information was in respect to the Jubilee workings? I did not go into any other part of the colliery.

I believe you went into the tunnel then along the main road, towards the Jubilee workings? Yes, after being a little while at the furnace.

At the time of your visit, was there anything dangerous about these workings? Decidedly not.

At the time of your visit, was there anything defective in these workings? I noticed nothing defective.

And you saw everything that was there? I did.

Was there anything there which in any way, in your opinion, tended to the bodily injury of the persons engaged in the mine? No; I do not think so.

Well, was there anything there which even threatened to tend to the bodily injury of the persons in the mine? No; not in my opinion.

On the occasion of your visit, what was the condition of that mine with regard to the system of ventilation of the workings? I think the condition of the mine in regard to ventilation was all that could have been desired.

Were there the slightest symptoms of gas showing in these workings? No; not in the current of air.

Was the air which was being supplied to the men pure or impure? It was very pure air.

Now, after your very careful investigation and search, so far as you could see, was there any danger of an explosion of any kind? So far as I could see, there was no danger of any explosion.

Was the ventilation there above or below the general average of ventilation of mines? With regard to that portion of the mine I presume you mean. I did not inspect any other portion, so I cannot compare it with others.

Was the ventilation of that portion of the mine that you inspected above or below the average? It was above the average.

I believe that you measured the air that was flowing through the mine at the time? I saw it measured.

I understand that it was another Mr. Thomas who measured it? Yes; Mr. John Thomas, the Victorian coal-viewer. Mr. Thomas is stationed at Newcastle, and represents the Victorian Government.

He is a mining engineer and a gentleman skilled in these matters? Yes, I think so.

I believe that the Victorian people have large contracts with mines in this locality, and that Mr. Thomas inspects the different collieries on their behalf? Yes.

*The Police Magistrate*: That need not be taken down.

*Mr. Want*: Now, can you tell me from memory the particulars of the measurement which was made on that occasion? (*Witness, reading from a paper*): We measured the quantity of air coming down the mine.

Whereabouts

Whereabouts was that? From the cross-beds leading from the Jubilee shaft, just near the face of the workings. The measurement was taken within 15 yards of the separation door, marked D on the plan B, towards the face of the main heading.

And what was the result? We found 7,350 feet of air travelling through per minute. The door was held open for four or five minutes.

Was that supply of air going up to the men? Yes; in the main heading, up into No. 3 split.

*Mr. Edmunds*: How many men were there? I was told there were sixty-four men there. The door was held open for about five minutes, and the current having been again tried we found 4,200 cubic feet of air per minute travelling that way.

*Mr. Want*: Was that quite sufficient with the door open for supplying that portion of the mine where the men were at work? Not for that number of men.

I mean, with the door left entirely open, would that air be sufficient to go all round it?

*Mr. Edmunds*: Let the answer to the other question go down first.

*Witness*: That supply was sufficient for the four men working at the main heading.

*Mr. Want*: But you say not sufficient for the men in the other portions of the mine—in No. 3 split, where you state there were sixty-four men? Not sufficient to fulfil the requirements of the Act.

Supposing the door were left open for a little while, through accident, would that mean any alteration to the men in No. 3 split? The door would not stand open of itself.

*The Police Magistrate*: I presume it is hung so as to close itself independent of the force of the air? Yes.

*Mr. Want*: But, in any case, the force of the air was sufficient to keep the door shut? Yes.

Supposing that the door was propped open, in order to allow trucks to go through, would there be any danger to the men from want of air, or anything of that sort? No, no danger.

Then the requirements of the Act demand more air than is necessary for life; men can live much under that? Yes, in ordinary mines, such as the Newcastle-Wallsend Company's mine.

Then the men can live in the mine with a great deal less air than the Act requires? Yes.

Was this door necessary at all in this place? I think a door should have been placed there.

But such a door as you say—a canvas door, or something of that sort, would have done? I should have preferred a wooden door.

Is there the slightest necessity to have two doors there? Not the least.

You know, as a matter of fact, that only four men work beyond that door? Yes.

Then I believe you went along the main road and you found the face was—about how far up? I cannot say how far it was from the door.

How far did you go up from where the last measurement was taken? Well, it might be about 2 chains; I find by my notes it is 5 chains.

This was towards where the men were working? Yes.

Is there anything which you took with you which indicated the slightest trace of gas? We took a Davy lamp.

It is supposed to be the finest test of the presence of gas that there is? Yes.

Now, did you search carefully to ascertain whether there was any gas there at all? I did.

And were you able to discover any gas? No, I was not.

Did you try with the naked light as well? We did.

Did you hear any whistling or buzzing noise in the place? Yes; I heard a slight buzz.

Was there any trace of inflammable gas? No.

Then, I suppose, you went from there to the Jubilee shaft, along the Jubilee heading? We did.

Did you see the air measured there? Yes.

What was it? We found 12,045 cubic feet of air passing per minute.

This was within a chain of the heading? Yes.

Did you see anything at the heading as you went along which you could tell his Worship about? At the intersection of the cross-cut, about 50 yards from the Jubilee shaft, we heard some bubbling noise.

Did you examine it? Yes; and we found that it proceeded from a shallow pool of water on the floor. I passed my lamp over it, and in a minute or so the gas ignited and gave a feeble flame.

Did the flame keep alight, or was it merely flickering? We put it out.

This was with the naked light? As near as I could get the lamp to the water—within half an inch.

Now, will you tell his Worship what supply of gas was coming from that blower? Judging by the ordinary streak, I should say that about 2 cubic feet per hour were coming from it.

Did you go further along the shaft then? Yes, about 20 yards further on. There was a noiseless blower in the floor, which was pointed out to me there.

I believe you tried that blower—can you tell me how many cubic feet came from it? I think it was a little stronger than an ordinary street-lamp.

How close did you put your light to find that? Within an inch.

Did you find any other blower? Yes; at the face of the 36-feet or narrow bord.

That was up near the Jubilee shaft? Yes, about 12 yards away. I there heard a slight buzzing noise again.

Did you try it with the lamp? Yes; we put the lamp near it.

How close? Quite close to the coal.

Did it ignite then? No; it took over a minute to ignite.

What sort of light was it when you had it ignited? A very tiny jet.

How much gas do you think came from that blower? I should say that hardly 2 cubic feet per hour came from it.

Now, were these all the things that were worth speaking of? Yes.

And you made a very careful search? Yes.

Now, had that gas the slightest effect whatever on the air? It had no perceptible effect whatever on the air. There would not be more than 20 to 25 cubic feet of gas per hour there.

And what proportion would that bear to the air that was coursing through the mine? Even if it were 25 feet per hour it would be only 1 of gas to 28,000 parts of air.

And that would be the limit at the outside to its effect? Yes.

Will you tell me, in your opinion, is this mine now perfectly safe—is there any possibility of a large outbreak of gas there? I think, at the present time, the mine is safe in an eminent degree. Is

Is there, so far as human knowledge can tell, any liability or probability of an outbreak of gas there? No probability.

If these workings were continued as in similar mines, would this supply of gas increase or decrease? These blowers, which now give off gas, will naturally decrease.

Was there anything which you saw that would indicate to any man of intelligence and skill a further large outbreak of gas? Nothing.

I believe this shaft will be the outcast shaft? Yes; I noticed the preparations being made.

And you know that preparations are being made elsewhere? Yes.

You know that the Company are preparing there one of the largest shafts in the world? I do not know of any larger fan in the world.

So that whatever gas may be in these Jubilee headings will be drawn off at once? Yes, if there is any left.

When these shafts are completed, will there be any gas at all from the blowers now seen there? No.

Of course, there may at some other time be other blowers discovered? Yes.

Is there anything that can possibly be done, or required to be done, in these colliery workings for the safety of the men? Nothing.

These blowers come from the floor, do they not? There were two that were not from the floor, but I believe they all now come from the floor with one exception.

Will you tell me now if there had been any really serious pressure from gas what would have happened to the coal on the floor where there are only 18 inches of it? Had there been any strong pressure it would have forced the floor up. I have seen that happen in my experience, but there was not the least sign of it here.

In your opinion, the present system of carrying the air down to the men does not tend to do any harm either to the men or to the mine? Oh, no.

Was there any necessity, in your opinion, for the use of safety-lamps in that mine? None at all.

With the amount of air going down there there was no necessity for the use of safety-lamps? No.

Would any colliery manager in his senses have thought of using safety-lamps under the circumstances? No.

*Mr. Edmunds*: I object to this line of examination; the question before your Worship is whether the defendant has complied with the requisition contained in the Inspector's notice.

*The Police Magistrate*: I think I must admit evidence to show that they have remedied the matter complained of.

*Mr. Want*: If there were any necessity for using safety-lamps on the 5th January, is there any necessity now for using them? No, no necessity.

I presume that you found this Jubilee heading is now connected with the 36-foot bord, and that there is a pure current of air running right round? As to that narrow bord, the air is now quite pure, and free from any collection of gas. The bord was moist, and the air quite pure.

If there was a collection of some hundreds of feet of stagnant gas present there on the 5th January, there is no such thing there now? No, and not any sign of it.

*Mr. Edmunds*: The system of ventilation brought the intake air over that part of the mine where inflammable gas was exuding? Yes.

I think you said that you saw the men working there? There were no men working there that day.

Will you just tell us this—it will not take a moment to calculate it: Supposing that there had been gas exuding at the rate of 25 feet per hour, and supposing that gas had been exuding there since the 6th January inclusive, will you just state what quantity of gas had exuded and now remains there? I might by to-morrow morning.

Oh, well, I will do it for you now. There are fifty-seven days since then. Are you following me? I am rather slow at figures.

Well, you must be if it would take you till to-morrow morning to work this out. Here we have, in fifty-seven days, 1,368 hours. I really wish you would work it out for me.

*Mr. Want*: Oh, we will take your word for it.

*Mr. Edmunds*: Well, 1,368 at 5 feet per hour will give us the exact amount of gas which exuded in that time, and I do not think it will take us till to-morrow morning to do that sum. I think you will find that 34,300 feet of gas have exuded from these blowers in that time.

*Mr. Want*: And how many feet of fresh air went in per minute? About 1,245 per day.

*Mr. Edmunds*: There was actually this amount of gas imprisoned in that part of the mine.

*The Police Magistrate*: But it might have been carried off by the intake air.

*Mr. Edmunds (to witness)*: So that there must have been this quantity of gas enclosed in the coal in the neighbourhood of that Jubilee heading? I do not quite understand you.

If that amount of gas had been exuded at that time that quantity must have been enclosed in the coal? Yes, within the distance travelled.

Virgin coal country always contains a large quantity of gas, does it not? It all depends upon the character of the coal.

Is there any rule or means of knowing the actual quantity of gas that may be given off in unexplored coal country like that? No rule that I am aware of.

What is the lowest percentage of inflammable gas that the safety-lamp that you use would indicate? About 3 per cent.

And do you say that this is the best means known of testing the quantity of fire-damp in a mine? It is the best practical means known, but there are some fine instruments invented which have not yet come into practical application.

Do you know the work of Abel on accidents in mines? No.

Do you know anything about it? No; not of Abel's work. I do not remember ever having heard his name mentioned even.

*Mr. Want*: You do well to go back to Abel for an authority.

*Mr. Edmunds*: Better go back to Abel than to Cain. (*To Witness*): Do you know a work of that kind edited for the Institute of Civil Engineers by Mr. James Forrest; just look at the title of this book, and see if you do not regard this work as an authority? Well, it comes from the Institute of Civil Engineers, who are not connected with mining.

But it is edited by the secretary;—look at the author's name and see if you do not regard him as an authority on these questions? I cannot say that I do. *Mr.*

*Mr. Want* : I would sooner take the opinion of the Police Magistrate of Wallsend on the matter.

*Witness* : Civil engineering is a distinct profession from mining engineering.

*Mr. Edmunds* : If there is a liability to a sudden outburst of gas in a mine —

*Mr. Want* : What have you got now—a book by Noah? Because, if so, we will ignore it.

*Mr. Edmunds* : Would you regard the report of the Royal Commission in England, issued in 1886, as an authority on mining? By all means.

*Mr. Want* : I object. English mines are altogether different; the cases are different, and we have no proof that this is the report of the Commission.

*Mr. Edmunds* : My learned friend has introduced opinions here—opinions which I think quite irrelevant—but as he has given evidence of opinion I want to rebut it.

*The Police Magistrate* : I think the witness is giving his evidence in a highly creditable manner, and I think you ought to be satisfied with it.

*Mr. Edmunds* : But I want to test his opinion (which has been given already) by works of authority on the subject.

*Witness* : There is one word that I take exception to in your statement about my evidence. I did not use the word "liability"; I said "probability."

*Mr. Edmunds* : You think there is no danger or liability to a sudden outbreak? No man can foretell unless he knows.

*The Police Magistrate* : There is one thing which we do know: where there is an upheaval of coal deposit there is generally a large gaseous formation. As to what extent any human being can tell it is not to be said. It might be miles away, and suddenly some fault might be tapped which would bring the whole of this into play; and, on the other hand, you might come upon it suddenly.

*Mr. Edmunds* : In this mine, can anyone say as to the liability to a sudden outburst of gas? No, unless they passed through coal very different to that which I saw when I was down there.

*The Police Magistrate* : The quality of the coal is, I presume, an indication of what may be expected in the way of gas? The coal will give indications, and if an outburst were imminent some kind of warning would be given.

*Mr. Edmunds* : But you cannot tell the quality of the coal until you get through it? The same seam of coal will maintain its character throughout, and will not vary suddenly.

The question is, would you undertake to say that there is no liability in that mine, as it stands at the present moment, to a further large outburst of inflammable gas? As it stands at the present time, certainly not. There is no liability to a large outburst of inflammable gas.

For what distance, on each side of the Jubilee headings, do you undertake to speak of the quality of the coal, and, therefore, of the nature of the gas?

*Mr. Want* : I object. My learned friend has no right to go beyond the Jubilee heading.

*Mr. Edmunds* : Well, I contend that I have. The whole charge is one of prospective danger—danger not as to what has come out already, but as to what may come out in future. I want to find out how far these workings may be continued without any liability whatever to an outburst of gas.

*The Police Magistrate* : I think that the witness cannot answer that question.

*Mr. Edmunds* : But the witness has undertaken to say that there is no liability at all to an outburst of gas.

*Mr. Want* : You cannot go beyond the Jubilee heading.

*Mr. Edmunds* : I want to find out the locality of which the witness is speaking.

*The Police Magistrate* : Can you say anything of the locality beyond these Jubilee workings?

*Witness* : I can say this, that the coal is now hard and compact, and before there is any great liability to a large outburst of inflammable gas the nature of that coal must be completely altered. Before any change takes place that coal must become soft and disintegrated, and must change its nature. And we, as a rule, receive sufficient warning from the coal to indicate the approach of such a change.

*Mr. Edmunds* : Can you say, as regards this mine, within what distance such a change might occur? The present appearance of the country affords no indications of such an alteration occurring.

But can you say so of this unexplored country. You have not answered my question. Can you say now in what distance in that unexplored country such a change is likely to take place? I should say that no change was likely to take place within at least 40 or 50 yards.

Do you mean to tell me that you might not come to another fault or a dyke? No; not without having the warning that I mentioned.

But in that unexplored country, is there not a likelihood of a change being met with from a fault, a road, or a dyke, within 40 or 50 yards? Certainly, I say so, so far as my experience goes.

Did you not come upon faults with the same quality of coal on both sides of it? That is good coal you mean. If you say close up to the fault, my answer is no.

Never? Not to my knowledge, nor have I ever read of such a thing.

What is the length of your experience in this Colony? Nearly two years.

You have been here not quite two years? No.

*Mr. Want* : Will you take this map and tell me, supposing that this mine has been worked and you found the same seam of coal all through the colliery and round it on every side, would that indicate to you that there was no likelihood to be any great change? It would.

If the far end openings were open for fifteen or sixteen years, would not these shafts lessen the liability of meeting with these faults or of gas accumulating there? Not from that district.

But within 20 chains of it? No; I think not in that coal.

We have heard it said here that in virgin ground you are more likely to find gas in some coals? Yes.

But supposing you did find virgin ground with some gas in it, would not the openings all round destroy the gas from the virgin ground? Yes; but I saw no workings so far as that.

But if the workings were within 20 chains of it, what then? Yes; that would prove this liability to be the case anywhere within that 20 chains.

But you would know from the nature of this seam and the showing of the workings round it—you could say that that coal was not likely to give a large quantity of gas? Far from it.

John Thomas called in and examined :—

*Mr. Want* : Are you a resident of Newcastle? I am.

How long have you been a resident of that city? I have been here for about ten years.

And I believe it is a part of your duty to view these collieries and generally inspect the coal-mines about here? Yes; general inspector.

This is done with a view of seeing what kind of coal is being sent to the Victorian Government? Yes; the coal is required for the Victorian railways.

You were appointed to your present position by the Government of Victoria? Yes; and I am not allowed to do any outside work except with their consent.

Do you go down into the collieries? Yes; I have seen them all, and very often those that we take coal from.

Have you had any experience in Wales in mining before you came here? Yes. I had about seventeen years' experience in Wales before I came to this country.

In large collieries? Yes. I served my time in large ironworks in Monmouthshire. These works employed 13,000 miners and 1,200 colliers. I was coal-viewer also for the Lord of the Manor in Gloucestershire.

I believe that, on the 3rd March last, you went to inspect this Newcastle-Wallsend Colliery with a number of other skilled gentlemen? Yes.

And I believe that you took the measurement of the air that was then passing through? I did.

Did you examine very carefully and critically what are called the Jubilee workings in the vicinity of what is known as the Jubilee shaft? Yes.

Were any of these works dangerous or defective or in such a condition as to threaten, in your opinion, to tend to the bodily injury of the persons working in the mine?

*Mr. Edmunds* : Now, your Worship, this is the kind of question that I have repeatedly objected to.

*Mr. Want* : And repeatedly ruled admissible by his Worship.

*Mr. Edmunds* : Well, I contend that the evidence is quite irrelevant to the issue raised here, and, therefore, it is not admissible. The offence of which the defendant is charged here in the information is, that he failed to comply with the requisition of the notice of the Inspector of Collieries. The defendant did not do what he was required to do in that notice, and the proviso which my learned friend relies on to get in this evidence cannot be referred to here. Your Worship will find that proviso at the end of the 25th section, and it is as follows :—“ Provided that the Court, if satisfied that the owner or agent has taken active measures for complying with the notice or award, but has not with reasonable diligence been able to complete the works, may adjourn any proceedings taken before them for punishing such offence, and if the works are completed within a reasonable time no penalty shall be inflicted. No person shall be precluded by any agreement from doing such acts as may be necessary to comply with the provisions of this section, or be liable under any contract to any penalty or forfeiture for doing such acts.” Therefore, the issue before this Court is, did the defendant comply with this notice? The question is not whether the notice was requisite or not; it is not whether something else might have been done, or whether the mine is not now dangerous. That is not the question. The question is, has the defendant complied with the requisition? That is the issue before your Worship, and on that issue alone the prosecution has been taken. Now, the requisition is that the defendant shall remedy the thing complained of, and this was not the working with naked lights—it was not the system of ventilation, and it was not that the men had insufficient air. Mr. Dixon did not complain of the existing quantity of air, but of the prospective danger—the danger of greater outbursts of inflammable gas. His notice to the defendant is “ in view of the liability of a large outburst of inflammable gas occurring at any time, I hereby, in accordance with the provisions contained in the 25th section of the Coal-mines Regulation Act of 1876, give you notice that, in my opinion, it is a dangerous practice to allow the air current from the Jubilee shaft to ventilate one split of about sixty-eight men and another split of about thirty men, all working with naked lights, after such current of air has coursed through the Jubilee headings, where the gas is exuding.” And then the Inspector requires them to remedy that—to remedy the course of the air where the men were working with naked lights. The only defence which I can see that it is possible for the defendant to set up here is that he did comply with the requisition of the Inspector. Evidence in this direction will be evidence to the issue, and I take your ruling now that all these questions, which tend to show what the quantity of air was, are perfectly immaterial, and should be excluded. The question you have to determine is whether the Inspector required them to do a certain thing, and that not having gone to arbitration the Company complied with the notice of the Inspector.

*The Police Magistrate* : But they remedied what was being complained of.

*Mr. Want* : That is the point, your Worship.

*Mr. Edmunds* : The words of the Act are, did not comply with the terms of the requisition.

*The Police Magistrate* : But if the defendant is brought before the Bench, and is able to show that he has remedied the matter complained of, no penalty can now be inflicted.

*Mr. Edmunds* : Well, I contend, your Worship, that the defendant is not at liberty to disregard the opinions of the Inspector. If he did not wish to comply with the terms of the Inspector's requisition, then his proper course was to have gone to arbitration. The defendant must comply with the requisition in the notice, even if it requires something to be done which might be a mistake. The only material issue therefore before your Worship is, did the defendant comply with the requisition. I say that we have shown that he did not do so. Now, my learned friend is trying to get you off under a side issue by falling back on the last part of the section which I have quoted, which provides that if the Court is satisfied that the defendant is endeavouring to remedy the thing complained of no penalty shall be inflicted. Well, the only way to remedy this is by complying with the Inspector's notice, and as the defendant has not done this, he should have gone to arbitration, and allowed the award to decide. My point is that the Inspector must comply with the requisition of the notice, not having gone to arbitration, whether the requisition was right or wrong. But if I can show you that the defendant has not complied with that requisition, then he must be held guilty of an offence, and be subject to the penalty. It is not that the defendant is remedying this matter by measures of his own, but that he must take active measures to do what the Inspector required him to do. The other issue is a side issue, and an improper one, because it is not competent for this Court to decide whether the measures that were taken to remedy this defect were right measures or not. I contend that this notice is the notice of the offence, the defendant

not

not having gone to arbitration, and that he must obey that notice. It is no defence to say that this defect was remedied by other means. That is no defence whatever, and all evidence which tends in that way is immaterial, and must, I contend, be excluded.

*Mr. Want*: I am somewhat astonished at the course which my learned friend has taken in this matter. He has waited all day yesterday and up to the present time, after your Worship has given two decisions on the subject, and heard two witnesses, before making his protest that this was not the issue. It seems to me that my learned friend is finding that his case is gradually slipping from under him. In fact, he looks it, and now, in a moment of excitement, he wants you to stop what has been going on for two days. Now, in the first place, we have been given notice to do a certain thing, and he asserts that we must do it in the way which we are directed, although Mr. Dixon in his evidence said he would not tell us how to remedy the thing. Therefore we are not told what to do, nor does the notice give us any correction on the subject. My learned friend speaks about naked lights being a danger, but I defy him to show it to me. Supposing Mr. Dixon came along and said to this Company, "I want a State House built in this mine; bury Mr. Mackenzie and Mr. Edmunds there when they die." According to my learned friend, the owners of the mine would be compelled to comply with that request. Well, now, I take it, your Worship, that that is not the meaning of this section at all. The section says:—"If in any respect (which is not provided against by any express provision of this Act, or by any special rule) any Inspector find any mine, or any part thereof, or any matter, thing, or practice in or connected with any such mine, to be dangerous or defective, so as, in his opinion, to threaten or tend to the bodily injury of any person, such Inspector may give notice in writing thereof to the owner or agent of the mine, and shall state in such notice the particulars in which he considers such mine, or any part thereof, or any matter, thing, or practice, to be dangerous or defective, and require the same to be remedied forthwith. The Inspector shall also report the same to the Minister." Then Mr. Dixon gives the defendant notice that this thing is dangerous and threatens bodily injury. My learned friend comes here and says that we are not charged with not remedying the matter, but with not complying with the requisition of the Inspector. Yet Mr. Dixon will not tell us how to effect the remedy. All he says is that the workings are dangerous, and are in such a condition as will tend to the bodily injury of the persons employed there. I had reason to complain of this reticence, and asked him what we were to do. In reply, my learned friend quotes this case, which he has furbished up from somewhere—a case which does not bind us in any way. He quotes this case to show that the Mining Inspector need not give any information, but may demand to have the thing remedied merely. Why do they not try to show that we have not remedied this thing thoroughly? They have tried to prove that the mine is in a dangerous state, and no doubt it was, according to their opinion; but I can prove by the most credible witnesses who have ever been in a Court that the mine was all right. A change has been brought about, and this colliery is now one of the best worked in the world; yet Mr. Dixon comes here and tells us that it is not fit for men to work in. If nothing else had been said or charged against the defendant, he would have had a perfect right to come here and refute this. But we can prove that we have done that which has brought about a change of affairs in this mine, and £7,000 or £8,000 worth of work is now going on. This mine will then contain one of the largest and best fans in the world. It is strange that we should be all this time fighting this question, and that my learned friend should now come and attempt to shut out this evidence.

*Mr. Edmunds*: The kind of argument which my learned friend addresses to the Bench is largely made up of personal ridicule, which I do not object to in him. But I object to this kind of argument being used when I quote from books of the highest authority. Now, my learned friend knows well that the case which I quoted comes from the Court of the highest authority in England, and comes in the report which has been sent from England, and which is continually being quoted in our own law Courts. How, then, can my learned friend refer to this decision as "having been got up from somewhere." Now, is this a way of arguing against the decision of authorities recognized all over Great Britain and her Dependencies wherever the law is applicable.

*The Police Magistrate*: But it is very seldom that two lawyers will agree.

*Mr. Want*: Except at dinner.

*The Police Magistrate*: That is the difficulty with me; I have to decide between you two gentlemen.

*Mr. Edmunds*: My learned friend speaks of this case as being of no weight with us. Well, I may tell your Worship that every Court in this land is bound by it.

*Mr. Want*: All I said was that that decision had no application to this particular case.

*Mr. Edmunds*: I find that the shoe is now beginning to pinch. My learned friend asserts that this decision has no application to this particular case; but his assertion is not sustained by a word of argument. I have shown that it exactly applies. The Judge who gave that decision decided that an Inspector should merely give notice, and state merely that the practice is dangerous, and demand that it should be remedied. The Judge also decided that the Inspector was not bound to state what was the remedy, his duty being to say what required to be remedied. My learned friend complained that I did not bring up this objection until I felt overwhelmed by the case which he is making out. Well, I do not feel in the slightest degree overwhelmed.

*The Police Magistrate*: Well, I can hardly withdraw the ruling which I have already given.

*Mr. Edmunds*: What my learned friend is going to show has been remedied is quite another thing. He is fully at liberty to prove that the remedy has been effected in compliance with the terms of the Inspector's notice, but not in any other way.

*The Police Magistrate*: That is what he is trying to do.

*Mr. Edmunds*: Well, I do not think so, your Worship.

*The Police Magistrate*: If the defendant can establish what has already been stated, I think it will be a remedy in accordance with the requisition of the Inspector.

*Mr. Edmunds*: No. The defendant must comply with the requisition of the notice, and that is the only remedy, I submit, which your Worship can recognize. We are now in the position as if there had been an arbitration and an award, the award requiring the defendant to remedy the same things which are complained of in the notice. If there had been an award, and they were charged before your Worship with not obeying that award, their contention here would not stand, and it will not do in this case either. The only thing which your Worship can recognize in the way of a remedy is an action of the defendant, showing that he had complied with the notice.

*The Police Magistrate:* Well, I decide that the Crown were right in going under the 25th section, and this will, I think, allow the defendant to show that he has remedied the matter complained of. I think certain evidence should be taken to allow me to decide whether this thing has been remedied or not. I want to see how far the defendant has obeyed the notice that has been served on him by the Inspector of Collieries.

*Mr. Edmunds:* Well, your Worship, that is exactly the point I take exception to. I submit that your Worship has to decide whether the matter has been remedied by complying with the requisition contained in the notice.

*Mr. Want:* One of the things complained of is the standing gas in the Jubilee heading.

*Mr. Edmunds:* I would like to read again for your Worship a portion of the Inspector's requisition. He says:—"In view of the liability of a large outburst of inflammable gas occurring at any time, I hereby, in accordance with the provisions contained in the 25th section of the Coal-mines Regulation Act of 1876, give you notice that, in my opinion, it is a dangerous practice to allow the air current from the Jubilee shaft to ventilate one split of about sixty-eight men and another split of about thirty men, all working with naked lights, after such current of air has coursed through the Jubilee headings where the gas is exuding." Now, I ask your Worship, how could they remedy this matter except by complying with the requisition of the notice. Had the defendant thought that he was right in refusing to remedy, then it was open to him to have gone to arbitration. But as he has not done that, and as he has not complied with the requisition and notice, he has been guilty of an offence under the Act.

*The Police Magistrate:* It seems to me that his not having complied with the notice would subject him to a certain penalty; but then, supposing it has been remedied to a certain extent?

*Mr. Edmunds:* But it is only on condition that the owner or agent takes such steps as will comply with the notice—not to remedy the thing complained of in any other way.

*The Police Magistrate:* Well, I am still of the same opinion as before.

*Mr. Want:* And we are both agreed in that.

*Mr. Edmunds:* Well, then, I will ask your Worship to make a note of my objection.

[Note entered in the following terms:—"Mr. Edmunds: I object to evidence being adduced to show that alleged dangerous practice was remedied, except such evidence as shows that the defendant complied with the requisition of the notice on the ground that compliance with the requisition of the notice is the only fact at issue."]

*Mr. Want:* I only tendered such evidence as that.

[At the request of Mr. Want, a note in the following terms was also entered in the depositions:—"I only tender evidence to show that defendant acted in compliance with the requisition, and secondly, that it was agreed on both sides, at his Worship's suggestion, that the issue should be this very question of remedy or no remedy."]

*The Police Magistrate:* I ruled, on application, before the witnesses for the defence were examined, that the sub-sections to section 12 of the Coal-mines Regulation Act should not be entertained so far as this case was concerned, and that the case was properly brought under section 25 of the same Act. And it was agreed on both sides that evidence should be taken to prove that a remedy had been adopted since the notice was given.

*Mr. Edmunds:* On that ruling I understand that your Worship intends to admit the evidence now tendered.

*The Police Magistrate:* Yes.

*Mr. Want (to witness):* In your opinion, when you inspected this Jubilee heading, was there anything at all there which was dangerous, or which threatened bodily injury to the persons working in the mine? Nothing whatever.

At the time of your visit, was there any large quantity of inflammable gas being engendered in the mine? We could only find one small jet, which I considered was hardly worth noticing. The current of air would destroy ten thousand times the quantity of gas that we saw in the mine.

*Mr. Edmunds:* I again object to this evidence.

*Witness:* We had the greatest difficulty in the world in igniting one little jet which we found there.

Seeing the nature of these workings and the quality of the coal, was there any liability in your opinion for any great outburst of gas in that mine? I could not see any danger at all from an outburst of gas. There was no possibility whatever of such a thing. We tried it with naked lamps, and we could see nothing.

Did you find a small blower in that narrow bord? Yes, we did.

Was there any large quantity of gas at the time of your visit accumulated in that narrow bord? No; it took six or seven minutes with the lamps before we could detect anything; before we could light the jet, and then a move of the hand would have blown it out.

Then when you were in the mine there was no stagnation or collection of gas in the main heading? None whatever. We tried it in several other places, and found nothing with the exception of a very feeble jet from the floor of the mine.

Supposing on the 5th January (when we were told that this mine was in a very dangerous and defective condition—that it was such as to threaten bodily injury to the workmen—that the air was impure, and that it was not safe to work with naked lights)—supposing that were the case on the 5th January, did the same state of affairs exist when you saw the mine on the 5th March? Not at all; there was no trace of gas.

Did you test the air that was then passing through the mine? I did.

What result did it give you? In the main current to the furnace shaft proceeding eastward we had 83,000 cubic feet per minute. On the right-hand side of the furnace shaft we got 19,680 cubic feet per minute.

This was going towards the Jubilee headings? Yes; the main cross-cut from the Jubilee heading at the face gave 7,350 cubic feet per minute.

That is just above the door? That is below the trap-door. We then opened the door, and we obtained 4,200 cubic feet per minute.

In your opinion, was that ventilation quite sufficient to have done away with any impurities from gas that were existing in the mine? I forget how many men were there. I think it would be sufficient.

We will leave out the question of the door now. Did you afterwards go to the Jubilee shaft? Yes, and I took a measurement of the current of air close by. And

And what was the amount of air there? The amount was 12,045 cubic feet per minute. After the air that went into the cross-cut had been taken out of that quantity, it left a current of air in this split of 4,695 cubic feet per minute.

Well, now, I want to know from you regarding the current of air that passed over these blowers, would there be any taint of gas in it? None whatever. The blowers, both in the solid and in the mud, were in the Jubilee side where we gauged the air. We had with us nine naked lamps, and there was not a taint of gas there. The only difficulty which we experienced while we were in the mine was the difficulty in keeping the lamps alight, owing to the wind.

Now, I want to ask you about this door that was there. Was there any necessity for two doors at that place? I cannot see it, because the split is so far safe. There are only thirty men employed there.

How much air goes down the split which has nothing to do with the door? 4,695 cubic feet per minute goes down the northern heading.

In your opinion that trap-door is simply a means of splitting the air—to supply a certain quantity of air per man? Quite so; the supply is more than is required.

That is within the meaning of the sub-section attached to section 12 of the Coal-mines Regulation Act? Yes.

Supposing you left the door open altogether, would the supply of air then be sufficient for the men who were working in the splits? No, I do not think so; not sufficient for the men that were working with the current passing through the cross-cut.

You mean if the door was left open continually? Yes; but it is not intended to be left open—in fact it will not keep open.

Oh, no. They will have to be careful that it does not slam in passing; there is a great draught there. When the door is shut, is there not ample ventilation for the men? There are fifty or sixty men there, and I think the supply is sufficient for the lot.

Is there any necessity, in your opinion, for anything to be done to these Jubilee workings? I should say certainly not at the present time.

Was it possible to have anything more safe or more complete than the arrangements in these Jubilee workings? I cannot see how it is possible, especially in view of what Mr. Neilson is now doing there in the erection of fans.

Is there, so far as you can see, any possibility of danger to any person working in the mine? I cannot see it.

Knowing the nature of the coal, and what this colliery is, do you think there is any likelihood of any sudden outburst of gas, or would it not be first shown by a change in the nature of the coal. If there was likely to be any great outburst of gas, is it not likely that there would be some change? Well, I do not think so. I perfectly understand you, but I have never known any quantity of gasing being in a seam of coal, unless you go considerably ahead of the air.

You have never known any gas in these seams of coal? Nothing at all serious. I think Minmi coal is the most inflammable.

They talk about the inflammable nature of the gas—do you not think that the coal would change its nature before you came to a large outburst of gas, or would you not get warning in some way? The warning that you would get would be the appearance of the blowers.

And there are no signs of them now visible? None whatever.

At 5 o'clock, the Court adjourned until 10 a.m. on the following day.

#### SATURDAY, 10 MARCH.

Alexander Ross called in and examined:—

*Mr. Want:* I believe that you are the Manager of the Newcastle Coal Company? I am.

For how many years have you occupied that position? Ten years.

What experience have you had altogether in coal-mining? Previous to this I had been sixteen years with Mr. Neilson, the last five years of that time I spent in learning my profession under him in the Wallsend Company's mine.

And you know the whole of this mine well? I do.

Have you lately inspected this Wallsend Colliery? I have.

At the Jubilee workings? Yes, at the Jubilee shaft and workings.

In company with several other mining managers of large experience? Yes; I examined the mine twice this week.

I believe you examined the mine on the 3rd and 7th March? Yes.

Did you make a critical examination of all workings and everything connected with the ventilation? Yes, as close as I possibly could do.

When you saw the mine on each of these occasions, which, in your opinion, was dangerous or defective? Nothing that I saw in connection with the mine was dangerous or defective.

And you saw everything? I believe so.

*Mr. Edmunds:* I again object to this evidence, and on the same grounds as before.

*Mr. Want:* Was there anything in the mine on the occasions of your visits that threatened bodily harm to the persons who were working there? Nothing, in my opinion.

Now, you know this mine very well, you know the quality and the nature of the coal, and I ask you is there any liability of any large outburst of inflammable gas?

*Mr. Edmunds:* I again object to this evidence.

*Witness:* From my extensive knowledge of the workings of this Newcastle-Wallsend mine, I say there is no liability to any outburst of inflammable gas.

*Mr. Want:* Now, is there any danger whatever, in your opinion, to the men or to the works from the fact of this air passing over the small blowers that are there? No, I do not think so.

In your experience, have you ever seen safer or better ventilated workings than those which are in that mine? No, I have not.

Could anything possibly be done to improve the ventilation in any shape or form? No; nothing could be done to improve it, so far as I know.

Now

Now, in working in this mine, you have seen, I presume, some of the little gas blowers which are there? You mean previously to these visits in March? Yes, I have seen them before.

Do these blowers increase or decrease in the mine? I have always found them to decrease after a very short space of time.

That is after, I presume, they have been tapped? Yes; after they have been tapped and the workings surrounding them have been opened out.

Has there ever been any danger at all from these blowers so far as you have seen? No, not that I have seen.

Now, will you just describe to his Worship what these wonderful blowers are, their extent, and so forth? At the first examination which we made, on the 3rd March, we tried the air with the door open to see the quantity which travelled into the mine, and even supposing the door were down altogether, we found 4,250 cubic feet of air travelling per minute with the door open. From that point we went into the face of the heading.

Wait a moment. Will you tell me now was there the slightest necessity there for a double door? In my opinion there was not the slightest necessity, because the air was so well regulated.

There is a split in the Jubilee heading? Yes.

And a canvas door in the Jubilee heading? Yes; the canvas regulator marked on the plan No. 1.

Tell me this, just to give us an idea,—could you have kept a candle alight for a moment at that regulator? No, you could not. It must have been a very strong flame indeed that would not have been put out in a few seconds.

Who held the lamps the morning that I went down there? Mr. Neilson, and both lamps were blown out.

You mean a large lamp? Yes; a large copper lamp.

Well, now, whether that door is up or down, has it anything to do with the gas, or is it not simply a question of ventilation? I should think it is simply placed there for the purpose of the ventilation.

The door was placed there to regulate the supply in accordance with the provisions of the sub-sections to the 12th section of the Coal-mines Regulation Act? Yes.

You went from there along the Jubilee headings and examined this? We went first along the main heading to the engine-plane heading.

*Mr. Edmunds:* That is a new name.

*Mr. Want:* I think we had better call it the end of the main road, so as not to confuse things. You mean where the men were working? Yes; but there were no men working there that day. Some four men usually worked there.

So that that is perfectly safe? Perfectly safe; but we heard a slight humming sound in the face of the coal.

Did you look and examine what caused that humming sound? Yes. Mr. Bosfield and I examined it very closely to see if we could detect what it was. We carefully searched with a naked light all along the face.

Was there any sign of inflammable gas there? We could not find the least sign.

Was the air there perfectly good? Yes, perfectly good. It was coursing round and travelling within a yard of the face.

Did you go from there to the Jubilee heading? We did.

Did you make a critical and careful search for any gas that might have been existing there? We did as we went along towards the shaft.

What did you find? We found a little gas exuding from a blower over a little pool of water.

Did you try that blower? Yes, we tried it.

With the naked light? Yes; we tried it with the naked light, but we had a Davy lamp there too. When we tried it with the naked light it lit up. I should think we had to light within an inch or an inch and a half of it.

What was the extent of it? Just like, in my opinion, an ordinary gas jet.

Now, that day that I was down there, did you examine the blower then? Yes, at the same place.

Was it as strong then as before you went there? I saw it again on the 8th, and it had increased very considerably in the meantime.

Would it light at all on the 8th? I forget, but I do not think it would—the gas was so light.

Did you go any further and look for another blower? Yes, a little farther, and we were shown what was termed the main blower.

Can you give his Worship an idea of what that main blower was like? That was fully equal I think to a street gas-lamp.

And you lit that without putting the lamp up against it? No; you could not do that. It was quite an inch between it and the floor.

That blower also was in the floor? Yes, it was also in the floor.

Have you since seen that blower, and, if so, has it decreased? Yes, I have seen it since, and it has decreased very considerably indeed; it is now down to more than half.

Did you then go further on? We tested the air then—that is, the main intake air leading from the shaft from Nos. 3 and 4 splits.

Did that air pass over these blowers? Yes.

What was the quantity passing over? The total quantity was 12,015 cubic feet per minute.

*Mr. Edmunds:* Where was this.

*Mr. Want:* This was the main intake air.

*To witness:* Would you kindly give me some idea as to the amount of gas per hour that was coming from these blowers, putting it at the outside? There was another blower that we saw there.

You went on then to the Jubilee shaft where there was a short heading or narrow bord, and there you saw another blower? Yes, we saw another blower there on the side on the face of the coal.

What was the extent of that? It was burning very lightly indeed.

When you lit it it burned? Yes, but we had the greatest difficulty in the world to light.

Has that blower decreased considerably since? Yes, it has decreased very much, although it was a very small blower when we saw it; it has decreased very considerably since.

*Mr. Edmunds:* Then you think it will decrease.

*Mr. Want:* It has decreased. *To witness:* Well, now, taking these altogether, where were the only traces of gas that you noticed in the mine? Yes, these were the only traces of gas that we could find.

We

We have been told here that there were some fifteen or sixteen blowers along that road. Now you tell us there are only three there now? That number was all we could find.

Now, putting these altogether in one lot, in your opinion what amount of gas coursed through that heading? Judging from the quantity that passes through an ordinary street-lamp—which burns at the rate of about 5 cubic feet per hour—I assume that the amount coming from these blowers was a little less than that. I judge the other two blowers to be equal to half a lamp, and after making a very liberal allowance, I think I may safely say that from 15 to 20 cubic feet of gas would equal what we saw there that morning.

That is per hour? Yes.

Would that have the slightest possible effect upon the air passing down that heading? That quantity could not possibly have affected the air.

Then I find by calculation that 720,000 cubic feet of air passed down there per minute? Yes. There would be about 1 foot of gas to every 36 feet of air.

And the amount of gas is a great deal less now? Yes. From what I saw on the 7th and 8th March there would not be one-half that quantity of gas there now.

Is it possible for anyone to find these blowers without being taken to where they are and having them pointed out? I would not like to have the job of finding them set down to me. I do not think I could possibly have found them unless they had been pointed out to me.

Now, we have been told that in this short bord, near the Jubilee shaft, that some time ago there was a great amount of stagnant gas. Is that the case at the present time? No; that bord is quite clear now.

And it is connected with the main heading? Yes.

Well, now, if, on the 5th January, that mine was described by any person as being dangerous and defective, and threatening bodily injury with the air passing over these blowers and the accumulation of stagnant gas—does that state of affairs exist now, if it ever did exist? No, it does not exist now.

There is no defect, and no danger of bodily injury, and no chance of the pollution of the air? No.

*Mr. Edmunds*: I think you said that you were there in that mine on the 3rd and 7th March? I said I was there on the 3rd and 8th March.

When you were in that mine, Mr. Ross, was the air current from the Jubilee shaft ventilating one split where about sixty-eight men were working, and another split containing some thirty men, all working with naked lights and lighting—after that current had coursed through the Jubilee headings—and, if so, is that state of things still in existence? So far as I know, it is.

Then the air-current from the Jubilee shaft is still allowed to ventilate two splits, one containing about sixty-eight men, and the other about thirty men?

*Mr. Want*: Do you know how many men were there at all? No; I do not; I was only told about it.

*Mr. Edmunds*: Then, in that case, we will leave it out. (*To witness*): You say that you saw some men working there? Not during my first visit.

Well, during your second visit?

*Mr. Want*: I object to this. If you are going to be technical, I will be technical also. The information charges us with having committed this offence on the 5th March, and I will object to the reception of any evidence except evidence which relates to that day.

*Mr. Edmunds*: The requisition has to be complied with within twenty days from the date of the notice, and any evidence having relation to any day within that period will be admissible. All I am asking is were the men working during that time.

*Mr. Want*: How can we have another thing brought up in this way. The second charge has nothing to do with the first. The notice we receive is, "I have therefore to urge your serious and immediate attention to the abovenamed matters, with a view to have them remedied as speedily as possible." Now, that information charges us with not obeying that notice.

*The Police Magistrate*: You are now trying to show that the mine is in a proper state, whatever its condition was on the 5th January.

*Mr. Want*: Yes; that is it exactly, your Worship. My learned friend wants to persuade your Worship that, although we have done something to remedy the things complained of, and made this connection between the short bord and the main heading—although there is not the slightest necessity—still we must carry the thing out because there is something mentioned about it in the notice; and he will then ask your Worship to inflict a penalty because we have remedied certain things which are not mentioned in the notice.

*Mr. Edmunds*: I must again remind your Worship that the complaint here is that the defendant did not comply with the requisition contained in the Inspector's notice. He did not obey that notice or go to arbitration, and therefore he had committed an offence against the Act.

*The Police Magistrate*: The whole of this 25th section is very difficult to construe. It places me in rather a difficult position, because there is not a single creature in the world that I can apply to for information. Although I ask you gentlemen to help me in every way, I may tell you that I have my own views. I am willing to hear what your views are also, and if they coincide with mine I shall have no hesitation in acting on what I think at the present moment. As far as I can see just now, the defendant is only proceeding to prove that no injury is likely to occur to the men. That is the reason why I admit this evidence. I want the public to understand that there is no further danger likely to arise in this mine. I presume there is no Government in the world who would allow such a thing to be concealed if there were danger, but would give it the utmost publicity. It is for the purpose of easing the people's minds, and showing them that at the present moment there is no likelihood of any calamity overwhelming them like that unfortunate affair at Bulli, that I admit this evidence.

*Mr. Want*: And that is the reason why we come into this Court.

*Mr. Edmunds (to witness)*: Now, I want to know from you, was that air allowed to ventilate the two splits when you were down in the mine? Yes.

Were the men that you saw working there working with naked lights? Yes. I saw them working during the second visit I made to the mine.

Now, did the current of air spoken of course through the Jubilee heading where the gas was exuding? Yes.

Again, was there on both these occasions only a single trap-door on the main road between the Jubilee headings? Yes, one single door.

How long did you keep that trap-door open? We did not keep an account of the time. We did not "time" it; but I think that we kept the door open from five to seven minutes. You

You only did that once? That was all.

And the air supply, I understand you to say, during the five to seven minutes decreased from 7,000 to something like 4,200 cubic feet per minute? Yes, that is correct.

If the door was kept open a still longer time than seven minutes, do you think that it would result in a further reduction of the air current that was passing through? I do not think so.

Why not; if the air current decreased from 7,000 to 4,200 cubic feet in from five to seven minutes, why would it not decrease still further if the door were kept open for a still further period? I think it would not decrease owing to the regulator in the next heading being in one of the Jubilee headings.

Look at the plan and tell me if, when this door is shut, the air enters at that split and allows some of it to go round and go through another split, is not that the usual passage for the air? Yes.

Now, if that be so, why would not the whole of the air go through this way if the door were left long enough open? Because I understand that there is another regulator inside again.

But you are not to say what you understand. Is it this regulator which would prevent it? There is another regulator inside here.

I did not ask you anything about the other regulator which you say is inside. Is it this regulator which regulates the air when the door is allowed to remain open? No; it would not prevent the air from going down.

Does it tend to prevent it? No; it would not prevent it at all.

Does this tend to prevent the air from going down No. 3 split and through this passage to No. 4 split? That regulator does not. The other one —

We will come to that by-and-bye. Did you see the other regulator that you have just spoken of? No; but I was told about it.

We cannot have evidence of that kind. You must speak from your own personal observation, and not from what you were told. Then any regulator that you spoke of in your examination-in-chief as preventing the air from going into No. 4 split you did not yourself see? No.

Then all your evidence regarding that regulator was given from hearsay? Yes, it was.

*Mr. Want*: Of course it was, but I will prove the existence of the regulator by-and-bye for you.

*Mr. Edmunds*: Now, in regard to No. 3 split, is not that a shorter road for the air and the track of least resistance? I cannot say just now.

Now, I think that you said that in the five days the quantity of gas exuded would be diminished by about 50 per cent. Yes; about 50 per cent., in my opinion.

*Mr. Want*: If you do not go down quickly into the mine you will never see any gas at all.

*Mr. Edmunds*: Do you know that the blowers were first of all found on inspection on 15th January? I do not know that.

But suppose that these blowers have been blowing from 15th January, and reduced some 50 per cent. within three days, could you form any estimate of the quantity blowing out in the seven days afterwards? No; I cannot just now.

But the blowers decreased 50 per cent. in the five days from the 3rd to the 8th March? I think so.

*Mr. Want*: Supposing this to be a correct plan of the mine (*plan produced*) and of the workings where the air goes up to, would not a regulator at this point have the effect of preventing the air from going into this split? It would check it. That regulator is the one I before referred to. (*Plan marked No. 2 put in evidence.*)

And that would be all that was required? Yes.

You were asked whether the air still goes over these blowers. Now, supposing that it does, is it at the present moment entirely free from any danger? It is, in my opinion, entirely free from any danger.

*Mr. Edmunds*: I object.

*Mr. Want*: And entirely free from danger, and does not tend to anybody's bodily harm? No.

Thomas John Evans called in and examined:—

*Mr. Want*: What is your occupation, Mr. Evans? I am a colliery manager.

At what colliery? At West Wallsend Colliery.

What experience have you had in coal-mining? I have been manager for some twenty-four years at Home and in South Wales.

And how long have you been in this colony? I took charge here on the 23rd January last.

I suppose you have had experience in fiery mines in Wales. Oh, yes.

I believe you made an examination of the Newcastle-Wallsend Colliery on the 3rd March last. Yes.

Was there anything, when you examined it, in the Jubilee district which was dangerous or defective, or which threatened to cause bodily injury to the persons working in the mine? No.

*Mr. Edmunds*: Again I wish to object to the reception of such evidence as this.

*Mr. Want*: You were in the Jubilee headings, and saw what are called blowers? Yes.

Was there any danger or fear of injury either to the persons working in that mine from the fact that the air passed over these blowers? No, not the least danger, in my opinion.

Was there any accumulation of gas in what is called the narrow bord? No; it has been removed by a connection having been made with the heading.

If any of these dangers did exist on the 5th January, when the Colliery Inspector visited the mine, they have been remedied since? Yes.

*Mr. Want*: I wish to know if the counsel for the Crown will admit that the measurements of the air taken on the occasion were correct.

*Mr. Edmunds*: I do not dispute the accuracy of the observations of these witnesses in that matter; but the evidence is perfectly unnecessary. I never disputed it.

*Mr. Want*: Well, there is such a thing as not disputing a point and yet not admitting it. (*To Witness*): Will you tell me what these blowers of gas were? Well, they were very small blowers. I saw that there was one in the cross-cut that came out of the coal. I should say that there were 4 or 5 cubic feet of gas coming out per hour. I saw two others on the floor of the road, and another one in the face of the narrow bord. These could not have been very fierce, or they would have blown up the bottom of the seam.

When you speak of the cross-cut you mean the narrow bord at the foot of the Jubilee shaft? Yes. With:

With regard to the two on the floor, they would give out about the same amount of gas as the other one? Yes, just about the same.

And you say that those blowers could never have been very bad, or they would have lifted up the floor? Yes, they would have lifted it up long ago. There are only about 18 inches of coal on the floor?

Now, you say that the door which was there was put up for the purposes of ventilation? Yes.

Was there the slightest necessity for having two doors there? No; I should say not under the present circumstances. Of course the arrangements would be more complete if there were a double door at that place; but, under the present circumstances, I think the Company would be perfectly justified in having only a single door there, as only four miners are employed in that locality, and only sufficient air to supply them is required.

If more than four men were working there I presume you would insist on another door being there? I would.

But where there are only four men working in a place like that you think the single door is quite sufficient? I do.

If the door was being frequently opened it would interfere with the air? It would.

Now, door or no door, has that anything to do with the mine, except for the object of supplying air to the men? No; that was the purpose of the door.

Would it be possible to have a mine safer or more complete than is this portion of the mine about the Jubilee shaft? No, it would not be possible; and I think it reflects great credit on the management that they have gone to so much trouble and expense to get their air-shaft down close to the face of the workings.

This is an enormously expensive shaft, is it not? Yes, I believe it is. It is a 16-foot diameter shaft.

And a very complete one? Yes, very.

*Mr. Edmunds*: Did you notice the system of ventilation existing in that mine? Yes, I noticed the system of ventilation in that district.

On the 3rd of March, when you were there, was the air coming from the Jubilee shaft allowed to ventilate the two splits after that current had coursed through the Jubilee headings where gas was exuding? Yes.

*Mr. Want*: You have already proved that.

*Mr. Edmunds*: And there was also only a trap-door on the main road from the Jubilee headings? Yes.

We will now take a supposition, as you have already been asked your opinion. If there was a liability to a large outburst of inflammable gas—assuming that at the time of your visit to that mine that there was such a liability—then was that system of ventilation of the main workings of the mine while men were working with naked lights a good one? No.

*Mr. Want*: Why, no system of ventilation would be any good then.

*Mr. Edmunds*: Because you would get all your intake air over inflammable gas.

*Mr. Want*: When you hear Mr. Neilson's evidence you will learn that we are remedying that as fast as we can.

*Mr. Edmunds*: It is a pity that you do not use the safety-lamp while you are doing this.

*Mr. Want*: We do not require it.

*Witness*: It is not the system of ventilation; but still it would be necessary to work with safety-lamps.

*Mr. Edmunds*: It would not be safe to work with naked lights? No.

*Mr. Want*: But is there the slightest necessity, in your opinion, for the use of safety-lamps in that mine? No, not in the least.

*Mr. Edmunds*: I object to this evidence.

*Mr. Want*: Or is there any liability at all to a large outburst of gas? No; because I do not think that the seam could be classified as a fiery seam at all.

*Mr. Edmunds*: It is good coal right along the heading.

*Mr. Want*: Yes, tip-top coal.

Archibald Gardiner called in and examined:—

*Mr. Want*: You are a colliery manager? I am.

Where? I am manager of the Minni Colliery.

*Mr. Want*: What experience have you had in mining? I have had over thirty years' experience underground.

And how long have you been in this Colony? What experience have you had here? I have been about five years in this Colony.

Have you had any experience in what are called fiery mines? Yes; I am a certificated manager under the Coal-mines Regulation Act of Great Britain.

Did you examine this colliery on the 3rd March? I did.

Was there anything there on that occasion which, in your opinion, was dangerous or defective? Nothing that I saw.

*Mr. Edmunds*: I again object to this evidence.

*Mr. Want*: Was there anything dangerous or defective in the Jubilee workings? No.

Or was there anything there tending or threatening bodily injury to any of the persons working in the mine? Nothing that I saw.

Did you critically examine all these workings to ascertain if there was anything of that kind wrong? I did.

Would it be possible to have a mine more safe or better ventilated than you saw this Newcastle-Wallsend mine on that day? The mine was splendidly ventilated.

Was there the slightest possibility or probability of any danger to the men employed in that mine? Not the slightest.

*Mr. Edmunds*: I again object.

*Mr. Want*: There was no danger from any source? No.

You saw some blowers there, did you not? Yes.

Was there any danger to be apprehended from the air passing over these blowers? No, none.

What

What was the proportion of air that was playing over these blowers to the gas that was exuding? I do not think that there were 20,000 cubic feet of gas from all the blowers altogether per hour during my visit.

And we are told that there would be about 800,000 cubic feet of air per hour? There were about 12,045 cubic feet of air passing per minute when I was there.

That would be 1 foot of gas to 3,000 cubic feet of air? Yes.

If there were any danger existing from any gas or from any fouling of the air, has it all been remedied? Yes; it was all remedied on the 3rd March, if it ever existed previously.

Is there any liability whatever there or even any probability of any large outbreak of gas? None whatever.

Or of any outbreak of gas? No.

If there had been any strength in these blowers on the floor, would they not have blown it up? I do not think that there could have been any strength in them.

If there had been any pressure in them, would they not have lifted the floor up? I think so.

Was it easy or was it difficult to find out the locality of these blowers with a naked light? It was very difficult to find them out. I heard a singing noise, but I could only detect two of the blowers.

Now, you know that narrow bord at the bottom of the Jubilee shaft? Yes, I do.

Was there any accumulation of gas in that bord while you were down there? No.

You have seen the door there which checks the ventilation? Yes, in the main heading.

Does that door do anything except regulate the supply of air to the men? It is made to turn the air and to check the course of the ventilation. That is the object of the door.

Is there the slightest necessity in your opinion for any second door to be put there? No, no necessity.

You know that these headings are not being worked, and that they are being used simply as air conduit pipes? Yes, in the Jubilee heading.

Is there the slightest necessity in that mine for the use of safety-lamps by the men? None whatever.

Could the arrangements for the supply of air be more perfect than they are now? No; I would recommend no alteration.

Could that mine be more perfect or as safe a mine than it is at the present time? No.

*Mr. Edmunds*: Were you some time ago convicted of a breach of the Coal-mines Regulation Act for imperilling the safety of the miners? No.

Were you not convicted of a breach of section 12 of the Act? No.

Well, then, were you not convicted of some offence under the Coal-mines Regulation Act? No, I was not, but my Company was, and it was for work done before I took the management of the mine.

How long had you the management of the mine at that time? I think I had it for eight or nine months. Of course I cannot say to a month.

Was that conviction for not having a sufficient shaft for the air in accordance with one of the subsections of section 12?

*Mr. Want*: I object. How can this have anything to do with us.

*The Police Magistrate*: I presume the question was asked to test his credibility as a witness, although I do not see that we have any right to doubt the witness's credibility.

*Mr. Edmunds*: I only wish to test the opinion of the witness as to the safety of the mine.

*The Police Magistrate*: But he may form a different opinion of another mine that he is not connected with. That circumstance would not affect him in considering the case of a mine like this. Very often pressure is brought to bear upon men to do certain things which otherwise they never would have thought of. Very often it is done for the purpose of saving money.

*Witness*: I should like to make an explanation.

*The Police Magistrate*: I do not think we need go any further. I am quite sure that you are capable of conducting any mine where you have power to exercise, but a man may be coerced by some influence.

*Witness*: The thing is quite beyond my control.

*Mr. Want*: I only ask the opinion of the witness. Of course as he is not responsible I admit that he is entirely exonerated. (*To Witness*): When you inspected the mine, did you find that the air current from the Jubilee shaft was allowed to ventilate two splits? Yes.

One moment—After that current had coursed through the Jubilee heading, where inflammable gas was exuding? Yes.

And also that there was only a single trap-door on the main road between the Jubilee headings? Yes.

*Mr. Want*: Was there the slightest danger to be apprehended in your opinion from that state of affairs? None whatever.

*Mr. Want*: I desire to call Mr. Croft.

*The Police Magistrate*: Do you think it desirable to call any further. I am quite satisfied as to what you are driving at.

Is there any chance of your Worship seeing the mine?

*The Police Magistrate*: No, I think not.

John Young Neilson called in and examined:—

*Mr. Want*: You are the manager of the Newcastle-Wallsend Colliery? Yes.

How long have you occupied that position? For twenty-seven years I have been manager of the Company.

And you have had experience in coal-mines before that? Yes; I have been in them all my lifetime.

Now, you have worked this colliery for twenty-seven years—have you during that time had any danger or difficulty with gas? Yes; from the very beginning I had less or more difficulty.

That is what I said. Was there any danger? Yes, occasionally there was danger.

In what way? We came suddenly upon bursts of gas.

And,

And, therefore, you have always taken precautions in every shape and form? Yes; every precaution I could possibly take.

And is it not a fact that wherever you have got the trace of gas you have always begun the workings there by working with safety-lamps? Yes.

Your Company have safety-lamps, and whenever necessary you use them? We have any quantity of them.

In driving this heading from the main heading towards the Jubilee shaft you came across some blowers? Yes, continuously; little blowers kept cropping out.

And I believe that while you were working there with the blowers you used safety-lamps? No; but we had the place trellised up, and then worked with naked lights.

Was there any danger whatever? Not the slightest.

That was before the connection was completed? There was no danger, or I would not have done it.

But was that before the connection was completed? Before the connection was driven to the end of the single heading.

Now, I believe you drove from the heading a certain distance towards the shaft, and from the shaft a certain distance towards the heading? Yes; 200 yards with the double. There is a shaft at the double heading, and 50 yards from the shaft we met with the single heading.

This double shaft or heading, before the shaft was sunk, was given up and was bratticed? Yes; it was to be bratticed, and the air came down to the stentons and then back.

And then the air came back towards the men? Yes; just the same as now. The only difference is that the air went from this end [*looking on plan*] to the Jubilee shaft.

Before you put that shaft the air used to course through the mine and go back to the men? Yes.

And whatever gas was there went with it? Yes; just the same as now.

Except that you now get fresh air from the Jubilee shaft? Yes.

Did the air go to these men in the same way before as it does now, with the exception that you get some from the Jubilee shaft? Yes.

Were these Jubilee headings done under the Government Inspector? Yes.

Who was this Government Inspector? His name is Bates.

Is he about Newcastle? Yes; I saw him here yesterday morning. Nearly every visit he made he used to inspect this special place, because this was the place where we thought to cut the connection. Mr. Bates inspected this place about once a fortnight.

Did he see the blowers when he went through? He must necessarily have seen them if he inquired. He must have seen them as he went along.

Did he ever make any complaint in connection with that shaft? No; he seemed pleased.

Did he express satisfaction with the mode of ventilation? He expressed high satisfaction with it.

*Mr. Edmunds*: I object to this evidence; we cannot have conversations or expressions of opinion.

*Mr. Want*: Did Mr. Dixon ever express any opinion to you? No, not to me; but I believe he did express the opinion that it would be a good job when it was done. On the 20th August, before we commenced, he said that it would be a good job when it was done. We were then working with safety-lamps, and Mr. Dixon expressed his satisfaction with the arrangements that had been made. He said this to my son and to the acting overman.

That was in driving this heading to connect with the shaft? Yes. He saw my plan for the connection, and we talked the matter over every time he came up.

I believe that you are now putting down this shaft at a considerable expense? It will cost from £7,000 to £8,000 when we get all complete. This is for nothing but ventilation, simply to supply the men with air.

There is no pumping required? No; and no coals to be drawn or anything. It is to be done simply for the purpose of ventilation.

Is there any working being done in this heading at all, or is it used simply as an air-pipe? No working. It is used simply to conduct the air down there. These Jubilee headings are simply the air-course.

When was this work being done that Mr. Dixon spoke of? We were only just taking a little corner off with the engine. We wanted to straighten the road a little, and to find coals for the engine.

Since the 6th January, have you been continuously progressing with the erection of machinery at that shaft? Yes; the work has been let, and I will show you the plans, if you like.

The stonemasons, brickmen, and labourers are all working there now? Yes.

(Plan submitted showing machinery on shaft.)

*Mr. Want*: You say that amongst the machinery there is a driving fan? Yes.

And have you been taking active measures to get this going as soon as you can? Yes.

And you have been told that it will be in position within six weeks? No; I think it will be in position in about eight or ten weeks.

When this machinery is erected and all is completed, what will the system of ventilation there be like? The system will then be reversed; the air will go up the Jubilee shaft instead of coming down, and the total quantity of air in the mine will be doubled.

Now, in addition to taking these active measures and doing all that you could to get that matter finished, you have also endeavoured to remedy Mr. Dixon's complaint of the letting off of gas from this narrow bord, of its remaining stagnant, and of the air passing over it and bringing it down the workings? I was not here when he said that.

I believe there was some stagnant gas there? Yes.

But was anybody working there? No; there would be about 3 feet of water there at the time of the inspection.

Did the gas then do any harm at all? No; it could not have done any harm, as nobody could have got into the place.

And supposing that Mr. Dixon was right, could it have done any harm? No; it could not possibly have done any harm with the amount of ventilation that was there. It was blocked up.

Well, now, tell me this: Did you not, in obedience to his wishes, as a matter of fact, alter that and make your connection with the main heading? Yes.

I will read again for you this letter of the 6th January :—

J. Y. Neilson, Esq., Colliery Manager, Wallsend,—  
Sir,

Yesterday (Thursday), accompanied by Mr. J. Mackenzie, Examiner of Coal-fields, I carefully inspected the workings in the vicinity of the Jubilee shaft in connection with the Newcastle-Wallsend Coal Company's Colliery, and found inflammable gas very freely exuding from numerous blowers in the floor of the Jubilee headings; also in the narrow bord, 36 feet in length, 6 feet wide, and 5 feet 9 inches high (near the shaft bottom), inflammable gas could be detected in the Davy lamp, 9 inches from the roof at a point 7 yards from the face, and 3 feet 5 inches from the roof at the face.

2. Having by such inspection proved beyond a doubt that inflammable gas was being engendered at the abovenamed places, and in view of the liability of a large outburst of inflammable gas occurring at any time, I hereby, in accordance with the provisions contained in the 25th section of the Coal-mines Regulation Act of 1876, give you notice that, in my opinion, it is a dangerous practice to allow the air current from the Jubilee shaft to ventilate one split of about sixty-eight men, and another split of about thirty men, all working with naked lights, after such current of air has coursed through the Jubilee headings, where the gas is exuding.

3. I would also draw attention to the practice of having only a single trap-door on the main road between the Jubilee headings, where, in my opinion, two doors are necessary.

4. I have therefore to urge your serious and immediate attention to the abovenamed matters, with a view to have them remedied as speedily as possible.

I have, &c.,

JOHN DIXON,

Inspector of Collieries.

You say that the matters complained of by the Inspector are not worthy of notice, but still you have done something to remedy them? Yes.

You thought that, under the circumstances, you would drive right round, and make the connection more complete? Yes.

And that course altered the connection there? It did.

Now, was there any danger from that gas at all? Not after the connection was made. There was no ventilation before.

Mr. Edmunds: I again object to this evidence.

Mr. Want: Is there any danger there now? There is less now than before.

Is there anything at all in the mine which is dangerous or defective? Not that I know of. I do not see that anything could be better or safer than it is.

Is there any danger or any harm whatever now in the air passing over these floors? No, not the slightest.

Is the supply of gas in the mine greater or less than it was before. What was it before, in your opinion? The very most that we have had was 40 cubic feet per hour from the whole of the blowers combined. The outside strength of the gas before we connected with the Jubilee shaft was not more than 60 ft. per hour.

And what has the supply come down to now? I do not think that it is more than 20 cubic feet. The blowers here now are that small that they are not worth noticing in any way.

Have they diminished every day since Mr. Dixon was there? Yes; every day that I was down there. The big blower that used to go like a gas jet is not so bad now as it was.

And since you have made this circuit of the shaft the ventilation is still better than before? Yes; it has been improved considerably.

And therefore the gas would not so much affect the air because it is insignificant when compared with the quantity of air that is in the mine, and also because the gas has more outlet? Yes.

Now, you see this door here (pointing to plan)? Yes.

Has that door got anything to do with anything required under any portion of the Act except the 12th section? No.

Is there the slightest necessity for a double door there? No.

And you will not put a double door there? No; I do not intend to do anything of the kind.

I suppose you know that under the 12th section of the Coal-mines Regulation Act of this Colony you are bound to supply an adequate amount of air to the men working in the mine? Yes.

And you know that you are liable to punishment if you do not take the men out when ordered to do so by the Inspector? Yes; they can order the men out.

And have you ever had any complaint from the men or from their Inspectors? Have you ever been prosecuted? Occasionally the check inspectors have not acknowledged quite sufficient air.

Do you mean in these workings? Oh! no; not in these workings at all. These are new workings altogether.

Will you tell us how many men are working up in this place to which the air passes after it leaves the door? Only four men.

And one horse is the only thing else that passes through this door? That is all.

How many times in the day would the horse pass through? In and out about twenty times each way, or forty times altogether. I am wrong, because a man brings out three skips at a time, so that it would only be about twelve. The work is done by one boy and a horse.

So that all that happens is that the door is opened and shut twelve times in a day? Just so. The door is worked so that it cannot stand open. The door is able to keep itself shut.

And there is wind enough there to bang it to? Yes, if there is wind there at all.

We have heard something about a fault being there. How many times has this fault been tapped before it was tapped in this Jubilee heading? This is the fourth time. It has been tapped four times altogether. It is a new mine where the men are working, but not virgin ground, as the ground all round has been opened out.

Is there any danger whatever of any large outburst of gas in this heading? No possibility of danger.

You are not doing any work there to speak of? No, and we do not intend to until we finish this ventilation.

And you never did intend to? No; we only wanted to get the connection completed. This is a part and parcel of the erection of the plant, and was included in the one estimate.

Did Mr. Mackenzie and Mr. Dixon know that you were only going to work there until the fan was up? I think Mr. Dixon did, but I am not sure about Mr. Mackenzie.

And all that you have done has been done to increase the ventilation of the mine? Yes; it has been no profit to the Company at all. It has all been done in the interests of the men. We could have gone on in the old way if we liked.

You

You have been in Court and have heard all these experts giving their evidence. To put it shortly, is that the correct state of affairs which they have described? I think they have not said any more than they should have said.

You have heard Mr. Dixon, the Government Inspector, say that the mine is not fit to work in? Yes.

Did these Government officers ever suggest anything to you which you refused to do? No; this is the first case of the kind in which I have refused to comply with their request. They made no suggestion to me to remedy anything except that for which I am brought here.

With regard to this door, this is the first time that you have refused to comply with the request of the Government Inspector? Yes.

And you intend to stick to that refusal, do you? I do, because I do not believe that there is any necessity whatever for it.

You do not mind if they prosecute you for it under the 12th section? No; but I would rather go under the 25th.

Was that connection with that heading from the Jubilee completed within twenty days from the day on which the Inspector's notice was served upon you? It was done within eleven days. Perhaps I might explain—

Well, now, we have heard something about this door being blown down;—it is not a strong door? Yes, it is.

But supposing it did come down, is there not another regulator there? Yes, at the far end of the working.

So that if the door was blown down this regulator would prevent any damage? Yes; even if the door were blown down or were left open the regulator would prevent any damage being done.

The Court, at 1 o'clock, adjourned to 1-30 p.m.

The Court resumed at 1-30 p.m.

The examination of John Young Neilson was resumed:—

*Mr. Want:* You have heard it said that the using of safety-lamps would result in some disadvantage to the Company which you represent. Now, is it not a fact that more accidents occur through the use in mines of safety-lamps than through the use of naked lights? That must necessarily be the case.

What percentage of accidents is due to falls from coal in this district? Over 70 per cent. of the accidents are due to falls from coal.

Now, is it not a great advantage to the men themselves to have a good light to work with? Decidedly it must be so. Compare the difference between daylight and the light given by a lantern.

Do you know as a matter of fact that the men wherever possible prefer to have the open lights? I know it was recommended that we should have the very best light possible to avoid these falls from coal, &c., and the naked light is undoubtedly the best.

Do you agree with this paragraph from the report of the Royal Commission appointed to inquire into accidents in mines in Great Britain—

The evidence taken by the Commissioners had made it clear that one important factor of protection against falls of roof and sides was to provide the miner with a good light, convenient and handy, which will enable him whilst engaged in getting coal, or other mineral, to see and to protect himself against defects in the sides and roof of the working places.

The evidence made it equally clear that in order to guard against ignition of explosive gas mixtures, this light must be so protected as to render the ignition of an explosive mixture and air practically impossible under any conditions likely to occur in a mine.

I agree with that perfectly. I have read the same clause before.

What percentage of accidents occur from fire in the mines of this Colony? The percentage of accidents from fire until last year was only 3 or 4.

It was increased by the Bulli catastrophe?—Yes, by the Bulli and Lithgow disasters. Until then the percentage was very small—about 3 or 4, and the increase has been brought up by these accidents.

*Mr. Edmunds:* How long have you been a manager for this Company? Twenty-seven years during the course of last month.

What experience have you had as a colliery manager outside of the Newcastle-Wallsend mine? I have had experience in everything from driver up to head overman.

But my question was as to what other experience you have had as manager? I was under-manager for some time at Home before I left.

And were you ever a head manager before you came here? No; I was only 25 years of age when I came to this colony.

Did you serve any apprenticeship as manager of a coal-mine? No; I did not serve any official apprenticeship—nor in coal-viewing or mining management.

Are you a certificated manager, Mr. Neilson? I am not. There was none of that kind of thing when I left the old country.

When was that, may I ask? Well, that was in the year 1857.

I believe that as a Royal Commissioner in the Bulli matter you recommended—

*Mr. Want:* I object entirely to this. My learned friend might as well refer to the Crimean war.

*The Police Magistrate:* We have had quite enough of that. It only causes me pain whenever I hear of it, and every feeling man must experience the same thing.

*Mr. Edmunds:* Well, then, I shall avoid any reference to Bulli, your Worship. (*To Witness:*) In what year was explosive gas first found in the Newcastle-Wallsend mine? In the year 1861. I think it commenced about that time.

Can you say the number of accidents that have occurred in the Newcastle-Wallsend mine through the use of gas? No; I cannot tell you just now. There were some slight burnings in 1861, and up to some time in 1873. A man got his hand burned in 1861.

*Mr. Want:* I object to these questions.

*Mr. Edmunds:* If I can show that similar circumstances existed in other portions of the mine, where accidents took place, it might show the liability to an outburst of gas in this heading. (*To Witness:*) As a matter of fact there have been some accidents in the mine from explosive gas? There have been some accidents in this work; men were in a pit by themselves and the stoppings were knocked down, and though the men found their way out they were slightly burned.

*The*

*The Police Magistrate*: Very often accidents occur amongst men for which the manager or agent of the mine is in no way culpable. Often it is the carelessness of the men themselves, though sometimes the men are different and do everything they can to obey orders.

*Mr. Edmunds*: Unforeseen circumstances arise under the best management. (*To Witness*): So that on one occasion two men were burned in this unforeseen way? That did not occur in the Jubilee heading at all.

But you do have unforeseen accidents occurring, and on one occasion two men were burned? Yes.

*Mr. Want*: Was not this in an old place? Yes, in an old place.

What happened on that occasion? I was sinking a pit with men, and four men remained behind, when the gas was lit up.

*Mr. Edmunds*: And what was the consequence of that? I did not know where I was, and two of the other men were burned; but that was an accident that could not occur in the working.

I do not refer to anything except to unforeseen circumstances? This was in 1879.

*Mr. Want*: I want the whole of this put down from the very beginning.

*Witness*: It is all in the Mines Office.

*The Police Magistrate*: Some of the best men may get burned occasionally.

*Mr. Want*: Did this occur in anything like the Jubilee shaft? No. At this time the coal came all down in a lump.

*The Police Magistrate*: I do not think there is any necessity of going into this unless you can show or expect to show gross carelessness on the part of the manager.

*Mr. Edmunds*: I do not attribute that to him.

*The Police Magistrate*: No matter how good or careful a manager may be there are thoughtless men in these mines who will use lights to enjoy their pipes, not caring whether themselves or others are blown into eternity the next moment. These careless men—I was going to call them contemptible wretches—would destroy themselves if they thought they could injure others at the same time. That is the feeling of some of these men.

At this stage a man in Court interrupted the Police Magistrate, asking, "Where will you find these men," alluding to the men of whom the Police Magistrate had been speaking. The Police Magistrate addressed the man, and told him to keep quiet or he would be put out, and as the person continued to interrupt the business he was removed.

*Mr. Edmunds*: Have you seen a notice from Mr. Dixon telling you not to allow the air current to ventilate one split of sixty-eight men and another split of thirty men, all working with naked lights, after this current had coursed through the Jubilee headings, where gas was exuding? I have not made the slightest change since he was there, except to get off this gas in the 36-yard place. The rest of it remains exactly as it was when Mr. Dixon visited it just for the sake of examination. The same thing is going on now except that there is a diminishing of the fissures.

Then I take the answer as yes to that question.

*Mr. Want*: No, you do not.

*Mr. Edmunds*: Then I will repeat the question: Have you seen the notice of Mr. Dixon telling you not to allow the air current to ventilate one split of sixty-eight men and another split of thirty men, all working with naked lights, after this current had coursed through the Jubilee headings, where gas was exuding? This is rather a long question for me to say yes or no to. I have never altered it, and do not intend to alter it.

*Mr. Want*: Then you have allowed this thing to go on as before? Yes, except with regard to the narrow bord.

*Mr. Edmunds*: I must have an answer to my question. Have you since the receipt of the notice from Mr. Dixon allowed a current from the Jubilee shaft to ventilate one split of about sixty-eight men and another split of about thirty men, all working with naked lights, after that current of air had coursed through the Jubilee headings, where gas was exuding? I have not made the slightest change since Mr. Dixon was there except to increase the air by a section cutting the 36-foot narrow bord where standing gas previously existed.

Do you say that that has increased the quantity of air ventilating the mine? Yes, in a moderate degree, but it has not increased it very much.

Does not that increase the quantity of air going down the Jubilee shaft? Yes; it must necessarily do so; the more room you have the more air you get.

*Mr. Want*: I should think that my learned friend would not want the Examiner of Coal-fields to tell him that.

*Mr. Edmunds*: Now, do the men still work with naked lights? Certainly. There is not a Davy lamp in the pit.

*Mr. Want*: And you are going to continue the use of the naked lamps?

*Mr. Edmunds*: In No. 3 split, how many men have been working? I forget how many are working in Nos. 3 and 4 splits, but there are sixty-four in one split and thirty in another.

There are also some boys and horses? Yes, I believe there are. Each boy has twenty-four men and a horse.

Have you since the receipt of the notice from Mr. Dixon only had a single trap-door on the main road between the Jubilee heading? It is just the same now as when Mr. Dixon was there.

May I ask how many single trap-doors there are in No. 3 split? Well, I think there are two; I am not sure for a moment unless I look at the plan.

Will it take long to look at the plan? I am almost certain that there are only two. There is a trapper at each door, not at the single door referred to in the information.

There is no trapper at this door in the main road that we have been speaking of? No, there is not.

Are there any doors in No. 3 split? There must be three or four in No. 4 split, coming down from one heading to the other, but I cannot tell you for the moment whether there are trappers at each door in No. 4 split.

The system of ventilation comes to this, that the explosive gas is taken in with the intake air to where the men are working with naked lights? There is no explosive gas coming in.

Are there no blowers there? Yes; but the gas from them is diluted.

Yes, but it is being blown to the face where the men are working with naked lights.

*Mr. Want*: Yes; but when it does it ceases to be gas.

*Mr.*

*Mr. Edmunds* : I do not know that that is correct. That seems to be a disputed theory. Does not the gas with the air go down to the men with the naked lights? Yes; but it is no longer gas.

Well, air containing gas, however much it was, being taken up to where the men are working with naked lights at the face of the heading? About one-thousandth part of gas to one of air.

*Mr. Want* : There would be thirty-six parts of air to one of gas—would not that be the case?

*Mr. Edmunds* : Now, will my learned friend leave the witness alone and allow him to answer for himself.

*Witness* : Yes; I think it would be about 30,000 parts of air to one of gas.

And then does not the air afterwards go from the furnace fire in the upcast shaft? It has no other way to go, and when it gets there it meets with the other 85,000 feet of air.

Have not both the Jubilee headings given off gas more or less from the time they were first opened out? They gave out jets of gas as we went along.

Then they have given out gas since they were opened? Yes; since they were opened out from the main road. We found out two or three in the face, and then those behind died out.

Did they all die out? Yes; just as some are dying out in the 50-yard portion.

But not all of them have given out? No; they are not all gone out, but that is the rule.

*Mr. Want* : They have all gone into the back, near the main heading? They have gone out of the double heading. They went into the single heading when they left the double heading.

You have heard the evidence of the experts that through the trap-door in the main road something like 4,000 cubic feet of air will pass to the men working in No. 3 split? Yes; to the sixty-four men, the boys, and the horses. That will be sixty-eight persons requiring gas.

*Mr. Want* : Requiring air you mean. I daresay they do not want gas.

*Mr. Edmunds* : But that quantity of gas is something less than they should get? I do not know. That will give them about 75 feet, but this is assuming that the door is open.

But that will not give the men who are working there all the air which the Act requires? No.

*The Police Magistrate* : We are not dealing with that now, because that matter is provided for by the 12th section.

*Mr. Edmunds* : It is not a thing which your Worship will take into account as being a part of this complaint, but the object of my question is to show that there is a prospective danger.

*The Police Magistrate* : So far as it has gone it would appear that all the gas was drawn into the air.

*Mr. Edmunds (to witness)* : What kind of stoppings have you in the bords? In all the headings we have brick stoppings. In the Jubilee headings there are also brick stoppings, but in the far heading the stopping is canvas.

What stoppings are there in the bords? There are none. You never put stoppings in the bords.

How do you conduct the air from one place to another in the bords; are there no stoppings in the bord ends to prevent the air from going up further and in the ordinary bords? It would take all the bricklayers in the country to do what you want. In the narrow bord ends brick stoppings are put up if they are important places, but if the places are unimportant, canvas stoppings are put up, and sometimes it is only rubbish. [*Witness then examined the plan, pointing out the position of the brick and canvas stoppings.*] Having cut through across the ordinary bords no one would ever think of putting up a stopping, and none have been put there.

*Mr. Want* : Did you ever see anyone lunatic enough to do that—I do not mean in this Court? No; not yet.

*Mr. Edmunds* : What system do you follow in regard to the preparation of shots in the Jubilee district? We have a man who uses naked lights and exercises his own discretion. Men prepare and fire the shots at their own discretion, but before the connection is made we use the safety-lamps, and then a man is appointed to fire the shots. I took Mr. Bates once down to see it in the interests of the men.

*Mr. Want* : And all this was done under the supervision of the Inspectors? Yes. Mr. Bates, who is an Inspector, made a special inspection of it.

*Mr. Edmunds* : Do you insert any boreholes to gauge the quantity of gas coming out of the floor? No; there was no necessity for it. The gas came up through the gutters in the coal.

What did you say about the gas coming up? That it came up in a little opening about an eighth of an inch wide. It was through this that the gas came.

I have no doubt you will admit that if, before the time of the Inspector's visit, there had been any large and sudden outbreak of gas there would be a likelihood of a very serious accident? Well, I cannot admit an "if" in that question at all.

I do not ask you to admit an "if," I ask you would there not have been a serious accident had there been a large sudden outbreak of gas? Well, I cannot suppose any such thing happening in that mine. I consider that any large outbreak of gas was impossible under the circumstances.

*Mr. Want* : I want that answer taken down.

*Mr. Edmunds* : Well, that is not an answer to my question. I say that if there is any large outbreak of gas in that mine, is there not a probability of a serious accident occurring.

*Mr. Want* : Well, now, you have the answer already. I object to this, and say that the witness has already answered the question.

*The Police Magistrate* : The answer was given by Mr. Neilson before, but Mr. Edmunds supplemented it with another question.

*Mr. Edmunds* : Allowing that you considered it impossible that there could be a large outburst of gas in the mine, still if such a thing did happen and gas broke out suddenly, would there not be a likelihood of a serious accident ensuing? Most decidedly; just the same as if you put a lot of powder there.

*Mr. Want* : In fact, if there was an accident there would be an accident.

*Mr. Edmunds* : Does not explosive gas gradually find its way through the coal? Yes, in some cases. But this all has to be looked after. We keep men specially to look after such things as this.

Inspectors are of course appointed to do that? Yes.

But sometimes, notwithstanding, large unexpected outbreaks occur? No, not at the Newcastle-Wallsend Colliery.

I am not speaking of the Newcastle-Wallsend Colliery just now. Do not these outbreaks sometimes suddenly occur? Yes, in the deep mines in the old country.

Has

Has this thing never happened in the shallow mines? No, not to my knowledge.

Have not experiments shown that the pressure of gas varies in one and the same seam? No; I do not know that experiments have shown that; I do not see how they could do so.

The quantity of gas varies with the pressure, the greater the pressure the larger the quantity, of course.

What plan have you had for estimating the quantity of gas exuding from any part of the Jubilee district? I do not think there is any particular plan existing except judging by the safety-lamps. You can bottle it up and send it to Professor West, of Sydney, if you like.

Did you do so, because I do not like. Have you ever heard of other means of estimating the quantity of gas? No.

Have you ever heard of Lieving's fire-damp indicator? I have read about it, but I have never seen it.

Do you know what percentage of gas a safety-lamp will indicate the existence of? Well, estimates have been made of from 5 to 9 per cent., but it depends on the nature of the gas principally.

Then do you know that this Lieving's indicator will indicate as low as  $\frac{1}{4}$  per cent. of gas? Yes; I have read that, but I do not believe it.

And you do not think it necessary to get any fire-damp indicator for your mine? No; I think the ordinary practice with the Davy safety-lamp is all that is required. If the Government has got one to give us we will be happy to receive it. The Davy lamp is the only safe one that is used.

*The Police Magistrate*: There is another safety-lamp, but I believe it is not a good one.

*Mr. Edmunds*: Now, do you agree with this portion of the report of Her Majesty's Royal Commissioners appointed to inquire and report on accidents in mines in England in 1886. Just listen to this and see if you agree with this portion of the report:—

It has been shown that mines which have hitherto been considered free from fire-damp may have the air which passes through them vitiated to an extent corresponding to about 2 per cent. of its volume of marsh gas. The air in many such mines may probably never be entirely free from explosive gas, at all events, in the neighbourhood of freshly-cut faces of coal and in the return air-ways.

It has been demonstrated in our experiments that when the atmosphere contains 5 to 5.5 per cent. of marsh gas it becomes highly explosive. We have even obtained explosions which, though less violent, might be nevertheless destructive of life if they occurred, on the large scale possible in a mine, when the air contained only 4 per cent. of marsh gas.

It will thus be seen that air, which would appear free from gas if tested in the ordinary way, may become, by the addition of only about 2 per cent. of marsh gas, capable of propagating flame and causing destruction; while the addition of about 3 per cent. converts it into a highly explosive mixture.

As we have already pointed out, air which would appear quite free from gas if examined by a fire-flame, may become explosive when laden with fine, dry coal-dust.

It has been stated that appliances now exist by which very small proportions of marsh gas in the air may be readily detected, and which can be used for examining the atmosphere of a mine. With Lieving's indicator gas present in the air can be estimated with sufficient accuracy for all practical purposes, even when the proportion is as low as 0.25 per cent. Maurice's indicator is also capable of giving accurate measures of the proportion of gas, and is very portable, but the time required in taking an observation with the instrument in its present form seems to preclude its practical application.

The natural inference from the foregoing is that some mines hitherto considered safe with naked lights may at times be in peril.

It may be that risks of explosion, arising out of the possibility of an unforeseen contamination of the air by fire-damp to a dangerous extent in parts of the workings of some coal-mines, can only be provided against by the invariable use of safety-lamps. We have not, however, considered it advisable to make a suggestion of this nature, because the great preponderance of casualties due to falls of stone and coal over those arising from explosions, points to the importance of miners having the advantage of the superior illumination afforded by naked lights in comparison with even the best forms of safety-lamps, when the circumstances of the mine, in regard to association of fire-damp and coal-dust, do not necessitate the use of safety-lamps.

We have, therefore, arrived at the following conclusions:—

1. That it is most important that most mines should be carefully examined by means of indicators capable of detecting as small a proportion as 1 per cent. of gas; such examination to be made before the commencement of each day-shift, and, in case of an interval, also before the succeeding shift.

2. That in all dry mines where the air may be laden with coal-dust, and where fire-damp is either known to be given off from the strata, or may, from experience, reasonably be suspected to exist, the Secretary of State may require safety-lamps to be used, unless the owners and workmen of such mines prove, to the satisfaction of the Court of Arbitration to be appointed by the respective parties, that less liability to accident generally will be involved by the working of the mine with open lights than by the use of safety-lamps. It should be a special instruction to such Court that the circumstances of each mine be taken into consideration with reference to the following points:—

- (a) The mode of working.
- (b) The nature of the coal-seams and of the roofs and floors of the seams and of the adjoining strata.
- (c) The proximity of the seams to each other.
- (d) The emission of gas from the seam, and the liability to blowers, or outbursts of gas from the coal, roof, or floor.
- (e) The order of working the seams of coal.

For the system which prevails in some places of working with mixed lights, that is, with open lights and safety-lamps intermixed in the same set of workings, there is no justification, and this practice should be strictly prohibited.

We are of opinion that in mines where safety-lamps are required, the position of lamp stations, or places where open lights are allowed, in reference to the possibility of access of vitiated air, should receive much more attention than at present. It is desirable that, at convenient places near the working faces, reserves of lighted and locked lamps be kept available for exchange with those extinguished in the workings.

It has long been known that if the atmosphere becomes inflammable, the Davy and Clanny lamps, and, in a less degree, the Stephenson lamp, are unsafe in currents having velocities much below those encountered in well-ventilated mines; our experiments fully confirm this. The ordinary Davy lamp becomes unsafe before a velocity of 400 feet per minute is attained. The ordinary Clanny lamp will almost certainly cause an explosion in a current having a velocity of 600 feet per minute. A Stephenson lamp will frequently cause an explosion in a current with a velocity of 800 feet per minute.

From the information supplied to us by your Majesty's Inspectors of Mines and others, currents having velocities of more than 400 feet per minute are now frequently found in working-places. The currents sweeping longwall faces have very often higher velocities; in main airway current velocities approaching 2,000 feet per minute are recorded, and considerably higher velocities are encountered at regulators and in narrow places, or when large falls occur.

It is thus obvious that, in the present improved ventilation of collieries, ordinary Davy and Clanny lamps have ceased to afford protection from explosion, and that the Stephenson lamp, though more secure than the two former, cannot be relied upon.

We felt it our duty at an early stage of our investigation to draw the attention of the Secretary of State to the danger attending the use of ordinary Davy and Clanny lamps, and our subsequent experiments have made this danger still more conspicuous. We have no hesitation in stating that these lamps should be prohibited, unless they are enclosed in cases capable of effectually preventing the gauze from being exposed to the full force of the current of air.

Many lamps now exist which are able to resist in highly explosive atmospheres current velocities up to 3,000 feet per minute, at all events, for several minutes. Ample time is thus obtained for bringing into operation a "shut off" appliance for the extinction of flame produced both by the illuminant and by ignited gas within the lamp.

We consider that all safety-lamps should be provided with such an appliance.

Yes;

Yes; but I think you will find these things explained in other portions of the book. I have read that report three or four times over. I believe that when the atmosphere contains 3 or 4 per cent. of marsh gas it becomes highly explosive, that is, under the circumstances under which the Commissioners made their experiments.

Do you agree with that part of the report which states that an explosion may be caused by 4 per cent. of marsh gas? That depends altogether on certain circumstances—if it were a wet or a dry mine; or if it were a dusty mine. As soon as dust gets about, an explosion is very usual.

*The Police Magistrate:* In fact, a dry mine is a very dangerous one.

*Mr. Edmunds:* Do you think that, under certain circumstances, even 4 per cent. of gas might cause a dangerous explosion? In dry, dusty mines 4 per cent. of marsh gas might cause an explosion, but ours is a wet mine.

*Mr. Want:* You were asked about these outbursts of gas in deep mines;—now, is it not a fact that outbursts occur where there are underlying seams? Yes; that is true as a rule. They heave up the floor, but there are none of these underlying seams in the Wallsend Colliery.

Have they not gone down 400 feet in the A.A. Company's Colliery?

Thomas Bonsfield called in and examined:—

*Mr. Want:* I believe you are a deputy overman in charge of the Jubilee workings in the Newcastle-Wallsend Colliery? Yes.

Did you at any time ever tell Mr. Mackenzie, Examiner of Coal-fields, that there was more gas in this mine than at Bulli? No.

*Mr. Edmunds:* I object to this evidence. This answer of Mr. Mackenzie's came out from my learned friend's own cross-examination, and not from me. It is no part of my case.

*The Police Magistrate:* I do not think it is necessary.

*Mr. Want:* A statement is sent forth that this is a fiery mine. Mr. Mackenzie has stated that this mine is a worse mine than Bulli, and I do not think that it is right that that statement should be allowed to go forth to the world.

*The Police Magistrate:* Then under these circumstances you may ask the question.

*Mr. Edmunds:* Well, I again object, your Worship, and I ask that this objection of mine may be noted.

*The Police Magistrate:* Your objection will not affect me.

*Mr. Want (to witness):* Did you ever tell Mr. Mackenzie, the Examiner of Coal-fields, that there was as much gas in this mine as there was at Bulli? No.

Have you ever been to Bulli? No.

*Mr. Edmunds:* I believe you have a fireman in this mine? They have.

*Mr. Want:* And that fireman goes all round the place before any of the men are allowed to go in? Yes; and he writes up his name on the door in chalk every morning, to show that the mine is perfectly safe.

The fireman goes round and signs his name? Yes; he signs his name, and alters the date.

That is a precaution against any accident occurring? Yes.

It is not only as regards fire, but as regards everything else? Yes; he reports that when he comes out to the boards.

*Mr. Want:* I have a number of other colliery managers, your Worship, whom I am prepared to examine.

*The Police Magistrate:* Do you think it necessary? I am perfectly satisfied so far as I have gone.

*Mr. Edmunds (to witness):* Has not the fireman whom you have in that mine come from Bulli? No. Who is the fireman? William Matthews. He was never at Bulli.

Is there any man working in the pit who was at Bulli? Yes.

Is not the pit where the singing was near the Jubilee pit? Yes; it is the Jubilee shaft.

Then you have a man who was at Bulli? Yes.

*Mr. Want:* Yes, and he has a brother who likes cheese. One thing has as much to do with it as the other. I should think that the fact that the man had been at Bulli would show that he was not much afraid of the air. That is the case for the defence.

*The Police Magistrate:* Is there any other evidence?

*Mr. Want:* There will be no other evidence. I do not feel it necessary to speak at any great length, because I expect your Worship's decision will be guided by the construction of the section of the Act which you have before you. Now, I agree entirely with your Worship that this section is a most difficult one to construe. I also agree with you, and every member of the Bar will do the same, that it is no part of a barrister's duty to attempt to induce a Magistrate or a Judge to give a verdict which is not in accordance with the law. There would be no advantage to my client if I were to make any attempt to mislead your Worship on a matter of law.

*The Police Magistrate:* I thoroughly believe that.

*Mr. Want:* I must admit, your Worship, that for myself I have considerable doubts as to the meaning of this section. I have read this thing through coming up from Sydney, and have read it through again and again; and now I have no hesitation in saying that I really do not know what construction to put upon it. I am ready to admit that it leans in my learned friend's favour. I have no hesitation in telling your Worship where the argument lies in my friend's favour, as where, I think, it leans in mine. But at the present moment I cannot say myself which is the correct reading of the section. I believe myself that the words of the section leave the matter at issue open to doubt, but the first part of it is in my learned friend's favour, little as that may be.

*The Police Magistrate:* The difficulty with me is, that I have to construe the section on my own responsibility, without reference to any human being.

*Mr. Want:* Well, I will endeavour to put it fairly before your Worship. I admit at once that, after some consideration, and having heard what my learned friend has said, I admit at once, although I had some serious doubts about it at first, I admit at once that we were properly within the 25th section of the Coal-mines Regulation Act. And, therefore, I think your Worship was quite right in ruling that if there was any prosecution at all that prosecution should have been brought under this 25th section.

But

But this question about the trap-door should never have been included in the information at all; and therefore I must ask your Worship to dismiss that matter from your mind, because, undoubtedly, it came under the 12th section of the Act, and we cannot be brought here and fined for that. We have not put two doors at the place mentioned, and we have no intention of putting a second door there, and if the Crown prosecute us for not having done so under the 12th section, we will fight that matter out to the end. Now, my construction of this section is this—mind, I will say it is so far in my favour,—and I will ask you to take my view of it first, and then I will point out where it is in my learned friend's favour. The 25th section says:—"If in any respect (which is not provided against by any express provision of this Act or by any special rule) any Inspector find any mine, or any part thereof, or any matter, thing, or practice in or connected with any such mine, to be dangerous or defective, so as, in his opinion, to threaten or tend to the bodily injury of any person, such Inspector may give notice in writing thereof to the owner or agent of the mine, and shall state in such notice the particulars in which he considers such mine, or any part thereof, or any matter, thing, or practice, to be dangerous or defective, and require the same to be remedied, and unless the same be forthwith remedied, the Inspector shall also report the same to the Minister. If the owner or agent of the mine objects to remedy the matter complained of in the notice, he may, within seven days after the receipt of such notice, send his objections in writing, stating the grounds thereof to the Minister, and thereupon the matter shall be determined by arbitration in manner provided by this Act in relation to the special rules, and the date of the receipt of such objection shall be deemed to be the date of the reference. If the owner or agent fail to comply either with the requisition of the notice given by the Inspector when no objection is sent within the time aforesaid, or with the award made on arbitration within twenty days after the receipt of such notice or the making of the award." And then the section goes on to say that the defendant shall be guilty of an offence under this Act. Now, I think your Worship was right in saying that we should have gone into the merits of the case in order to show that the opinion given by Mr. Inspector Dixon was an entirely mistaken one. I am willing to admit that I think that the Company made a mistake in making this request to be allowed to withdraw from arbitration, and so far as that is concerned we cannot go back at all. Now, my second contention is this: that although we cannot go into the merits of the case, as the mine was on the day of the Inspector's visit—and that was the question you really had to try—you would not have had much to consider, especially if you saw the mine. The section says if the Inspector shall "find any mine or any part thereof, or any matter, thing, or practice with or connected with any such mine, to be dangerous or defective, so as, in his opinion, to threaten or tend to the bodily injury of any person, such Inspector may give notice in writing thereof to the owner or agent of the mine," and so on. The notice shall state the particulars which prove the mine or any part thereof to be dangerous. Now, the real point in the charge is that the mine is now actually in a dangerous or defective state. But these particulars are not dated, and so far as we can see, it is only the Inspector's opinion which renders the mine dangerous. What your Worship, therefore, really has to decide is, whether the mine is now actually dangerous or defective in its present condition. We then get notice, "I have therefore to urge your serious and immediate attention to the above-named matters with a view to have them remedied as speedily as possible." Now, what we have to remedy is not stated in that notice, and the only construction to be put upon it is that the mine is generally dangerous and defective, and is such as to tend to the bodily injury of those working in it. Now, my learned friend states that the Act requires that the things complained of shall be remedied and that the particulars shall be stated, but he says that the particulars given are sufficient. He contends that whatever the Inspector says in his notice causes the mine to be dangerous, and his argument is that we must carry out whatever the Inspector demands, whether it has anything to do with the mine or not. If the Inspector says that certain things make the mine dangerous to those working in it, and tells us that we must alter the condition of affairs—

*The Police Magistrate:* But is there not an alternative course of proceeding to arbitration in case the opinion of the Inspector is disputed?

*Mr. Want:* I will come to that presently, your Worship. Now, I am giving first of all the construction which my learned friend puts upon this section. It is in effect that we must remedy these things thoroughly, whether we know what to remedy or not, or we must go to arbitration. The Act, I admit, says, "If the owner or agent fail to comply either with the requisition of the notice given by the Inspector when no objection is sent within the time aforesaid or with the award made on arbitration, within twenty days after the receipt of such notice with the making of the award (as the case may be), he shall be guilty of an offence against the Act." Now, we do not object to remedy anything which is wrong in the mine. Of course if we had said "we will not remedy these things," then my learned friend would have been quite right in his contention. We would then have to go to arbitration—there is no doubt of that. But I say that we have remedied the matter complained of; we have supplied a substantial remedy. My learned friend's contention will be that we should have remedied this in the way that Mr. Dixon had told us to do it; but my contention is that we need not do it in that way. We have a perfect right to remedy this matter in our own way if we desire to do so, so long as the matter complained of is substantially remedied. Now, it is for your Worship to decide what construction you will accept, because the point at issue is simply a matter of applying a remedy. As I have said, the Act provides that "if the owner or agent fail to comply with the requisition in the notice" he shall be guilty of an offence. I ask you to mark these words, "fail to comply." So that the issue you have to try is this: Have we complied with the requisition of the notice? Now, my learned friend will have to admit that this is the real point. The whole question now is, have we done what the Act says we should do, and if so, have we not complied with the requisition of the notice? Now, upon that point I shall draw your attention to one or two things in connection with the notice; but before I leave this section I must say this, that although I willingly admit that it is a difficult section to construe as it bears on this case, and that it may cause your Worship some trouble, still it is in such a state that if you have any doubt as to the construction of it, this being a penal section (because failing to pay the penalty the defendant would go to gaol), I ask your Worship to give my client the benefit of the doubt.

*The Police Magistrate:* It would not be penal. It would be levy and distress. The other matter does not come.

*Mr. Want:* But failing levy and distress the defendant would go to prison. This is what is called a penal statute, and there can be no doubt as to its effect. We are therefore entitled to have this matter considered in our favour, because in all such cases any doubt that arises acts against the Crown and in favour

favour of the prisoner. But then, I contend, we are entitled to a dismissal of this case; and now comes a still further point. I will venture to say that such a case as this was never in the mind of the person who drew this Act, or in the mind of the Legislature which helped to enact it, for here is a provision brought in at the end which reads:—"Provided that the Court, if satisfied that the owner or agent has taken active measures for complying with the notice or award, but has not with reasonable diligence been able to complete the works, may adjourn any proceedings taken before them for punishing such offence, and if the works are completed within a reasonable time no penalty shall be inflicted." Your Worship is therefore entitled to judge for yourself, and to say that you will be guided by the evidence, as to the state of the mine, which has been submitted here. You have to ask yourself—Is it safe enough to allow men to work there, and are active measures being taken to remedy the thing complained of? I say that this last clause or proviso puts you above the Inspector's opinion, and you can decide for yourself. Supposing, now, that Mr. Dixon were perfectly right—and I give him credit for doing all this with the best possible intentions—what would be the effect? But if he were wrong in his opinion—and I think his opinion is utterly wrong, because the mine is perfectly safe—could anyone blame him for being on the safe side? I therefore cannot object to his calling on us to remedy certain things, if it be thought they were dangerous to the persons employed in the mine. But now let us suppose that Mr. Dixon was right when he gave this notice. "As you have not complied with the notice," he says, "you must be guilty." But within the time mentioned—within the twenty days—precautions had been taken to remedy the matters complained of; and if you believe the evidence of all these experts, then you must come to the conclusion that this mine is now in a better condition than any other mine in the Colony. A more complete system of ventilation could not possibly be imagined than that which prevailed in this mine, if you believe the evidence of these experts. Therefore you must come to this—that the case would have to be heard on its merits, and, under these circumstances, I think you can come to no other conclusion than that this mine is now perfectly safe. That being so, we now come in here, and the question arises—Shall we be punished for not having made the mine safe in compliance with the requisition of Mr. Dixon? That being the issue, I contend that we are entitled to a dismissal of this case, because the 25th section gives you power—I have already read the clause to your Worship—to dismiss the case, in case you are satisfied that the owner or agent has taken active measures for complying with the notice or award. Now, if you have any doubt about the construction of this section, here is a safe course which allows you to get away from the difficulty. I know that if you felt strongly you would not have had any doubt about this latter part of the section; but then you have all this evidence to consider, and you know that these expensive operations are going on for the ventilation of the mine. Then I say that the fair thing to do between both parties is to give the defendant the benefit of any doubt which may have arisen in your mind as to the construction of the statute. Now, there is one argument which I would like to anticipate. My learned friend will argue that we have not remedied the engendering of inflammable gas within the twenty days allowed. What the Crown complain of is that there are a number of gas blowers, and that the air is passing over them and going to the men. Now, you can have no doubt but that we have proved there is only 1 foot of gas to every 36,000 feet of pure air. Therefore you must come to the conclusion that there is no danger there, and that that matter has been remedied. My learned friend will probably argue that it does not matter whether we have remedied it or not. He may say your mine is no longer dangerous or defective; but Mr. Dixon says that you must not allow the air to pass over the gas and get to the men who are working with naked lights. And my learned friend's argument will be that even if we put a shaft there within five days, and that 500 times as much air passed along it, that simply goes for nothing, because we are guilty of an offence for not doing the thing in the way the Inspector wished. Supposing that the gas blowers had stopped two days after the Inspector had visited the mine, he would still come here and say that the air still went over the place where the gas exuded, although at the end of the twenty days all the gas had disappeared. Now, surely this is not an argument which should be addressed to the Bench in a case like this. I am rather astonished at the action of the Crown in this case, and I do not object to their instituting a prosecution if they thought it was their duty to do so; but they must now be satisfied that the opinion of Mr. Dixon was wrong, and that the mine is all right, and, that being so, they should not go any further with this prosecution. No one representing the Government has been in the mine now for some two months, so that how can they tell what has been done meanwhile or how the condition of affairs has altered. The prosecution simply comes from this: that the officials have got stirred up with a long pole for the Bulli matter, and now the defendant here is to be "butchered to make a Roman holiday"; he is to suffer for the inaction of the Inspector before the Bulli occurrence. It is the old story. The words of the section are that we must comply with the Inspector's notice. The question of arbitration does not come in here at all, because the Company and the agent do not object to remedy the thing complained of, and we say that we have done this already. We have remedied the matter complained of.

*The Police Magistrate:* I must say that this section is a most difficult one to construe. If one or two lines had been added they would have made it plain, and this is the case with most of the Acts of Parliament that we have to deal with. As Mr. Nichols used to say, you can drive a coach-and-four through any of them.

*Mr. Want:* Yes, and I believe you might drive an omnibus or a tramway through this Coal-mines Regulation Act. Now, your Worship, this is not a case here of arbitration. My contention is that we are not called on to arbitrate at all. What the information leads to is that the mine is now in a dangerous and defective condition, and threatens bodily injury to the persons working in the Jubilee district. I say that having removed this matter—having remedied the thing complained of—we are not guilty of an offence, even if we did not proceed in accordance with the terms of the notice served on us by the Inspector. But my learned friend will say that it does not matter how we remedied this thing; he will say that you did not do it as Mr. Inspector Dixon wanted it done, and that therefore we have committed a breach of the Act. Now, admitting that all these things which Mr. Dixon has told us to do were needed to be done for the safety of the mine, we are not bound to carry out the remedy in the way which he tells us it should be done. We are really only bound to stop that of which the Inspector complains. My contention is that it does not matter how we remedy these things. We have simply got to satisfy the Court that we have within a certain time put the mine in a condition where it was not dangerous to the men who were working in it. Now, your Worship must already, from the evidence which has been submitted to you, have come to the conclusion that the mine is perfectly safe, that it is not defective in any shape or form, and that it is perfect in its ventilation. But my learned friend may say

that the Government Inspector found that these people were not using safety-lamps, and I say that if they had done this there should be no penalty. Why should you fine a man for nothing? The first part of this 25th section says:—

If in any respect (which is not provided against by any express provision of this Act or by any special rule) any Inspector find any mine or any part thereof or any matter thing or practice in or connected with any such mine to be dangerous or defective so as in his opinion to threaten or tend to the bodily injury of any person such Inspector may give notice in writing thereof to the owner or agent of the mine and shall state in such notice the particulars in which he considers such mine or any part thereof or any matter thing or practice to be dangerous or defective and require the same to be remedied, and unless the same be forthwith remedied the Inspector shall also report the same to the Minister.

Well, I say we have remedied the danger, and that there is now no gas in the mine. Why should we be fined because we did not fall in with Mr. Dixon's suggestions, and because we thought we could do work more effectually otherwise. Then we come to you and say that we have made the mine safe; but my learned friend says, "No, you must do it in another way altogether." Now, I contend that by doing this we have brought ourselves clearly within the latter portion of this section, which provides for such a contingency. We have to look at this case in this way. Your Worship must have been impressed with the enormous importance of the case in several ways: first, with regard to the Company; second, with regard to the Crown; and thirdly, with regard to Mr. Neilson, who is charged here with a grievous offence. He has hundreds of people under his control, and if this were true he was sending them down day after day to what might be a living death. I could conceive nothing more cruel than to tell a colliery manager who is anxious to safeguard the lives of his workmen in every way that he has the workings of his mine in a dangerous and defective condition, and that bodily injury to those engaged in these workings is constantly threatened. It is enough to make a man's hair stand on end on reading it. When I read this information the first thing I said was, that it was hardly possible for a man to be guilty of such a thing, because no more frightful charge than this could ever be laid at a man's door. If the mine had been allowed to remain in this condition, the colliery should have been shut up, the gas collected for twenty years, and then blown to pieces. We are here now to deny that this Company has got this mine at the present moment in a condition tending to the bodily injury of the persons in it. If your Worship fine us here—no matter how small the fine may be—you will say to the whole world that the colliery is in a condition set forth in that information. And then your Worship will have to say that we had an opportunity of remedying this. Now, can any man who has listened to this evidence that we have heard in this Court say that Mr. Neilson has been guilty of an offence in the first instance, and that he has continued that offence? I would scorn to put Mr. Neilson's reputation as being open to doubt. But if your Worship should entertain a doubt on the subject, he is undoubtedly entitled to the benefit of it. Mr. Neilson stands in this Court to-day a proud man amongst the colliery managers of this country, and we have had the picked men from all the collieries round here. They are all men of repute and of vast and varied experience, and yet they all come here and speak of this mine in a manner which ought to make Mr. Neilson feel a proud man, and also make his Company feel proud of him. And yet the Crown come here and, under this doubtful Act of Parliament, endeavour to get him criminally punished. With regard to the latter portion of the 25th section of the Coal-mines Regulation Act—of course I merely point it out so that your Worship having any doubt about it, we are entitled to the benefit of it, and your duty will be to dismiss the case. It would perhaps be best for all parties if your Worship availed yourself of this latter part of the clause and dismiss the case on the point of law. The remedy which the Legislature has provided applies to cases where there is no doubt that a colliery proprietor has broken the law. There is no other means of remedying what has been complained of unless we shut up the colliery. Now, if your Worship is of opinion that putting up this upcast shaft, putting up this machinery and the other things, are steps towards "taking active measures," then we have clearly brought ourselves within the latter part of the section, if you come to the same conclusion on other grounds. We have destroyed the effect of these gases in the narrow bord by a connection with the main heading which has brought down a large quantity of air that passes the gas jets which are now defunct. We are not allowing the air to go over the blowers as it did, but to circulate so that the air will complete a circuit. So that really we have done what the Inspector has asked us to do; and if we have remedied the matter complained of then we are entitled to an acquittal. We have actually given the men working in the mine more air than ever they had before; but had we gone to the end of the up-shaft and allowed the men to wallow in this gas there would never be a word said about it. There never would have been a word said about it because there is something at the back of all this. People have been down and saw what was going on, and then they complain about this Jubilee shaft. I say we are entitled, if this gas is dangerous, to come within this latter portion of the section, in case you do not give us an acquittal. In all these matters, whether it be the words of the section or the words of the Inspector's notice, they must bear a reasonable construction. You cannot treat the words as if they were a number of Chinese metaphors, but as language which conveys an idea of something that is wanted to be done. And a Court always puts what is called a reasonable construction on such terms. And reading this notice of Inspector Dixon's, and seeing what we have done, you will admit that we have done something to that mine which prevents the air from being foully laden with gas. Let your Worship put a reasonable construction on the words, and then take into consideration the remedy that we have applied, and if you go into the merits of the case your decision cannot be against us. You have to consider this: Have we not remedied what we had the notice to remedy, and if we have remedied we are entitled to a dismissal. There is nothing now to complain of for which we can be brought under this 25th section. Then there is the latter portion of the section which you might avail yourself of, and this really would be the safest course for your Worship to pursue; although I say that on the evidence we are entitled to an absolute dismissal, because we have remedied the things of which complaint was made. Unfortunately your Worship cannot try this case as an arbitrator; but if you could, you would have found that the mine was perfectly safe, and that we were entitled to the benefit of the evidence to that effect; and that we should not have this accusation flung at our heads. I think we have satisfied everyone that the mine is now a perfectly safe one, whatever it was when the Inspector made an examination of it. The Crown should not attempt to punish a man who is innocent, nor a Company either, especially with regard to a manager whose conduct has been proved to be exemplary in every respect. I ask your Worship for an absolute dismissal of this case, in order that Mr. Neilson may be able to say to the world that if there were anything wrong I am not guilty of the damnable crime charged against me here.

*Mr.*

*Mr. Edmunds*: My learned friend addressed to your Worship what I must admit is very good law and if I may further remark, some very bad logic. For while he admits now what the law really is—and which I contended was the law all along—he contends that this action is on the merits as to whether the mine was dangerous or safe. But nevertheless he tries to make your Worship believe that if the defendant was guilty of an offence under this Act you disgrace him as being the agent of a mine which is unfit to go into—as being guilty of a damnable practice for any one to allow. While my learned friend admits that there is no question about the law, he yet makes an appeal to your Worship not to find the defendant guilty of this ignominious thing of having a mine that is dangerous to the men who were employed in it. This, I contend, is bad logic, because it does not follow from the previous part of my learned friend's address that we are not dealing with the fact whether that mine was dangerous or not; and therefore it will not be the slightest departure from the decision of this Court to say that this mine is dangerous at the present time. And yet it is by representing that to be an offence that he appeals to the sympathy of your Worship to dismiss the charge against the defendant. Now, the law is as stated by my learned friend, and I take this admission thankfully from him even now. Therefore, your Worship has now merely to consider the question as to whether the agent of this Company complied, or failed to comply, with the requisition in the notice which he received from the Inspector of Collieries. That is the sole question which your Worship has to determine in this case: Did the defendant comply, or did he fail to comply, with the notice which was written to him by the Inspector on the 6th January. Now, whenever a person gets an admission from the other side he has a right to be thankful, but whenever any one gets an admission from my learned friend he may know that he is very hard pressed or he would not give it. There is no man in the profession who battles for his client more than my learned friend. He never concedes anything but what you can wrest from him, and therefore when he so graciously offers something to me I am perfectly sure he is offering me something which is very dangerous.

*Mr. Want*: It was his Worship that I offered it to.

*Mr. Edmunds*: I would not have got it from him, your Worship, unless I was in this position. I admit that it is a difficult section to construe, but it appears to me that it can only be construed in one way. It is undoubtedly true that counsel will not mislead the Court, but then counsel will try to get a verdict for his client. Counsel for the Crown always feels that having the authority of the Crown he has also its responsibility in carrying out his duty. He will not endeavour to get the Magistrate to misconstrue an Act of Parliament or any portion of it. When my learned friend said that it was the duty of counsel not to mislead the Bench, it certainly is the duty of the person representing the Crown that if he has behind him the influence of the Crown, he also has its responsibility to have the law fairly pronounced in open Court without consideration to persons. He has to see that if the law is broken, and the person who breaks it comes before the tribunal of justice, justice shall be calmly and fairly administered to him—be the man the meanest of persons or the greatest of mining managers. Now, when my learned friend admits that the plain question which I put before you is the correct one, I thank him for it, but I have no hesitation in saying that he would have argued the other way if your Worship had come to the other conclusion.

*Mr. Want*: That is very difficult to say indeed.

*Mr. Edmunds*: I have very little doubt but that it would be done. There would be no use in the Act providing a certain course of procedure, and clothing the Inspector of Collieries with a certain authority, if the managers of collieries were allowed to resist that authority. The Act says:—"If the owner or agent of the mine objects to remedy the matter complained of in the notice, he may, within seven days after the receipt of such notice, send his objection in writing, stating the grounds thereof to the Minister, and thereupon the matter shall be determined by arbitration in manner provided by this Act in relation to the special rules, and the date of the receipt of such objection shall be deemed to be the date of the reference. If the owner or agent fail to comply either with the requisition of the notice given by the Inspector when no objection is sent within the time aforesaid, or with the award made on arbitration within twenty days after the receipt of such notice or the making of the award (as the case may be), he shall be guilty of an offence against this Act, and the notice and award shall respectively be deemed to be written notice of such offence." Your Worship is directed by the words of the section not to look into the merits of the case, and therefore you have intimated a very correct view that the whole thing turns upon the construction of the notice, because it is disobedience to the notice which constitutes the offence—the offence being, failing to comply with the requisition contained in the notice of the Inspector. Now, looking into this notice, we will see exactly what the offence is. The notice is divided into four consecutive paragraphs. The first is purely introductory:—"Yesterday (Thursday), accompanied by Mr. J. Mackenzie, Examiner of Coal-fields, I carefully inspected the workings in the vicinity of the Jubilee shaft in connection with the Newcastle-Wallsend Coal Company's Colliery, and found inflammable gas very freely exuding from numerous blowers in the floor of the Jubilee headings; also in the narrow bord, 36 feet in length, 6 feet wide, and 5 feet 9 inches high (near the shaft bottom), inflammable gas could be detected in the Davy lamp 9 inches from the roof at a point 7 yards from the face, and 2 feet 4 inches from the roof 3 yards from the face, and 3 feet 5 inches from the roof at the face." That, as I have said, is simply introductory. The notice now comes on, and this part constitutes the real ground for the Inspector's opinion which he formed:—

2. Having by such inspection proved beyond a doubt that inflammable gas was being engendered at the above-named places, and in view of the liability of a large outburst of inflammable gas occurring at any time. I hereby, in accordance with the provisions contained in the 25th section of the Coal-mines Regulation Act of 1876, give you notice that, in my opinion, it is a dangerous practice to allow the air current from the Jubilee shaft to ventilate one split of about sixty-eight men and another split of about thirty men, all working with naked lights, after such current of air has coursed through the Jubilee headings, where the gas is exuding.

3. I would also draw attention to the practice of having only a single trap-door on the main road between the Jubilee headings, where, in my opinion, two doors are necessary.

These are the things which make the mine dangerous in the opinion of the Inspector. It is "in view of the liability of a sudden further outburst of inflammable gas," not by reason of the gas actually existing there, that he considered it dangerous. Of course the first part of the notice can be remedied by the use of safety-lamps, and the second part by the making of another door at the place indicated; or the defects may be remedied in other ways. The Inspector concludes:—

I have, therefore, to urge your serious and immediate attention to the above-named matters, with a view to have them remedied as speedily as possible.

Now, there is the requisition, there are the things the Inspector complains of, and the things which he asks should be remedied. The only other point which you have to consider is,—did the agent, Mr. Neilson, fail to

to comply with the requisition in that notice? If he failed to comply with that requisition, then there has been an offence against this Act. The words of the Act are:—"If the agent fail to comply with the requisition in the notice within twenty days after the receipt thereof he shall be guilty of an offence against this Act." Now, what is the requisition of the notice? It is not to take the air going over these blowers down to the men who are working with naked lights. My learned friend said, "But you should have pointed out the remedy to us." Well, you can see that it would be a very objectionable thing for the local Inspector to say how the thing was to be remedied, or that it should be remedied in a certain way, because then his hands would thereby be tied for all future time in regard to this particular matter, But it is as clearly the law as possible that if the Inspector did this he would be exceeding the scope of his authority; and the case which I have quoted to your Worship fully bears this out. I would like again to refer your Worship to the judgment of the Court of Appeal in England on the duty of the Inspector of Collieries under this Act:—

Now, going through the 46th section, we find, first of all, that the Inspector has to see whether any mine or part of a mine, or any matter, thing, or practice in or connected with such mine, is dangerous or defective, so as, in his opinion, to threaten or tend to the bodily injury of any person. Then he is to give a notice and state, not merely that the mine or practice is dangerous, but the particulars in which he considers it is so, and to require the same to be remedied. Where does his duty stop? At requiring the matter to be remedied. He is not told to say what he thinks to be the remedy, nor to require that remedy to be carried out. When the complaint is brought to the notice of the owner, agent, or manager, if he objects, not to a remedy proposed, but to remedy the matter complained of, he is to send an objection in writing, stating his grounds, to a Secretary of State, and thereupon the matter shall be determined by arbitration. What is the matter to be determined by arbitration? The Inspector has required a matter or practice to be remedied, the owner has stated his grounds for objecting to remedy the matter complained of, and the requisition of the Inspector and the objection to it of the owner are the matter which is to be determined by arbitration—that is, whether the requisition of the Inspector is one to which the objections of the owner form a sufficient answer. That is all that is to be determined. There being no words which enable the Inspector to name a remedy, the arbitrator has no question of a remedy before him. If the arbitrator finds that the objections of the mine-owner are unfounded, the requisition of the Inspector stands. If after that the mine-owner does not remedy the matter complained of, he must take the consequences; but the arbitrator has nothing to do with the consequences of the mine-owner's neglect; that is for another tribunal. Applying these principles, I think the award goes beyond what I have stated to be the power of the arbitrator. The award should have followed the requisition of the Inspector, and pronounced that the matter—that is, the working of the mines with open lamps—was dangerous or defective, so as to threaten or tend to the bodily injury of the persons employed in and about the said colliery. But the arbitrator has determined that the mines are to be worked with safety-lamps—that is, he has determined what is the remedy which should be adopted, and directed that to be followed. He has substantially found that the complaint is well founded, though he goes beyond his powers in other respects. I can see no reason, therefore, why the award should not go back to him, so that he may put it into form. When that is done, it will be for the mine-owner to remedy the defect, for if he does not he will, in the opinion of the next tribunal is against him, be liable to penalties under the Act.

Now the requisition in that case was this —

*The Police Magistrate*: The Inspector here has only to report to the Minister, "unless the same be forthwith remedied," and when the case goes to the Minister it is out of the hands of the Inspector. Then the agent is allowed to send in an objection to the Minister, and thereupon the matter goes to arbitration.

*Mr. Want*: But we did not send in any objection in this case, your Worship.

*The Police Magistrate*: But when the case goes to the Minister it passes out of the hands of the Inspector, whether an objection is sent or not.

*Mr. Want*: It is only when the owner or agent objects that the case goes to arbitration.

*The Police Magistrate*: But the section goes on to say:—"If the owner or agent fail to comply either with the requisition of the notice given by the Inspector when no objection is sent within the time aforesaid or with the award made on arbitration within twenty days after the receipt of such notice or the making of the award (as the case may be) he shall be guilty of an offence against this Act, and the notice and award shall respectively be deemed to be written notice of such offence."

*Mr. Edmunds*: But if he does not object, and fails to comply with the requisition of the notice, then he shall be guilty of an offence. By the 25th section the duty of prosecuting is placed on the Examiner of Coal-fields:—

All penalties imposed by this Act may be recovered summarily before two or more Justices of the Peace, at the suit of the Examiner, Inspector, or other officer authorized in that behalf by the Minister, but every information shall be laid within two months after the offence has been complained of.

The only question here is whether the defendant complied with the requisition of the notice or not.

*Mr. Want*: In effect, that is it.

*Mr. Edmunds*: And this prosecution is properly brought by the Examiner of Coal-fields. Now, I shall deal with the notice, and I think I shall be able to show your Worship that Mr. Neilson, the defendant here, did fail to comply with the Inspector's requisition. My learned friend says, "Why did you not point out the remedy?" It would have been outside the Inspector's authority altogether to have done such a thing. He said it was dangerous to use naked lamps in such a mine, but we do not pretend to say what you are to do to remedy that. Lord Justice Fry, in the judgment already referred to in the Court of Appeal, said:—"The requisition relates to the habitual use of open lamps, and this is declared dangerous. It seems to me clear that this is not a matter dealt with in the Act or in the special rules, and if that is so it was within the jurisdiction of the Inspector. The thing to be remedied is the practice which the Inspector has found to be dangerous, and the Act deals with objections by the owner to remedy not the danger, but the matter complained of. Whether the matter complained of ought to be remedied is therefore the question about which a dispute arises, and that is the dispute which the arbitrator has to determine, and he has not to deal with anything further. I think the award ought to follow the requisition, and to state that the danger exists and ought to be remedied, because that is the subject-matter of the dispute, but it is beyond the competence of the arbitrator to direct what is to be done to remedy the danger. Inasmuch, however, as the true meaning in dispute was whether the requisition of the Inspector was right, and that has clearly been determined by the umpire, I think the award ought to go back to him to be dealt with." And that is precisely what this is, a dangerous practice.

*The Police Magistrate*: But open lamps must be dangerous if gas is about.

*Mr. Edmunds*: The requisition in the notice in this case is that the men were working with naked lights, and that the practice was a dangerous one, inasmuch as it threatened to do them bodily injury. Now, the only remedy that could be applied was to comply with the requisition, and to do what the Inspector required to be done; and it is by an ambiguous use of this word that any doubt at all has arisen in this case. Has the defendant here made the air current course in a different way to the way we complain of? No, he has not. Has he done with the fire-drive so as to prevent other explosions? No. Has he caused the

the men who are employed in the mine to work with safety-lamps? No, he has not. Has he caused a double trap-door to be placed there? No. Mr. Neilson says he has done none of these things, and that he does not intend to take any action. He says, "I do not intend to obey the Inspector with reference to the safety-lamps." He tells us also that he does not intend to make use of any other safety-lamps. I asked the defendant if he still allowed the air to course from the Jubilee shaft to ventilate—

*The Police Magistrate*: Perhaps I may tell you the conclusion that I have come to. I am now fully persuaded that the mine is now in a most excellent state of ventilation. I could not go beyond the testimony of these gentlemen, who, on oath, state that there is at the present moment nothing that is dangerous or defective in the mine; and, therefore, you will have to show me that the defendant was guilty of an offence by not attending to the notice. I am perfectly satisfied with regard to the present condition of the mine. My reason for receiving evidence so far was in order that it might be shown, if it could, that the mine was now perfectly safe, and to question the relations of the men in other parts of the country. The danger appears to have been entirely rectified by the precautions adopted.

*Mr. Want*: And, therefore, we are entitled to an acquittal.

*The Police Magistrate*: What I have to decide is whether the management of the mine are not guilty of an offence under the Act by not attending to the requisition in the Inspector's notice.

*Mr. Want*: It is for your Worship to say whether this has not been done in effect. We really in effect have complied with the notice.

*Mr. Edmunds*: But I question whether what you have done complies with the requisition in Mr. Dixon's notice. This remedying things according to their own ideas is not a compliance with the requisition of the notice, and cannot be entertained as such. Mr. Dixon says it is dangerous after taking the air one way to have but one single trap-door in a certain place. That being so, how can the defendants' counsel say that they have complied with the requisition of the notice when a double trap-door has not been placed there? Mr. Dixon required the defendant to do several things which he has not done; and it does not matter whether he has kept up a splendid system of ventilation or not, or that the gases are still diminishing in force. It does not matter whether experts have agreed that there is no liability to a sudden outburst of gas, but the question is, did the defendant comply with the notice? The defendant comes into the box here and states that he has not done anything, and will not do it, which is a virtual admission that he has not complied with the requisition of the notice. And then my learned friend says if your Worship finds Mr. Neilson guilty of this you will find him guilty of a most serious charge. The charge is, indeed, a serious one, and if you find Mr. Neilson guilty of it you do not thereby find that the mine is now in a dangerous state. You merely find that Mr. Neilson has disputed the lawful authority of the Inspector of Collieries, because that is the gist of his action—that is what it amounts to. When an officer is appointed by the Crown and clothed with large powers and large authority—all in the interests of certain persons working in coal-mines—and with certain duties cast upon him for the protection of the lives of the persons employed in the mine, we cannot allow Mr. Neilson or any other manager advisedly to dispute the Inspector's authority and still persist in disobeying him. The Inspector states that such and such a thing is required, and the defendant does not go to arbitration to show that the Inspector's opinion is unfounded. He has given the defendant notice, and I contend that when arbitration was not resorted to the notice must be regarded as the notice of an offence. This is the act of disobedience to the lawful authority of the Inspector of Collieries, and that is the gist of the offence committed by the defendant under this section. If such a thing were allowed, the result of it would be that the person appointed by the Government to inspect collieries would be a person of no authority whatever. If Mr. Neilson wished to resist the Inspector, then he should have taken advice as to whether he could do so legally; and, having been guilty of this act of resistance, he renders himself liable to a penalty under the Act or under some portion of it. It is not Mr. Neilson who is guilty of this error of judgment in resisting the authority of the Inspector; it is the management of the mine. The Company first offered to go to arbitration, and then withdrew the offer; so that it is the Company which has placed Mr. Neilson in this position, and not the Crown. However your Worship may decide, the penalty will merely be a pecuniary one—that it will have no such terrible result as my learned friend has told you. The charge really means that Mr. Neilson has resisted the lawful authority of the Inspector of Collieries, lawfully exercised, and that he is now being prosecuted in a police court for an offence against the Coal-mines Regulation Act. The Crown come into this case without any bias against the defendant or the Company which he represents, and without any undue or improper motive. My learned friend merely suggests this insinuation, but it is only my duty to tell your Worship that there is no justification whatever for such a charge. It is the Inspector of Collieries who is carrying on this prosecution. My learned friend said there were three interests involved in this case. Now, I say that there are only two—the Crown and the owners of the mine. The interests of the general public are the interests of Her Majesty's officers, who act in the interests of those who are labouring in the bowels of the earth, and whose protection is sought in this prosecution. The general public, therefore, have no interests separate or diverse from those of the Crown in this case. The officers of the Government come here merely as the exponents of the wishes of the people. This law is for the protection of Her Majesty's subjects, and when it was passed Inspectors were appointed for the purpose of carefully inspecting and examining these mines; and they were told if they found anything dangerous, whether their opinion was right or wrong, they were enjoined to tell these people so, and cause the matter which was dangerous to be remedied. And when the Inspector fairly come to the conclusion that a mine was dangerous, what sort of man would he be to fill the high and responsible office whose duties he now creditably discharges if he did not take the steps which he has taken? If he did not do as he has done he would, on the contrary, be utterly unfit for his duties. Instead of his action being a stigma on Mr. Dixon, he would have been a disgrace as a man who, although understanding his duties, had not the courage to carry them out against the owners of an important colliery. What is being contended for in this prosecution is the authority of the Inspector, and that authority must be maintained. The owners of this mine say that they will not comply with the requisition—an attitude which it is undoubtedly wrong to assume with regard to a man who is merely exercising his lawful authority. It is well that this authority has never been disobeyed before, and it will be an unfortunate thing if this case is permitted to leave this Court without some certainty that it will not be disobeyed in future. It is well that these colliery managers should be taught that they must respect the lawful authority of the Inspector of Collieries, or they will be held to be guilty of an offence under this Act; and powerful and strong as they are, no matter what their position may be, let them come into a Court of Justice, and they will be told that they

they have been guilty of a breach of this law. The Inspector had a duty to perform, and he told them so, and the consequence of disobeying his instructions. It may be asked why they would not do this? Simply that they would not undergo the additional expense of hewing coal and working with safety-lamps. They said, "We will not incur this additional expense." It might run up to a shilling on the ton, said one witness for the defence, if the coal is hewn by the aid of safety-lamps. But Mr. Dixon has said, "You shall work with safety-lamps," to which they reply, "We will not." Now, they have boasted of the expense they have gone to in protecting the interests of their workmen. Would it not be much better if they paid their miners some additional money per ton and work with safety-lamps in order to show their respect and obedience to the law. Or if they objected to do this, thinking that the Inspector was wrong, why did they not proceed to set his decision aside by arbitration. They are now in this position that they have spent a lot of money, while, by spending a little more, they could have respected the authority of the Crown, which, by its Inspector, guards the lives and interests of the people working in these mines. Every witness that has been examined for the defence stands in the same position as the defendant and the owners of this particular property, except Mr. John Thomas, the Victorian coal-viewer, Mr. Turnbull —

*The Police Magistrate*: None of these gentlemen would think of swearing what was false.

*Mr. Edmunds*: I do not suggest such a thing, your Worship. I was the first to say in open Court that I did not believe any one of these gentlemen would say anything which he did not believe to be true.

*The Police Magistrate*: I could not allow any slur to be cast upon these gentlemen. That was my reason for interrupting you.

*Mr. Edmunds*: I should be unfit to be the representative of the Crown in this or any other case if I were to cast a slur upon such a body of men. But my argument is, that in forming opinions on matters on which two opinions are possible it is not in human nature to look at the matter from any other standpoint but that from which men are generally accustomed to look at it. And so it is frequently stated in the law courts by Judges and Magistrates that there is no evidence of so little weight as the opinions of experts, because they come into Court wedded strictly to an opinion. And the more honest they are the more firmly do they stick to their opinions.

*The Police Magistrate*: And when in company together talking over their theories they are like a lot of old women.

*Mr. Edmunds*: It is only in the sense which I have indicated that I have desired to comment on the evidence given by these colliery managers, because I take pleasure in saying that what each one has said he thoroughly believes. But as your Worship has said, when it comes to a disputed point of scientific interest I would not believe one of them.

*The Police Magistrate*: However learned they may be, what is the value of it? They may, after all, know very little about the subject.

*Mr. Edmunds*: In many cases they hold different opinions.

*The Police Magistrate*: All some of these scientific men know is that they will die, and that their bodies will go into the ground.

*Mr. Edmunds*: And for these very reasons the Act provides for the state of things which exist here. The Inspector is appointed under the Act, and it is his duty to form an opinion. That opinion of the Inspector has to be respected by the colliery managers, unless they can succeed in setting it aside on arbitration. Now, all these gentlemen speak about further outbreaks of gas, but the evidence on that point is hardly worth anything. I would like to refer to the evidence of one witness, who said that these blowers would decrease at the rate of 50 per cent. in five days, 20 cubic feet of gas having exuded in that time. Therefore, if that were the case, your Worship will remember that the blowers would have exuded 40 feet five days before —

*The Police Magistrate*: There is not a particle of evidence that I could not repeat.

*Mr. Edmunds*: At that rate the total amount of gas which would have exuded from these blowers from the date of the commencement of the notice would be 81,920 cubic feet—that is, if they had decreased 50 per cent. in five days. While even Mr. Thomas says that the total quantity that exuded would be 34,200 cubic feet, but still there must have been a reservoir containing a large quantity of inflammable gas.

*Mr. Want*: Not one reservoir.

*Mr. Edmunds*: And yet they attempt to convince your Worship that there is no liability to a further outburst. The learned Mr. Thomas says that if there was any large quantity of gas there would be a change in the nature of the coal. Mr. Thomas forgets that the nature of the coal frequently changes, so that he is contradicted by his own evidence.

*The Police Magistrate*: Various kinds of coal are about, but the amount of gas exuding depends upon the nature of the coal.

*Mr. Edmunds*: I take it, therefore, your Worship, that I have proved that the requisition in the notice was that the management should obey the Inspector; also, that they have failed to comply with it, and, therefore, it follows that the defendant has been guilty of an offence under the Act. The consequence of this is, not that the defendant is covered with indelible shame, but that he must be found guilty of disobeying the lawful authority of the Inspector of Collieries. Then my learned friend says you should take the course of allowing the defendant to escape the penalty imposed by the Act by availing himself of the proviso at the end of the section. But when my learned friend gave up the law he also gave up the proviso.

*Mr. Want*: I most certainly say not.

*Mr. Edmunds*: But my learned friend would make six more speeches if he were allowed to do so.

*Mr. Want*: If the Company will pay for it, I will go on for ever.

*Mr. Edmunds*: At the same time I may say that I would like to be allowed to go on. Now, I say again that my learned friend having given up the law he has also given up all hope of any protection under the proviso, because the Act does not provide that the Magistrate shall have any power to say whether a remedy has been applied or not. That would place the Magistrate over the Inspector—a thing which the Act never intended should be done. The defendant can get no relief by reason of this proviso by any such course as that. The Company must recognize the authority of the Inspector and take active measures to comply with the requirements contained in his notice. What active measures have they taken in this case? They might have taken "active steps" in ten minutes to remedy the matter by getting safety-lamps. But they have taken no step whatever to comply with the notice. They have said to the Inspector,

Inspector, "We will not obey you," and then they come into Court and say again that they will not obey, and they think the Court will justify them. This is the whole case. It is simply a matter of upholding the authority which is lawfully vested in him by the statute. Having failed to comply with the requisition and refused to go to arbitration, then, when the Inspector, superior in authority, brings this prosecution, his authority is merely questioned, and a defence is set up that no offence was committed. What penalty should meet the circumstances of the case I will leave to your Worship; but it is quite clear now that the defendant can not come under this proviso. I ask you, therefore, to find that Mr. Neilson has been guilty of failing to comply with the requisition of the notice given by Mr. Dixon, and that, therefore, he has been guilty of an offence under the Act.

*Mr. Want*; That is failing to remedy.

*Mr. Edmunds*: The information sets out with introductory statements containing a history of the case, and then states the offence in these words:—"And that the said John Young Neilson has failed to comply with the requisition of the said notice given by the said Inspector, and remedy the matter complained of as aforesaid. And that more than twenty days have elapsed since the receipt of such notice. And the said informant further informs me, the undersigned, that he verily believes that the matter of complaint aforesaid is not provided against by any express provision of the Act 39 Vic. No. 31 or any special rule to be observed in the working of the said Newcastle-Wallsend Coal Company's mine, contrary to the provisions of the Act 39 Victoria No. 31, whereupon the said informant prays that I, the said Justice, will proceed in the premises according to law." This information states the offence in the very words of the Act, and the gentlemen who drew it drew it in exact compliance with the terms of the Act. I want to show not that the mine is dangerous, but that Mr. Neilson did not comply with the requisition in the Inspector's notice. My learned friend states that Mr. Neilson is an innocent agent. Mr. Neilson in the box says that he did not intend to comply with the notice. My learned friend cannot now possibly bring his client within the proviso of the section, because he has not taken active steps to comply with the notice. I ask your Worship's ruling on that point, and if you are of opinion you can decide to that effect, and then inflict such a penalty as seems to you suitable. But the proviso cannot possibly be made apply in this case.

*The Police Magistrate*: I have heard both legal gentlemen at great length, and I will now adjourn the Court for half an hour, in order to put my decision in writing.

The Court was then adjourned.

On resuming, the Police Magistrate said:—In delivering a judgment in this matter, I consider it necessary to make a few observations on what has taken place. By the Coal-mines Regulation Act, 39 Victoria No. 31, of this Colony an Inspector of Mines is obliged, within a certain time, to make an inspection of a mine—about every eight weeks—and report the same to the Minister of Coal-mines, if anything dangerous appear. Then the Inspector takes the steps named in the 25th section of the before-mentioned Act, as in this case. Now, this Act is expressly made, not for the purpose of annoying colliery managers or the proprietors of mines, but for the safety of the people employed therein, as it has been found that men managing mines are not always the most careful, while even ignorance and the grossest carelessness prevail amongst men employed in mines, by which their lives are often in great danger; and, as in the Bulli catastrophe, destroyed. The men, however, at their own cost, have, under the 30th section of this Act, 39 Victoria No. 31, the power to employ two of their number to inspect the mine once a month, and go to every part, and their report to be recorded in a book at the mine kept for the purpose. So that the men have it in their own power to see that all is right as well as the Government Inspector. Every provision that man can make for the prevention of accidents, as far as can be seen, seems to have been made by this Act and the rules given to the men at collieries. Still, notwithstanding all, it is necessary that a person unconnected with the colliery should also supervise all workings, &c., as in this case. Now, from all I have heard of Mr. Dixon, the Inspector, a more competent man cannot be found for the duty, and what is more, a most honest, conscientious man. It has been said in Court that only for the Bulli catastrophe this would never have been heard of. Now, I cannot permit it to go abroad that this person was, or could ever be actuated by any other feeling than of duty; nor his superior either, the Examiner of Coal-fields (Mr. Mackenzie). That ever-to-be-lamented accident at Bulli has, doubtless, had the effect of exciting the utmost vigilance; and therefore no reflections of any kind should in the least be cast on the officer appointed to carry out the regulations they are specially called on to perform, no matter where. The Inspector has done his duty by taking the course that he has taken, no matter whom he may offend; otherwise he would not be fit for his position, especially when the lives of fully ninety-three men might be at stake. And now I must in justice say a few words of the manager, Mr. Neilson, whom I have known for over eight years, and I can safely say that I have ever considered him a most humane man, always spoken of as a careful one—one who would not for a single moment put the life of any man in jeopardy, if he knew it. Yet even this matter, as complained of by the Inspector, might have been unknown to him and not reported. Here, I must observe, that all managers or agents of mines are responsible for the acts of the officers beneath them, unless they can show gross and wilful negligence to their orders. In fact I laid this down in a colliery case from Miumi some time ago, in this way, or a way similar to it. A manager or agent is like the captain of a man-of-war, who gives his orders and sees them carried out, and where disobeyed the delinquent is punished; so here, he is either degraded or dismissed. I have said this much in justice to the persons concerned, and now I deliver my judgment.

This action was properly brought under the 25th section of the 39th Victoria No. 31; and as in the latter part of the section it states that the Court, if satisfied that the owner or agent has taken active measures for complying with the notice or with the award, but has not with reasonable diligence been able to complete the work, may adjourn any proceedings taken before punishing such offence; and if the works are completed within a reasonable time no penalty shall be inflicted. Now, as the evidence for the defence—all highly practical men accustomed to fiery mines in the mother-country—have said that that portion of the mine, the Jubilee heading, was perfectly safe at the time they visited it, and that the intake air from that shaft, from alterations made, is perfectly pure, and that the blowers give little or no gas off from the floor, and neither any likelihood of the slightest danger to the men working in splits Nos. 3 and 4, I am fully satisfied that the mine is perfectly safe and the men's lives in no way placed in jeopardy in so far as human forethought can devise against. Here I regret to say that I consider portions of the Act already stated do not apply to the remedy effected, but to the intention of the Inspector's notice. It may happen that similar cases may occur, so many coal-mines being opened, perhaps presided over by men who try to defy all legal authority and all moral responsibility in their greed for obtaining money—not caring

carrying for the lives of those working for them so long as they can obtain any benefit to themselves. It therefore appears to me that in wording this section the framers of this Act had this in view; and therefore made it imperative that the Inspector's notice on all occasions should be attended to. Consequently, I find myself unable to deal with it as I could wish. Now, the remedy as adopted by the defendant, not being perfected under the provisions made by the notice referred to, I am therefore compelled, in support of the inattention paid to the Inspector's notice, to inflict a fine as a caution to others, which fine in this case will be merely nominal. I therefore order you, John Young Neilson, to pay a fine of £1; if not paid directly, to be levied by distress; at the same time I have found from the evidence before me that the mine is perfectly safe and free from any danger, so far as human wisdom can foresee.

*Mr. Want:* I will have to ask your Worship to state a special case for the Supreme Court.

*The Police Magistrate:* Will you dictate it for me.

*Mr. Want:* We will have it stated in writing; it is a strictly legal matter.

*The Police Magistrate:* I may tell you, gentlemen, that I have had a great difficulty in arriving at a proper conclusion in this case. A more important case has not engaged my attention, and I could arrive at no other conclusion.

*Mr. Want:* I hope your Worship will not think that I am finding fault with your decision. My client does not care about the fine, being quite satisfied now that the reputation of the mine has been cleared. What we propose to do is to take the opinion of the Full Court upon the matter at issue upon the points of law.

*The Police Magistrate:* Certainly, because my decision would be a precedent, unless it were upset. What would be the use of these Government Inspectors, unless their authority is respected.

*Mr. Want:* The information charges us with an actual offence. The second charge is with respect to the door, but that can only come within the 12th section, and the third is non-compliance of the notice. But we have adopted the only remedy suggested there.

*The Police Magistrate:* I had it in view that the thing had been remedied, but I cannot see my way clear to overlook the inattention to the Inspector's notice.

*Mr. Want:* Then your Worship puts this construction on it, that we must do whatever the Inspector directs.

*The Police Magistrate:* I do not say that. The Inspector's notice is sent in, and there is a certain power given in the Act to go to arbitration, to say whether the Inspector is right or wrong. I have no power to give you relief otherwise than by arbitration. I only wish I could say there was an end of it.

*Mr. Want:* Then you say that, although we have remedied this thing, in effect, by not having gone to arbitration, you are debarred from dealing with the case itself.

*Mr. Edmunds:* I beg to apply to your Worship for costs. Of course I would not do so if all the cost were to fall personally on Mr. Neilson, but you know that it is the Company who will have to pay the money.

*The Police Magistrate:* The costs of Court will follow the decision.

*Mr. Want:* I would like your Worship to hear me before you give any decision as to costs. I submit to you that this is essentially a case in which costs ought not to be given. I feel perfectly certain that if you had the power to deal with this case on its merits you would not have inflicted a fine at all. My client, under a misconstruction of this statute, the Coal-mines Regulation Act, threw aside the privilege which he had of going to arbitration, and now comes into Court. I am quite sure that your Worship would now say, if you saw this mine, that it is in a perfectly safe condition.

*The Police Magistrate:* I admit what you say, that no penalty should have been inflicted if the case had been dealt with on its merits.

*Mr. Want:* It is very hard for me to say, your Worship, what the true construction of this 25th section is; but as you have said that you would not have inflicted a penalty if you could have helped it, then we should not be mulct in costs. We are here, in consequence of having misread a very difficult section of the Act.

*The Police Magistrate:* But, at the same time, it is necessary to fine as a caution to others.

*Mr. Want:* Yes, I understand that; but your fining us is the result which the Inspector desired. But you do this only because you cannot help it, for we are clearly entitled to a verdict on the merits of the case. The Government might, at all events up to the present time, have sent their Inspector down to see whether the ventilation was right or not. We are charged with an offence and brought here, when Mr. Mackenzie or any man of experience, might have gone down and ascertained if the mine was all right. We ought not to be punished here by the infliction of costs for an offence which your Worship finds, as a matter of fact, does not exist at all—a mere technical offence. But we are charged here with having an unsafe mine, although you find it to be perfectly safe. I never heard of the Crown asking for costs before in such a case as this, after taking advantage of a technicality to snatch a verdict.

*The Police Magistrate:* That is the point that I cannot get over.

*Mr. Want:* I quite see that your Worship was compelled to give a verdict against us by your construction of the statute. I have still my own opinion of the law, but still I admit now that you have given your decision that it was the only course for you to take, and that you were bound to give it that way. We would have got the verdict only for this technical objection on the part of the Crown, and I submit that we ought not to be punished with costs.

*Mr. Edmunds:* My learned friend is confusing the two questions again, as usual. On the legal question that the defendant was guilty of disobedience to the Inspector, I am with my learned friend, but certainly not with him in saying that the merits of the case were in his favour. They have acted in violation of the law, and on that point they have no merits at all, and then they come here and dispute with us as to whether the mine was safe or not. My learned friend raises a false issue, and then asks the Crown to take it up, which we refuse to do. I hope your Worship will not depart from the usual practice in such matters, but that you will give us costs.

*The Police Magistrate:* What will be the amount of costs?

*Mr. Edmunds:* We do not ask for much.

*Mr. Want:* We have simply made the mine safe, but not in the way that the Inspector wished, so that the merits of the case are in our favour.

*The Police Magistrate:* I will not give costs; the Government will have to pay them.

The Court then adjourned.

[One plan.]



1887.

(THIRD SESSION.)

LEGISLATIVE ASSEMBLY.

NEW SOUTH WALES.

## APPLICATIONS FOR MINERAL LEASES.

(INFORMATION RESPECTING.)

*Ordered by the Legislative Assembly to be printed, 14 December, 1887.*

RETURN to an *Order* made by the Honorable the Legislative Assembly of New South Wales, dated 31st May, 1887, That there be laid upon the Table of this House,—

“ A Return of all Mineral Lease Applications which have been refused in consequence of the applicants wishing to withdraw or abandon same, showing in detail (1) names of applicants, (2) date of application, (3) date of refusal, (4) area applied for, (5) amount refunded, (6) any special reasons for the action taken.”

(Mr. Moore.)

Names of Applicants.	Date of Application.	Date of Refusal.	Area applied for.	Amount refunded.	Any special reasons for action taken.
W. Litchfield .....	19 Aug., 1875	4 Sept., 1876	a. r. p. 20 0 0	£ s. d. Nil.	Abandoned.
J. Robyns .....	23 July, 1875	23 Nov., 1876	80 0 0	”	”
T. Blake and others .....	13 Nov., 1875	16 Dec., 1876	20 0 0	”	”
T. Garrett .....	28 Aug., 1874	30 „ 1876	40 0 0	”	”
C. J. Hope and others .....	29 Sept., 1875	11 „ 1876	20 0 0	”	”
G. H. Langley .....	27 June, 1876	21 Sept., 1877	120 0 0	”	”
M. Larken and another .....	18 Dec., 1874	16 Nov., 1877	50 0 0	17 10 0	”
W. Litchfield .....	25 Sept., 1878	21 Jan., 1878	20 0 0	Nil.	”
A. Lindsay .....	22 Dec., 1877	23 April, 1878	40 0 0	10 0 0	”
W. Palmer .....	15 April, 1878	1 July, 1878	20 0 0	Nil.	”
C. Rogers .....	29 May, 1877	22 „ 1878	4 0 0	5 0 0	”
H. Copeland .....	7 June, 1878	26 „ 1878	40 0 0	15 0 0	”
Do .....	7 „ 1878	26 „ 1878	40 0 0	13 15 0	”
Danger Gedye .....	2 Feb., 1876	21 Sept., 1878	50 0 0	Nil.	”
Do .....	2 „ 1876	21 „ 1878	50 0 0	”	”
E. Jones .....	23 Sept., 1878	23 May, 1880	40 0 0	15 0 0	”
W. E. Wilson .....	17 June, 1880	23 Sept., 1880	20 0 0	5 0 0	”
S. W. Moore .....	17 Sept., 1880	7 Dec., 1880	20 0 0	Nil.	”
W. White and others .....	5 Oct., 1880	7 „ 1880	40 0 0	15 0 0	”
Ah Foon .....	7 Dec., 1880	8 Mar., 1881	20 0 0	Nil.	”
J. Munro and others .....	20 Jan., 1881	8 April, 1881	40 0 0	”	”
J. Backes .....	17 May, 1880	25 May, 1881	20 0 0	9 0 0	”
J. Madden and others .....	4 „ 1880	31 „ 1881	80 0 0	Nil.	”
M. M'Ivor .....	17 „ 1881	12 July, 1881	20 0 0	”	”
H. Harding and another .....	16 Nov., 1877	13 Sept., 1881	20 0 0	9 0 0	Withdrawn. Abandoned.
W. H. Martin and others .....	5 Oct., 1878	13 „ 1881	40 0 0	Nil.	”
Do do .....	5 „ 1878	13 „ 1881	40 0 0	”	”
G. Taylor and others .....	15 May, 1880	13 „ 1881	20 0 0	”	”
P. Crane .....	22 July, 1881	20 „ 1881	20 0 0	5 0 0	”
W. Metcalfe and others .....	17 Sept., 1881	31 Jan., 1882	40 0 0	10 0 0	”
G. T. T. Butler .....	7 Feb., 1881	3 Feb., 1882	40 0 0	10 0 0	”
G. A. Welsh .....	8 Dec., 1881	24 „ 1882	80 0 0	20 0 0	”
F. Grive and another .....	23 Feb., 1881	9 May, 1882	40 0 0	15 0 0	”
A. Evershed and others .....	21 April, 1880	9 „ 1882	30 0 0	Nil.	”
Do do .....	21 „ 1880	9 „ 1882	40 0 0	”	”
Do do .....	17 May, 1880	9 „ 1882	20 0 0	”	”
Do do .....	25 „ 1880	9 „ 1882	20 0 0	”	”
Do do .....	25 „ 1880	9 „ 1882	20 0 0	”	”

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[805 copies—Approximate cost of printing (labour and material) £10 5s. 9d.]

Names of Applicants.	Date of Application.	Date of Refusal.	Area applied for.	Amount refunded.	Any special reasons for action taken.
W. Baker and others	27 Jan., 1882	16 June, 1882	a. r. p.	£ s. d.	Abandoned.
J. Smoker and others	1 Sept., 1881	27 ,, 1882	20 0 0	5 0 0	
T. P. Davis and others	6 Aug., 1880	1 Aug., 1882	40 0 0	Nil.	
W. L. Orr	11 Jan., 1882	15 ,, 1882	30 0 0	11 10 0	
C. Boyes	20 ,, 1882	15 ,, 1882	80 0 0	26 0 0	
J. Meek	22 Feb., 1882	22 ,, 1882	20 0 0	9 0 0	
W. Meares and others	22 June, 1881	22 ,, 1882	40 0 0	5 0 0	
J. J. Rudder and others	17 Dec., 1881	28 Nov., 1882	20 0 0	9 0 0	
J. H. Vicq	18 Jan., 1882	5 Dec., 1882	5 0 0	Nil.	
J. W. Benson and another	23 May, 1882	5 ,, 1882	20 0 0	5 0 0	
G. Trener and others	10 Aug., 1881	5 ,, 1882	80 0 0	26 0 0	
W. Seaman	25 May, 1882	5 ,, 1882	80 0 0	26 0 0	
H. W. Callan and another	4 Aug., 1882	3 Jan., 1883	40 0 0	10 0 0	
E. J. Swyny and others	19 June, 1882	9 ,, 1883	40 0 0	15 0 0	
J. Booth and others	30 ,, 1882	9 ,, 1883	20 0 0	4 0 0	
M. H. Fitzhardinge and others	29 April, 1881	16 ,, 1883	20 0 0	5 0 0	
J. A. Monahan and others	12 Aug., 1881	6 Feb., 1883	40 0 0	13 19 0	
W. F. Wood	22 Nov., 1882	6 ,, 1883	30 0 0	7 10 0	
A. Hope and others	2 Aug., 1882	20 ,, 1883	20 0 0	9 0 0	
Do	2 ,, 1882	20 ,, 1883	20 0 0	9 0 0	
B. O. Holterman	29 July, 1882	27 ,, 1883	60 0 0	15 0 0	
A. Murray and others	17 Nov., 1881	8 May, 1883	40 0 0	15 0 0	
Do	21 ,, 1881	8 ,, 1883	20 0 0	9 0 0	
Do	28 ,, 1881	8 ,, 1883	20 0 0	9 0 0	
Do	6 Dec., 1881	8 ,, 1883	20 0 0	9 0 0	
T. H. Hale	1 ,, 1881	22 ,, 1883	5 0 0	5 0 0	
R. W. Walmsley and others	20 May, 1882	12 June, 1883	20 0 0	5 0 0	
J. W. Burton	16 Dec., 1881	12 ,, 1883	20 0 0	5 0 0	
E. Irby and others	17 April, 1882	26 ,, 1883	60 0 0	15 0 0	
Do	17 ,, 1882	26 ,, 1883	40 0 0	10 0 0	
T. Evans and others	23 Nov., 1881	17 July, 1883	10 0 0	12 0 0	
A. Cadell	7 Oct., 1882	24 ,, 1883	20 0 0	5 0 0	
Do	15 Jan., 1883	24 ,, 1883	40 0 0	10 0 0	
J. Kicly and another	15 April, 1882	14 Aug., 1883	80 0 0	26 0 0	
A. McDonald and another	8 Dec., 1881	14 ,, 1883	80 0 0	25 9 6	
J. Price and others	20 July, 1882	28 ,, 1883	20 0 0	5 0 0	
H. Maclean	31 Oct., 1879	28 ,, 1883	20 0 0	9 0 0	
W. Tully	2 April, 1883	28 ,, 1883	40 0 0	Nil.	
J. Lennox and another	15 May, 1882	18 Sept., 1883	20 0 0	5 0 0	
P. Wright and another	13 Mar., 1882	18 ,, 1883	40 0 0	10 0 0	
E. Irby and others	24 Feb., 1882	18 ,, 1883	20 0 0	5 0 0	
R. Amos and others	16 Jan., 1882	18 ,, 1883	80 0 0	20 0 0	
J. Grant	3 Feb., 1882	18 ,, 1883	80 0 0	20 0 0	
R. Waddups	20 June, 1882	18 ,, 1883	20 0 0	Nil.	
G. E. Cass	12 Aug., 1882	20 ,, 1883	20 0 0	"	Withdrawn.
W. H. Champion and another	14 July, 1882	2 Oct., 1883	20 0 0	"	Abandoned.
E. J. Swyny and others	21 June, 1882	2 ,, 1883	40 0 0	"	
A. Bouverset and another	6 Mar., 1883	2 ,, 1883	40 0 0	10 0 0	
J. B. Watt	28 Sept., 1881	23 ,, 1883	20 0 0	5 0 0	
D. M'Manus and others	30 April, 1881	23 ,, 1883	20 0 0	Nil.	
J. E. Elliott	25 Feb., 1882	23 ,, 1883	20 0 0	5 0 0	
J. Curtain	20 April, 1882	20 Nov., 1883	25 0 0	6 5 0	
G. Francis and others	20 July, 1882	27 ,, 1883	40 0 0	20 0 0	
B. Devlin	19 Sept., 1883	27 ,, 1883	25 0 0	6 5 0	
J. Reid	10 June, 1882	27 ,, 1883	20 0 0	5 0 0	
Do	10 ,, 1882	27 ,, 1883	20 0 0	5 0 0	
J. T. Gard	8 Dec., 1882	27 ,, 1883	20 0 0	5 0 0	
W. Donoghue and others	28 Mar., 1883	27 ,, 1883	20 0 0	Nil.	
J. White	13 ,, 1883	27 ,, 1883	20 0 0	9 0 0	
G. M'Lean	30 June, 1883	2 Jan., 1884	80 0 0	24 19 0	
C. Chapple	6 Sept., 1883	15 ,, 1884	40 0 0	15 0 0	
Do	6 ,, 1883	15 ,, 1884	40 0 0	15 0 0	
T. O'Keefe and others	7 April, 1881	15 ,, 1884	20 0 0	5 0 0	
Do	7 ,, 1881	15 ,, 1884	20 0 0	5 0 0	
A. Cadell	5 Nov., 1882	29 ,, 1884	20 0 0	10 0 0	
J. H. Vicq	18 Jan., 1882	5 Feb., 1884	40 0 0	5 0 0	
J. M'Intyre and others	4 April, 1882	5 ,, 1884	40 0 0	14 9 6	
A. Cadell	20 Feb., 1882	5 ,, 1884	20 0 0	5 0 0	
Do	29 April, 1882	5 ,, 1884	20 0 0	5 0 0	
Do	29 ,, 1882	5 ,, 1884	40 0 0	10 0 0	
Do	3 Oct., 1882	5 ,, 1884	20 0 0	5 0 0	
Do	3 ,, 1882	5 ,, 1884	20 0 0	5 0 0	
J. Reid and others	24 Feb., 1883	12 ,, 1884	20 0 0	5 0 0	
W. H. Reynolds	19 Oct., 1883	11 Mar., 1884	40 0 0	Nil.	
Do	19 ,, 1883	11 ,, 1884	40 0 0	"	
T. Cogan	6 April, 1882	11 ,, 1884	40 0 0	"	
J. M'Grath	1 Dec., 1881	1 April, 1884	80 0 0	"	
Do	1 ,, 1881	1 ,, 1884	80 0 0	"	
Do	1 ,, 1881	1 ,, 1884	80 0 0	"	
Do	1 ,, 1881	1 ,, 1884	80 0 0	"	
Yec Lee	7 Nov., 1882	16 ,, 1884	20 0 0	"	
L. N. Kennedy and others	23 July, 1883	29 ,, 1884	40 0 0	5 0 0	
G. S. King	15 Feb., 1882	29 ,, 1884	20 0 0	Nil.	
H. Copeland	30 May, 1883	29 ,, 1884	37 0 0	9 5 0	
Do	30 ,, 1883	29 ,, 1884	30 0 0	7 10 0	
W. Rooney and others	15 Sept., 1882	13 May, 1884	40 0 0	10 0 0	
A. J. Dodds and others	20 Aug., 1881	13 ,, 1884	40 0 0	10 0 0	
J. Cumberton	15 Feb., 1884	3 June, 1884	20 0 0	Nil.	
R. A. Adams and others	30 Oct., 1883	3 ,, 1884	640 0 0	160 0 0	
A. W. King	20 Feb., 1883	10 ,, 1884	60 0 0	15 0 0	Withdrawn.

Names of Applicants.	Date of Application.	Date of Refusal.	Area applied for.	Amount refunded.	Any special reasons for action taken.
W. H. Yates.....	14 Nov., 1881	17 June, 1884	a. r. p.	£ s. d.	Abandoned.
J. Murphy.....	2 ,, 1882	17 ,, 1884	40 0 0	10 0 0	
Do.....	2 ,, 1882	17 ,, 1884	40 0 0	5 0 0	
J. Hamilton.....	2 July, 1883	1 July, 1884	40 0 0	10 0 0	
A. W. K. Hammond.....	28 Mar., 1884	15 ,, 1884	30 0 0	7 10 0	
H. Stormer.....	20 Aug., 1883	15 ,, 1884	40 0 0	Nil.	
Do.....	20 ,, 1883	15 ,, 1884	20 0 0		
D. Magarolas and others.....	1 April, 1884	15 ,, 1884	40 0 0		
J. Beckett and others.....	10 Oct., 1883	22 ,, 1884	20 0 0	9 0 0	
F. Clarke.....	27 Sept., 1883	12 Aug., 1884	20 0 0	Nil.	
A. R. Blackwood.....	24 June, 1884	2 Sept., 1884	640 0 0	168 0 0	
Do.....	24 ,, 1884	2 ,, 1884	80 0 0		
Do.....	24 ,, 1884	2 ,, 1884	80 0 0		
Do.....	24 ,, 1884	2 ,, 1884	40 0 0	97 0 0	
Do.....	24 ,, 1884	2 ,, 1884	40 0 0		
J. Ettershank.....	24 ,, 1884	2 ,, 1884	40 0 0	15 0 0	
R. F. Irvine.....	24 ,, 1884	2 ,, 1884	40 0 0		
Do.....	24 ,, 1884	2 ,, 1884	40 0 0		
Do.....	24 ,, 1884	2 ,, 1884	40 0 0		
Do.....	24 ,, 1884	2 ,, 1884	40 0 0	142 0 0	
Do.....	24 ,, 1884	2 ,, 1884	40 0 0		
Do.....	24 ,, 1884	2 ,, 1884	40 0 0		
Do.....	24 ,, 1884	2 ,, 1884	40 0 0		
C. C. Mahoney and another.....	1 Sept., 1884	18 Nov., 1884	40 0 0	Nil.	
L. M. C. Seton.....	18 ,, 1884	18 ,, 1884	80 0 0	26 0 0	
Do.....	18 ,, 1884	18 ,, 1884	80 0 0	26 0 0	
Shew Guan.....	5 May, 1884	9 Dec., 1884	20 0 0	Nil.	
E. Horswell and another.....	28 July, 1882	30 ,, 1884	40 0 0	10 0 0	
R. Fullerton and another.....	18 Aug., 1884	13 Jan., 1885	40 0 0	15 0 0	
F. Green.....	30 Sept., 1884	28 ,, 1885	20 0 0	9 0 0	
A. Davis and others.....	9 ,, 1884	28 ,, 1885	40 0 0	15 0 0	
Do.....	9 ,, 1884	28 ,, 1885	40 0 0	15 0 0	
F. E. Harris and others.....	7 July, 1884	24 Feb., 1885	80 0 0	20 0 0	
J. Purcell.....	21 Nov., 1884	24 ,, 1885	40 0 0	Nil.	
J. Knight and others.....	20 Sept., 1884	17 Mar., 1885	20 0 0	5 0 0	
Do.....	20 ,, 1884	17 ,, 1885	20 0 0	5 0 0	
J. Judge.....	27 Oct., 1884	17 ,, 1885	20 0 0	5 0 0	
Do.....	27 ,, 1884	17 ,, 1885	20 0 0	5 0 0	
T. Murphy.....	12 Sept., 1884	24 ,, 1885	20 0 0	5 0 0	
J. Donaldson and others.....	23 ,, 1884	31 ,, 1885	40 0 0	15 0 0	
C. A. Malloy and others.....	23 ,, 1884	31 ,, 1885	40 0 0	15 0 0	
J. Donaldson and others.....	7 Oct., 1884	31 ,, 1885	40 0 0	13 15 0	
Do.....	9 ,, 1884	31 ,, 1885	40 0 0	13 15 0	
R. Jeffrey and others.....	9 ,, 1884	19 May, 1885	20 0 0	Nil.	
R. J. Whiteford and others.....	11 Feb., 1884	2 June, 1885	20 0 0		
J. Lovett.....	28 ,, 1884	2 ,, 1885	40 0 0	13 19 0	
P. Campbell.....	16 ,, 1884	2 ,, 1885	20 0 0	9 0 0	
Do.....	16 ,, 1884	2 ,, 1885	20 0 0	9 0 0	
Do and another.....	16 ,, 1884	2 ,, 1885	20 0 0	9 0 0	
J. Hall.....	24 Jan., 1885	2 ,, 1885	40 0 0	Nil.	
J. R. Bremner and another.....	5 Feb., 1885	2 ,, 1885	20 0 0		
R. D. Adams.....	7 ,, 1885	2 ,, 1885	200 0 0	50 0 0	
Ah Chew.....	27 Oct., 1884	2 ,, 1885	20 0 0	Nil.	
A. M'Auley.....	23 Feb., 1885	2 ,, 1885	20 0 0	5 0 0	
J. Begloy and another.....	10 Mar., 1885	2 ,, 1885	20 0 0	9 0 0	
W. H. Madew.....	14 Jan., 1885	9 ,, 1885	20 0 0	5 0 0	
W. Campbell and others.....	6 July, 1882	24 ,, 1885	20 0 0	Nil.	
G. Humphreys and others.....	1 Aug., 1882	24 ,, 1885	40 0 0	10 0 0	
E. F. Sullivan.....	22 Sept., 1884	24 ,, 1885	50 0 0	12 10 0	
H. Prymont and another.....	20 ,, 1884	24 ,, 1885	20 0 0	5 0 0	
J. Honey.....	30 Mar., 1885	24 ,, 1885	20 0 0	6 0 0	
A. Cadell.....	20 Sept., 1884	24 ,, 1885	20 0 0	5 0 0	
J. M'Carthy.....	22 Dec., 1884	24 ,, 1885	20 0 0	5 0 0	
C. Baker.....	1 Sept., 1880	7 July, 1885	40 0 0		
A. M'Donald.....	26 Aug., 1881	7 ,, 1885	20 0 0	9 0 0	
L. Bloom and another.....	5 May, 1885	7 ,, 1885	40 0 0	15 0 0	
Do.....	5 ,, 1885	7 ,, 1885	40 0 0	15 0 0	
W. Moore and others.....	9 July, 1880	17 ,, 1885	50 0 0	Nil.	
Do.....	9 ,, 1880	17 ,, 1885	50 0 0		
H. Grice.....	21 Feb., 1885	17 ,, 1885	20 0 0		
J. Connor and another.....	24 May, 1884	21 ,, 1885	40 0 0	10 0 0	
J. M'Carthy.....	9 Jan., 1885	11 Aug., 1885	20 0 0	9 0 0	
T. M. Barnes and others.....	13 June, 1885	18 ,, 1885	50 0 0	12 10 0	
J. Muirson and others.....	4 ,, 1885	18 ,, 1885	20 0 0	5 0 0	
E. H. Becke and another.....	24 April, 1885	18 ,, 1885	40 0 0	15 0 0	
T. Brown.....	9 Aug., 1884	8 Sept., 1885	40 0 0	10 0 0	
W. G. Gibson and another.....	26 ,, 1884	8 ,, 1885	40 0 0	10 0 0	
W. H. Wright and another.....	5 ,, 1884	22 ,, 1885	60 0 0	20 0 0	
Do.....	5 ,, 1884	22 ,, 1885	40 0 0	10 0 0	
H. P. Mullens.....	22 June, 1885	22 ,, 1885	20 0 0	9 0 0	
Kong Sing and another.....	9 July, 1885	22 ,, 1885	20 0 0	2 0 0	
F. H. Williams and another.....	18 ,, 1885	22 ,, 1885	20 0 0	4 0 0	
Do.....	18 ,, 1885	22 ,, 1885	20 0 0	Nil.	
J. Neven.....	28 ,, 1880	22 ,, 1885	20 0 0		
W. J. Clarke.....	10 Jan., 1885	27 Oct., 1885	40 0 0	10 0 0	
T. W. Chambers.....	20 Aug., 1883	3 Nov., 1885	40 0 0	15 0 0	
Do.....	20 ,, 1883	3 ,, 1885	40 0 0	15 0 0	
Do.....	20 ,, 1883	3 ,, 1885	40 0 0	15 0 0	
Do.....	20 ,, 1883	3 ,, 1885	40 0 0	15 0 0	

Names of Applicants.	Date of Application.	Date of Refusal.	Area applied for.			Amount refunded.			Any special reasons for action taken.
			a.	r.	p.	£	s.	d.	
J. Hienworth	21 Mar., 1885	17 Nov., 1885	20	0	0	7	19	0	Abandoned.
C. Rogers	27 Oct., 1884	17 " 1885	20	0	0	5	0	0	"
J. Davis	9 Sept., 1885	17 " 1885	50	0	0	17	10	0	"
W. E. L. Gaffney and another	17 Aug., 1885	24 " 1885	20	0	0	5	0	0	"
H. Lane	26 July, 1883	24 " 1885	40	0	0	10	0	0	"
C. Carrott and another	20 April, 1877	24 " 1885	20	0	0	Nil.			"
C. Pauley and others	4 Aug., 1885	24 " 1885	20	0	0	2	0	0	"
P. M'Tavish	17 " 1885	24 " 1885	40	0	0	8	0	0	"
Do	17 " 1885	24 " 1885	40	0	0				"
H. Hughes and another	14 July, 1885	24 " 1885	40	0	0	Nil.			"
R. H. Kennedy	10 Aug., 1883	24 " 1885	40	0	0	15	0	0	"
Do	10 " 1885	24 " 1885	40	0	0	13	15	0	"
Do	10 " 1885	24 " 1885	40	0	0	13	15	0	"
Do	10 " 1885	24 " 1885	40	0	0	13	15	0	"
Do	10 " 1885	24 " 1885	40	0	0	13	15	0	"
Do	10 " 1885	24 " 1885	40	0	0	13	15	0	"
Do	10 " 1885	24 " 1885	40	0	0	13	15	0	"
Do	10 " 1885	24 " 1885	40	0	0	13	15	0	"
Do	10 " 1885	24 " 1885	40	0	0	13	15	0	"
Do	10 " 1885	24 " 1885	40	0	0	13	15	0	"
L. F. Sachs	26 Sept., 1885	24 " 1885	40	0	0	10	0	0	"
J. Hamilton	2 Feb., 1885	1 Dec., 1885	20	0	0	7	0	0	"
H. Hughes and another	10 Sept., 1885	1 " 1885	40	0	0	Nil.			"
W. Wiles and another	6 Aug., 1884	5 Jan., 1886	40	0	0	15	0	0	"
J. T. Sheldon and others	20 Sept., 1885	5 " 1886	40	0	0	Nil.			"
L. Cummings and others	29 " 1885	5 " 1886	20	0	0	7	19	0	"
J. Lambert	10 Aug., 1885	5 " 1886	40	0	0	15	0	0	"
E. V. Gayer and another	10 " 1885	5 " 1886	20	0	0	9	0	0	"
H. Fisher and another	10 " 1885	5 " 1886	20	0	0	9	0	0	"
G. V. Gayer and another	10 " 1885	5 " 1886	20	0	0	9	0	0	"
W. P. Hickey	10 " 1885	5 " 1886	40	0	0	15	0	0	"
R. G. Graham	10 " 1885	5 " 1886	40	0	0	15	0	0	"
B. Britten	27 April, 1885	5 " 1886	40	0	0	15	0	0	"
R. Waters and others	18 Sept., 1884	19 " 1886	80	0	0	20	0	0	"
Do	18 " 1884	19 " 1886	80	0	0	20	0	0	"
A. Alderman and another	4 Nov., 1885	19 " 1886	20	0	0	Nil.			"
W. Beaumont	14 Sept., 1885	19 " 1886	30	0	0	7	10	0	"
Do	14 " 1885	19 " 1886	50	0	0	12	10	0	"
H. Jew and others	1 Aug., 1885	19 " 1886	20	0	0	Nil.			Withdrawn.
G. S. Pender	22 Sept., 1885	2 Feb., 1886	60	0	0	20	0	0	Abandoned.
John Gallagher and another	14 Aug., 1884	2 " 1886	20	0	0	9	0	0	"
W. A. Kirby and another	17 Mar., 1885	2 " 1886	40	0	0	10	0	0	"
Do	17 " 1885	2 " 1886	40	0	0	10	0	0	"
Do	17 " 1885	2 " 1886	40	0	0	10	0	0	"
E. Donnelly	10 Aug., 1885	5 " 1886	40	0	0	15	0	0	"
Do	10 " 1885	5 " 1886	40	0	0	15	0	0	"
E. P. Evans	8 June, 1885	16 " 1886	60	0	0	15	0	0	"
J. M'Donough	30 Nov., 1885	16 " 1886	40	0	0	Nil.			"
T. Kerr and another	10 Sept., 1885	2 Mar., 1886	40	0	0	3	8	6	"
H. F. Hawson	30 " 1885	9 " 1886	40	0	0	Nil.			"
Do	30 " 1885	9 " 1886	40	0	0	"			"
Do	30 " 1885	9 " 1886	40	0	0	"			"
Do	30 " 1885	9 " 1886	40	0	0	"			"
A. L. Garot	23 July, 1885	30 " 1886	40	0	0	10	0	0	"
W. H. Kayser	13 Jan., 1885	13 April, 1886	40	0	0	10	0	0	"
P. Donnelly	10 Aug., 1885	13 " 1886	40	0	0	15	0	0	"
T. Murphy	6 Nov., 1885	13 " 1886	20	0	0	Nil.			"
C. A. M. Bilyard	1 Sept., 1885	13 " 1886	60	0	0				"
E. W. Trichon and others	29 Aug., 1885	13 " 1886	40	0	0	10	0	0	Withdrawn.
S. C. T. Brownrigg and another	9 Mar., 1880	13 " 1886	20	0	0	Nil.			Abandoned.
M. C. Renhan and another	6 Sept., 1884	30 " 1886	40	0	0	3	8	6	"
A. S. Low	21 Oct., 1885	7 May, 1886	20	0	0	9	0	0	"
W. Watkins and others	20 Feb., 1886	7 " 1886	40	0	0	Nil.			"
A. L. Garot	8 June, 1885	7 " 1886	25	0	0	10	5	0	"
W. A. Kirby and others	31 Mar., 1885	21 " 1886	40	0	0	Nil.			"
W. P. Pridham	14 July, 1885	8 June, 1886	20	0	0	5	0	0	"
W. E. Overton	19 May, 1884	18 " 1886	80	0	0	5	0	0	"
Do	19 " 1884	18 " 1886	80	0	0				"
J. Ettershank	17 Aug., 1885	18 " 1886	40	0	0	10	0	0	"
Do	17 " 1885	18 " 1886	40	0	0	10	0	0	"
Do	17 " 1885	18 " 1886	80	0	0	20	0	0	"
Do	17 " 1885	18 " 1886	40	0	0	10	0	0	"
Do	17 " 1885	18 " 1886	40	0	0	10	0	0	"
Do	17 " 1885	18 " 1886	40	0	0	10	0	0	"
S. Barrett	9 Oct., 1885	18 " 1886	40	0	0	10	0	0	"
J. Roberts and another	26 " 1885	18 " 1886	40	0	0	10	0	0	"
Do do	26 " 1885	18 " 1886	40	0	0	10	0	0	"
Do do	26 " 1885	18 " 1886	40	0	0	10	0	0	"
J. J. Wilkinson and others	17 Feb., 1886	18 " 1886	40	0	0	Nil.			"
J. Bryant	12 Mar., 1886	18 " 1886	20	0	0	5	0	0	"
C. Gordon	26 Aug., 1885	18 " 1886	60	0	0	15	0	0	"
M. Gordon	26 " 1885	18 " 1886	40	0	0	15	0	0	"
Kong Kee	15 Mar., 1886	18 " 1886	40	0	0	4	0	0	"
W. Tully	17 May, 1884	22 " 1886	40	0	0	Nil.			"
S. Barrett and another	8 July, 1885	22 " 1886	40	0	0	10	0	0	"
Do do	23 Sept., 1885	22 " 1886	40	0	0	10	0	0	"
W. Tully	3 May, 1884	25 " 1886	40	0	0	Nil.			"
P. Falk	10 Nov., 1885	6 July, 1886	40	0	0	"			"
T. Birch and others	25 Oct., 1883	6 " 1886	40	0	0	"			"
D. M. Anderson	17 Sept., 1885	6 " 1886	20	0	0	5	0	0	"

Names of Applicants.	Date of Application.	Date of Refusal.	Area applied for.	Amount refunded.			Any special reasons for action taken.
				a.	r.	p.	
J. A. Tait .....	14 Oct., 1885	20 July, 1886	40 0 0	£	s.	d.	Abandoned.
S. Barrett and others .....	28 July, 1885	20 ,, 1886	40 0 0				
Do and another .....	28 ,, 1885	20 ,, 1886	40 0 0				
C. W. Chapman and another .....	19 Oct., 1885	20 ,, 1886	40 0 0				
Do .....	19 ,, 1885	20 ,, 1886	40 0 0				
Do .....	19 ,, 1885	20 ,, 1886	40 0 0				
Do .....	19 ,, 1885	20 ,, 1886	40 0 0				
Do .....	19 Dec., 1885	20 ,, 1886	40 0 0				
Do .....	19 ,, 1885	20 ,, 1886	40 0 0				
H. F. Hawson and others .....	27 Oct., 1885	23 ,, 1886	40 0 0	10	0	0	
Do .....	27 ,, 1885	23 ,, 1886	40 0 0	10	0	0	
Do .....	27 ,, 1885	23 ,, 1886	40 0 0	10	0	0	
Do .....	27 ,, 1885	23 ,, 1886	40 0 0	10	0	0	
Do .....	27 ,, 1885	23 ,, 1886	40 0 0	10	0	0	
Do .....	27 ,, 1885	23 ,, 1886	40 0 0	10	0	0	
Do .....	27 ,, 1885	23 ,, 1886	40 0 0	10	0	0	
Do .....	27 ,, 1885	23 ,, 1886	40 0 0	10	0	0	
Do .....	27 ,, 1885	23 ,, 1886	40 0 0	10	0	0	
Do .....	27 ,, 1885	23 ,, 1886	40 0 0	10	0	0	
N. Glass .....	20 Nov., 1885	27 Aug., 1886	40 0 0				
W. F. Rooney and others .....	20 Mar., 1886	27 ,, 1886	20 0 0				
G. Nott and another .....	27 Jan., 1886	27 ,, 1886	34 0 0				
S. Barrett and another .....	18 July, 1885	27 ,, 1886	40 0 0	10	0	0	
S. Barrett and others .....	28 ,, 1885	27 ,, 1886	40 0 0	10	0	0	
Do .....	28 ,, 1885	27 ,, 1886	40 0 0	10	0	0	
Do .....	28 ,, 1885	27 ,, 1886	40 0 0	10	0	0	
Do .....	28 ,, 1885	27 ,, 1886	40 0 0	10	0	0	
Do .....	30 ,, 1885	27 ,, 1886	40 0 0	10	0	0	
Do .....	30 ,, 1885	27 ,, 1886	40 0 0	10	0	0	
Do .....	30 ,, 1885	27 ,, 1886	40 0 0	10	0	0	
T. H. Nutt and others .....	8 Aug., 1885	27 ,, 1886	40 0 0	10	0	0	
Do .....	8 ,, 1885	27 ,, 1886	40 0 0	10	0	0	
S. Barrett and another .....	19 ,, 1885	27 ,, 1886	40 0 0	10	0	0	
Do .....	19 ,, 1885	27 ,, 1886	40 0 0	10	0	0	
Do .....	2 Sept., 1885	27 ,, 1886	40 0 0	10	0	0	
Do .....	2 ,, 1885	27 ,, 1886	40 0 0	10	0	0	
Do .....	2 ,, 1885	27 ,, 1886	40 0 0	10	0	0	
Do .....	2 ,, 1885	27 ,, 1886	40 0 0	10	0	0	
Do .....	2 ,, 1885	27 ,, 1886	40 0 0	8	15	0	
Do .....	2 ,, 1885	27 ,, 1886	40 0 0	10	0	0	
C. F. Franks and others .....	21 April, 1886	21 Sept., 1886	40 0 0	15	0	0	
A. Cowell .....	9 ,, 1886	24 ,, 1886	40 0 0	15	0	0	
J. M. Fernan .....	29 Aug., 1885	24 ,, 1886	40 0 0				
W. Tully and another .....	30 May, 1884	24 ,, 1886	20 0 0				
W. Hyams .....	10 Aug., 1885	24 ,, 1886	40 0 0	10	0	0	
Do .....	10 ,, 1885	24 ,, 1886	40 0 0	10	0	0	
J. Smileg .....	28 June, 1886	24 ,, 1886	40 0 0	10	0	0	
C. Pauling .....	6 Aug., 1885	24 ,, 1886	20 0 0	2	0	0	
T. Shaw and others .....	18 Sept., 1885	1 Oct., 1886	40 0 0	2	0	0	
G. Chilcott and others .....	5 Aug., 1885	6 ,, 1886	20 0 0	7	19	0	
T. Brooks .....	25 April, 1885	6 ,, 1886	180 0 0	18	0	0	
Do .....	25 ,, 1885	6 ,, 1886	252 1 9	25	4	0	
Do .....	25 ,, 1885	6 ,, 1886	640 0 0	64	0	0	
C. Sweetland .....	25 ,, 1885	6 ,, 1886	640 0 0	64	0	0	
J. R. Hall .....	25 ,, 1885	6 ,, 1886	640 0 0	64	0	0	
S. Keightly .....	25 ,, 1885	6 ,, 1886	640 0 0	64	0	0	
W. Keunedy .....	9 June, 1885	6 ,, 1886	20 0 0				
C. N. Kidman and others .....	17 ,, 1885	6 ,, 1886	40 0 0				
Do .....	17 ,, 1885	6 ,, 1886	40 0 0				
S. Barrett and others .....	28 July, 1885	6 ,, 1886	20 0 0				
W. Doe and another .....	6 Oct., 1885	6 ,, 1886	40 0 0	10	0	0	
C. Collins .....	20 Aug., 1886	6 ,, 1886	39 1 0	15	0	0	
S. Faulkner .....	20 ,, 1886	6 ,, 1886	20 0 0	9	0	0	
E. Fuss .....	20 ,, 1886	6 ,, 1886	40 0 0	15	0	0	
H. Lillyman .....	20 ,, 1886	6 ,, 1886	20 0 0	9	0	0	
J. M' Ternan .....	16 June, 1885	22 ,, 1886	40 0 0				
E. Reading .....	7 Sept., 1885	29 ,, 1886	40 0 0	11	5	0	
Do .....	7 ,, 1885	29 ,, 1886	40 0 0	11	5	0	
E. W. Bathurst and another .....	11 ,, 1885	29 ,, 1886	40 0 0	10	0	0	
Do and others .....	11 ,, 1885	29 ,, 1886	50 0 0	13	15	0	
Do and another .....	11 ,, 1885	29 ,, 1886	20 0 0	5	0	0	
E. H. Hewitt and another .....	3 Dec., 1885	29 ,, 1886	40 0 0	10	0	0	
T. P. Palmer .....	3 Mar., 1886	29 ,, 1886	40 0 0	15	0	0	
J. J. Dillon and others .....	18 Aug., 1885	20 ,, 1886	40 0 0	4	0	0	
J. Rowett and others .....	18 Feb., 1886	12 Nov., 1886	32 3 5	8	5	0	
W. A. Steel .....	23 June, 1886	19 ,, 1886	540 0 0				
Do .....	23 ,, 1886	19 ,, 1886	640 0 0				
Do .....	23 ,, 1886	19 ,, 1886	640 0 0				
Do .....	23 ,, 1885	19 ,, 1886	320 0 0	54	15	0	
Do .....	23 ,, 1886	19 ,, 1886	640 0 0				
Do .....	23 ,, 1886	19 ,, 1886	639 0 0				
G. Ettershank .....	2 Dec., 1885	26 ,, 1886	40 0 0				
Do .....	2 ,, 1885	26 ,, 1886	40 0 0				
Do .....	2 ,, 1885	26 ,, 1886	40 0 0				
Do .....	2 ,, 1885	26 ,, 1886	40 0 0				
Do .....	2 ,, 1885	26 ,, 1886	40 0 0	80	0	0	
Do .....	2 ,, 1885	26 ,, 1886	40 0 0				
Do .....	2 ,, 1885	26 ,, 1886	40 0 0				
W. C. Wall .....	25 Mar., 1886	26 ,, 1886	20 0 0	5	0	0	

Names of Applicants.	Date of Application.	Date of Refusal.	Area applied for.	Amount refunded.	Any special reasons for action taken.
W. C. Wall .....	25 Mar., 1886	26 Nov., 1886	a. r. p. 20 0 0	£ s. d. 5 0 0	Abandoned.
Jno. Phelps .....	20 Aug., 1885	30 " 1886	40 0 0	Nil.	"
Do .....	20 " 1885	30 " 1886	40 0 0	"	"
Do .....	20 " 1885	30 " 1886	40 0 0	"	"
J. M' Caffrey and others .....	14 July, 1885	14 Dec., 1886	120 0 0	18 0 0	"
J. T. Rogan .....	9 April, 1886	14 " 1886	40 0 0	Nil.	"
Sun Sing Lee .....	19 Oct., 1886	4 Jan., 1887	20 0 0	5 0 0	"
C. E. Lewington and others .....	5 April, 1886	4 " 1887	40 0 0	30 0 0	"
Do .....	5 " 1886	4 " 1887	80 0 0	"	"
F. Clayton and another .....	10 Nov., 1886	4 " 1887	60 0 0	20 0 0	"
J. Thompson and others .....	7 Sept., 1885	15 Feb., 1887	20 0 0	5 0 0	"
W. F. R. Moore .....	7 Mar., 1885	22 " 1887	40 0 0	10 0 0	"
W. T. Rooney .....	8 Mar., 1886	22 " 1887	20 0 0	Nil.	"
R. D. Adams .....	19 Jan., 1887	1 Mar., 1887	640 0 0	64 0 0	"
P. B. Wright and another .....	4 Aug., 1885	1 " 1887	20 0 0	Nil.	"
W. Gettings and others .....	7 Sept., 1885	1 " 1887	80 0 0	"	"
Joseph Locke .....	19 Feb., 1886	1 " 1887	20 0 0	"	"
A. Johnson .....	28 Dec., 1886	25 " 1887	40 0 0	"	"
J. Prescott .....	22 Sept., 1885	25 " 1887	40 0 0	"	"
E. Whiteford and others .....	15 " 1885	29 " 1887	40 0 0	"	"
J. Le Messurier .....	8 " 1885	29 " 1887	40 0 0	"	"
D. D. Rosewarne .....	21 Feb., 1887	26 April, 1887	40 0 0	13 19 0	"
J. Stone and another .....	14 July, 1886	3 May, 1887	20 0 0	Nil.	"
J. Clarke .....	4 June, 1885	10 " 1887	20 0 0	10 0 0	"
G. Lukin and others .....	1 Sept., 1885	10 " 1887	20 0 0	Nil.	"
H. G. Brown .....	7 " 1885	10 " 1887	40 0 0	10 0 0	"
G. Boyne .....	14 Mar., 1887	10 " 1887	20 0 0	9 0 0	"
M. Partridge and others .....	27 April, 1886	10 " 1887	20 0 0	Nil.	"
L. Fordham .....	7 Oct., 1886	10 " 1887	20 0 0	"	"
J. H. Reid and another .....	1 " 1886	7 June, 1887	20 0 0	"	"
See Kem .....	9 April, 1887	14 " 1887	20 0 0	"	"
R. Waters and another .....	19 May, 1887	1 July, 1887	40 0 0	16 0 0	"
Do .....	19 " 1887	1 " 1887	20 0 0	"	"
T. Boyd and another .....	19 Feb., 1885	1 " 1887	20 0 0	5 0 0	"
M. L. Hoodson .....	31 Mar., 1886	1 " 1887	20 0 0	"	"
Do .....	6 April, 1886	1 " 1887	20 0 0	10 0 0	"
J. Pope and others .....	27 Oct., 1885	1 " 1887	40 0 0	Nil.	"
A. M. Robertson and another .....	30 May, 1887	9 Aug., 1887	40 0 0	"	"
E. Moule and another .....	6 June, 1887	9 " 1887	32 3 5	"	"
W. H. Finlay .....	27 Mar., 1887	9 " 1887	20 0 0	"	"
E. J. Swyny .....	3 Jan., 1887	9 " 1887	20 0 0	"	"
W. T. Rosewarne .....	14 Feb., 1882	9 " 1887	80 0 0	"	"
C. H. Wilson and others .....	31 May, 1887	16 " 1887	40 0 0	"	"
C. G. Lush .....	19 June, 1885	26 " 1887	40 0 0	"	"
C. H. Wilson and others .....	31 May, 1887	26 " 1887	40 0 0	"	"
J. Ralph and another .....	28 Mar., 1887	26 " 1887	40 0 0	"	"
Do .....	28 " 1887	26 " 1887	40 0 0	"	"
J. Jones and others .....	13 June, 1887	26 " 1887	40 0 0	"	"
H. R. Smith .....	"	9 Sept., 1887	80 0 0	"	Withdrawn.
J. F. Gelbey and others .....	5 Feb., 1885	23 " 1887	20 0 0	"	Abandoned.
W. H. Preste and another .....	5 Sept., 1887	18 Nov., 1887	20 1 30	"	"
O'Meagher and others .....	16 May, 1887	18 " 1887	20 0 0	"	"

1887-8.

LEGISLATIVE ASSEMBLY.

NEW SOUTH WALES.

## ALLEGED BREACHES OF THE COAL-FIELDS REGULATION ACT AT THE DUCKENFIELD COLLIERY.

(CORRESPONDENCE.)

*Ordered by the Legislative Assembly to be printed, 7 February, 1888.*

CORRESPONDENCE between Mr. Dixon, Mr. Mackenzie, the Minister for Mines, and Officers of the Back Creek Lodge, No. 10, at Minmi, relating to alleged breaches of the Coal-fields Regulation Act at the Duckenfield Colliery.

Mr. J. Curley to Mr. Inspector Dixon.

Sir, Hamilton, 16 August, 1887.  
I am instructed by the Back Creek and Duckenfield miners to respectfully draw your attention to the fact of black damp issuing from old workings on to an old road in close proximity to what is known as fault heading in the Duckenfield Colliery, and in some cases has extinguished miners' lights. This will indicate what would transpire if a large fall was to displace it, and force it out on to the main intake. As it is it is sometimes with difficulty the men get through it. Hoping you will give this your earliest consideration,  
I am, &c.,  
JAMES CURLEY,  
Miners' General Secretary.

Mr. Inspector Dixon to The Examiner of Coal-fields.

Duckenfield Colliery inspection.

Sir, Glebecland, 22 August, 1887.  
For your information I herewith forward a letter which I received on the 17th instant from the Miners' general secretary, *re* an alleged accumulation of carbonic acid gas (black damp) on the fault road in the Duckenfield Colliery.

I inspected the place complained of on the following day, 18th instant, and beg to report as follows:—

The road to the fault workings runs from the main heading past the furnace to the split known as the fault, and is used as a wheeling road, and also for the purpose of travelling to and from the working faces in the fault-split. For the most part the road has been made through old workings, which during the latter part of last year crushed from the surface several acres in extent, and the present wheeling road had to be ridded through the crush for some hundreds of yards. The persons employed in the fault-split are supplied with fresh air from a shaft in close proximity to the working headings. This air, after being used in the split, returns along the road above-mentioned to the ventilating furnace, near the west headings. The portion of the road complained of is near the west headings, and after very careful examination I could only find trace of carbonic acid gas in one place, and that only after putting my light over the top of the gob. The road at this spot is about 34 feet area, and at the time of my visit the air-current passing this place was almost 6,900 cubic feet per minute. This air passes direct to the furnace, and is not used again by any person. I found no difficulty in carrying a light anywhere on the road, and the escape of black damp appeared to me to be very trifling. Nevertheless, the manager (Mr. Croft) promised me that he would, as soon as possible, endeavour to convey this issue of black damp direct to the furnace in boxes or pipes, clear of the road altogether.

I have, &c.,  
JOHN DIXON,  
Inspector of Colliceries.  
Mr.

Mr. Inspector Dixon should make a further inspection and report when sufficient time has been allowed to admit of the boxes or pipes being fitted up.—H.W., 5/9/87. Submitted. Approved.—F.A., 6/9/87. Mr. Inspector Dixon.—E.F. (*per* U.S.), B.C., 10/9/87.

The boxes have been fixed and are acting well, yet, on Friday last, 16th instant, I found traces of carbonic acid gas in the gob alongside of the road, and requested the manager to brattice the place off by wood or brickwork. This he (the manager) promised to do. I have also served the manager with a written notice to keep the ventilating furnace at work day and night, and to have the gas walled off.—J.D., 19/9/87.

The Under Secretary for Mines, B.C., 19/9/87. Seen. Mr. Inspector Dixon will please report again at an early date.—G.E.H. (*per* U.S.), B.C., 24/9/87.

I visited the place complained of yesterday (Thursday) along with Mr. Inspector Bates, and although the colliery was idle, and the ventilating power of the furnace reduced to less than one-half, and only about 1,890 cubic feet of air per minute passing along the fault-road, we could not discover the slightest trace of carbonic acid gas. The place is not entirely bratticed off, but now the boxes are connected with the return air-way, the black damp has drained from the road.—J.D., 7/10/87.

### Mr. Inspector Dixon to The Examiner of Coal-fields.

Sir,

Glebeland, 24 September, 1887.

I have the honor to report inspection of the Duckenfield Colliery on the 14th and 16th instant, as follows:—

**H heading, dip side:** On the first day of inspection the current of air in this split was about 3,240 cubic feet per minute for about thirty-nine men, &c. This defect was caused by a fall in the return bord, and at the time of inspection two men were at work clearing the fall. On the second day (16th instant) I again visited this split, and found that the Act was being complied with, as there was a current of air of about 4,000 cubic feet per minute.

The intake current of air for the B, D, and K headings was about 7,800 cubic feet per minute for about 66 men, &c. This air current was well sustained in the split, with the exception of the top end of B heading, where I found a quantity of air escaping through some of the stenton stoppings. I at once drew the manager's attention to the matter, and he (Mr. Croft) promised to have it remedied as soon as possible. It is expected that the narrow place off B heading will shortly be connected with the west heading, close to the ventilating furnace, which will be beneficial to the whole of this split, and also to the H heading dip split.

**M heading split:** In this split the current of air ranged from about 5,760 cubic feet per minute to about 6,000 cubic feet per minute for about forty men, &c.

**Fault split:** The current of air in this split was about 8,400 cubic feet per minute for about thirty-eight men, &c. Furnace air returns about 47,210 cubic feet per minute. The ordinary stoppings in this colliery are built of 4-inch brick-work, set in mortar, and the permanent stoppings of 9-inch brick-work, set in mortar. I found the wheeling and travelling roads in good condition, with the exception of some of them being extremely muddy under foot.

There was plenty of timber on hand ready for use.

I have, &c.,

JOHN DIXON,

Inspector of Collieries.

Seen.—J.M., 19/10/87.

The Under Secretary for Mines, B.C., 19/10/87.

### Messrs. W. Teague and J. Cook to The Examiner of Coal-fields.

Sir,

Back Creek Lodge, No. 10, Minmi, 29 September, 1887.

We are instructed by the Duckenfield and Back Creek Lodge of Miners to forward to you the accompanying reports of check inspectors of this colliery, and to draw your attention to the many instances in which the requirements of the Act are not met.

Our Lodge, finding that all complaints of theirs *re* bad ventilation of the Duckenfield Colliery were ineffectual, some two months ago sent for Mr. Dixon, inspector, who came and examined the mine. No improvement having been made to the ventilation after this inspection, Mr. Dixon again came, and, we presumed, examined the colliery.

One of these reports (that of 4th August, 1887) was made between these two visits of Mr. Dixon. Consequently, seeing that the requirements of the Act were not complied with at this time, Mr. Dixon must have known the fact; seeing also that no improvement was made between his first and second visit, he must have known that the Act was not complied with.

What we wish to point out to you is, that the Act is violated, and the person whose office it is to see that proceedings shall be taken against the offenders does not take proceedings, and our Lodge considers Government inspection a failure. We hope you will give your consideration to these two reports, and take such action as shall secure to the miners of this Lodge the full benefits of the Coal-fields Regulation Act.

On behalf of the above miners,

We are, &c.,

W. TEAGUE,

J. COOK,

Miners' Secretaries.

The matters complained of appear, from the Inspector's report, to have been remedied.—J.M., 17/10/87. To the Back Creek Lodge Miners' Secretary, B.C., 17/10/87.

[Enclosures.]

Check inspection of the Duckenfield Colliery.

4 August, 1887.

WE, the undersigned, do hereby certify that we have examined the various headings, cut throughs, and intake, and the following is a correct account taken on above date:—

Intake, narrow place below main flat, 7,755 cubic feet per minute; ther., 62°. Intake, M. heading, 6,720 cubic feet per minute; 66°. No. 4 cut-through, No. 4 bord, 5,872 cubic feet per minute, 36 men, 4 wheelers, 2 horses; ther., 67°. At

At No. 11 bord, 4 cut-through, 4,500 cubic feet per minute; ther., 68°. At Nos. 16 and 17 bords, anemometer registered 2,600 cubic feet per minute; 70°. Return, M heading district, anemometer registered 8,815 cubic feet per minute; ther., 72°.

Intake, fault heading district, anemometer registered 6,500 cubic feet per minute; 68°; 30 men, 4 wheelers, and 2 horses work on this split of air. No. 1 cut-through off gannon bord, 4,252 cubic feet of air per minute; 68°; 6 men working in this place. No. 10 bord, 6,885 cubic feet per minute; 70°; 24 men, 4 wheelers, and 2 horses. At Nos. 11, 12, and 13 bords could not get anemometer to work.

Return, fault heading, 6,938 cubic feet; 70°. Intake to B, D, and K heading district, 9,900 cubic feet per minute; 62 men, 7 wheelers, 4 horses, and 1 pony work on this split of air. At 64 bord, main B heading, 2,925 cubic feet per minute; 70°; 14 men, 2 wheelers, 1 horse, 1 pony. At No. 43 bord, 2,520 cubic feet per minute; 73°; 10 men, 1 horse, 2 wheelers. At 38 bord, No. 2, cut-through, 5,635 cubic feet per minute; 73°; 12 men work in this cut-through. At 33 bord, No. 3 cut-through, 4,933 cubic feet per minute; 74°; 6 men, 2 horses, 3 wheelers. No. 4 cut-through, 31 bord, 3,780 cubic feet per minute; 74°; 4 men. At 36 bord, 3 cut-through, 1881; 74°; 2 men. At 25 to 30 bords, D heading district, anemometer would not work; 10 men working here; 76°. At No. 1 gannon bord, K heading, anemometer registered 1,623 cubic feet per minute; 73°; 4 men working here. H heading district, intake, 3,362 cubic feet per minute; 30 men, 3 wheelers, work on this split of air. Return, H heading, 3,594 cubic feet; 68°. Return of the whole of the workings in front of the west heading furnace, 48,070 cubic feet per minute. We would draw the manager's attention to the bords from Nos. 25 to 30, where the anemometer would not work.

We found plenty of timber at the flats, and the roads in a pretty safe condition.

As far as the travelling, pretty dry, with the exception of part of H and part of M headings.

GEORGE CLARK.  
FRANCIS CROFT.

Check inspection of the Duckenfield Colliery.

26 September, 1887.

We, the undersigned, do hereby certify that we have this day examined the various headings, cut-throughs, and air-ways of the Duckenfield Colliery, this 26th September, 1887.

Intake, narrow place below main flat, 9,625 cubic feet per minute; 66°. H heading district intake, anemometer registered 3,340 cubic feet per minute; 65°; 35 men, 3 wheelers, 2 horses. No. 1 cut-through, 3 bord, anemometer gave 2,117 cubic feet per minute; 66°; 16 men work here. At 16 bord, main heading, 3,638 cubic feet per minute; 72°; 19 men. Return, H heading, anemometer gave 2,948 feet; 72°; took return a second time which gave 3,594 cubic feet. Intake, B heading district, anemometer registered 9,317 cubic feet; 63°; 20 men work on B heading, 2 wheelers, 2 horses. At 64 bord, B heading, anemometer would not work; would not work anywhere in this heading; 20 men, 2 wheelers, and 2 horses work here. At 49 bord, No. 1 cut-through to 44 bord, anemometer would not work; 77°; 10 men, 2 wheelers, 1 horse work here. At 43 bord, 2 cut-through, 3,105 cubic feet per minute; same cut-through at 39 bord, 5,025 cubic feet; 76°. At 36 bord, 3 cut-through, 2,371 cubic feet per minute; 76°; 4 men. At 33 bord, 4 cut-through, 3,250 cubic feet per minute; 76°; 6 men. At 31 bord, 5 cut-through, 3,850 cubic feet; 77°; 4 men. At 30 bord, 6 cut-through, no result; 78°; 8 men. Return for 4 bords at narrow place off narrow bord, 2,174 cubic feet; 77°. Return for B, D, and H heading districts, 22,720 cubic feet per minute.

Fault heading district, No. 1 cut-through, 20 bord, 3,685 cubic feet per minute; 67°; 12 men work in this cut-through. From 14 bord to No. 2 bord anemometer would not work; 36 men, 4 wheelers, and 2 horses work in this district. Return, fault heading, 3,040 cubic feet; 73°; at this place the air seemed to come in gusts, not regular. M heading district intake, 9,760 cubic feet; 72°; 34 men, 4 wheelers, 2 horses work in this section. At 14 bord, 3 cut-through, 2,745 cubic feet per minute; 73°; 20 men. At 6 bord, 3 cut-through, 4,806 cubic feet; 70°. Return to whole of the workings in front of west heading furnace, 38,500. We waited for a little time and tried it again, when the anemometer gave 47,850 cubic feet.

We found plenty of timber at the various flats.

Roads in pretty good order. There is one place in the H heading where the water is lying which might be kept down.

GEORGE CLARK,  
FRANCIS CROFT,  
Check Inspectors.

Messrs. W. Teague and J. Cook to The Secretary for Mines.

Sir,

Minmi, 29 September, 1887.

We are instructed to forward to you the accompanying reports of check inspections made at the Duckenfield Colliery, one on the 4th day of August, 1887, and one on the 26th day of September, 1887.

The object of our Lodge in forwarding these reports to you is that you may see for yourself the fact that the requirements of the Act are not met at this Colliery; if this or these were exceptional instances we should not have troubled you in the matter, or if your subordinate officers were fulfilling their duties we could not complain to you, but the fact is Mr. Dixon, Government Inspector, at the request of the miners, visited the mine immediately prior to the first of these inspections, and again between the first and second, and he must have known that the mine was worked in violation of the Act, yet he took no action against the firm. Seeing that mine-owners can with impunity violate the Act of Parliament to the detriment of the health and safety of the miners, this Lodge considers that Government inspection, as carried on at present, is a failure. These reports, if examined by you, will prove to you that at this colliery the Act is violated, and it will be evident to you that the offenders should have been punished, which they have not.

It will be evident to you from the foregoing facts that Mr. Dixon has failed in his duty, and we would respectfully request that you should take such measures as shall secure the miners the full benefits of the law.

Without trespassing further on your time and patience we leave the matter in your hands, and beg to remain,

Yours, &c.,

W. TEAGUE, }  
J. COOK, } Secretaries to Miners.

The Under Secretary for Mines to Mr. Inspector Dixon.

Sir,

Department of Mines, Sydney, 4 October, 1887.

I have the honor to forward herewith copy of a letter from Messrs. W. Teague and J. Cook, Secretaries to the Duckenfield colliers, covering reports (copies of which are enclosed) by the Duckenfield Colliery check inspectors on the state of the colliery, and I am to ask you to be good enough to at once report upon the matters therein referred to.

I have, &c.,

G. E. HERRING,  
(For the Under Secretary).

Copies, with  
letter addressed  
to Examiner of  
Coal-fields,  
29th September

Mr.

## Mr. Inspector Bates to The Examiner of Coal-fields.

Duckenfield Colliery inspection.

Newcastle, 14 October, 1887.

Sir,

I have the honor to report having inspected the above Colliery in company with Mr. Inspector Dixon, on October 11th.

H heading.—The intake current of air registered 4,300 cubic feet per minute for thirty men, three boys, and one horse (total, thirty-four), giving an average of 126 cubic feet per minute.

1st. Cut off H heading, between Nos. 9 and 10 bords, intake current of air registered 2,590 cubic feet per minute for 16 men.

B, D, and K headings.—The intake current of air registered 10,200 cubic feet per minute for fifty men, seven boys, five horses, and one pony (total, sixty-three), giving an average of 161 cubic feet per minute. There were four men working at the top of B heading, driving through to connect B heading with the west heading.

No. 46 Bord.—Intake current of air registered 2,856 cubic feet per minute for ten men.

No. 43 Bord, 2nd cut-through.—Intake current of air registered 6,630 cubic feet per minute for fourteen men.

No. 36 bord, 3rd cut-through.—Intake current of air registered 3,420 cubic feet per minute for four men.

No. 34 bord, 4th cut-through.—Intake current of air registered 5,740 cubic feet per minute for six men.

No. 31 bord, 5th cut-through.—Intake current of air registered 4,100 cubic feet per minute for four men.

No. 30 bord, 6th cut-through.—Intake current of air registered 3,705 cubic feet per minute for eight men.

M heading.—The intake current of air registered 10,290 cubic feet per minute for thirty-two men, four boys, and two horses (total, thirty-eight), giving an average of 270 cubic feet per minute.

Fault heading.—The intake current of air registered 7,800 cubic feet per minute for thirty-six men, four boys, and two horses (total, forty-two), giving an average of 185 cubic feet per minute.

At No. 20 bord the air current registered 6,800 cubic feet per minute. The return at furnace registered 44,000 cubic feet per minute. I tried for black damp on the fault road above the west heading, but could not find any trace whatever.

I have, &amp;c.,

THOS. L. BATES,  
Inspector of Collieries.

## Mr. Inspector Dixon to The Under Secretary for Mines.

Sir,

Glebeland, 15 October, 1887.

I do myself the honor to acknowledge receipt of your communication of 4th instant, together with copies of the Duckenfield Miners Inspectors' reports, and copy of letter from the joint secretaries of the Back Creek and Duckenfield Miners' Lodges, wherein I am charged with laxity of duty in not having punished the manager of the Duckenfield Colliery for alleged deficient ventilation, &c., in reply to which letter I beg to state:—

1. That I did not visit the Duckenfield Colliery "immediately prior" to the date of the miners 4th August inspection, "at the request of the miners"; but on the 17th August I received a communication from the miners' general secretary, drawing my attention to an issue of "black damp" on one part of the fault road, and in that letter (a copy of which I herewith beg to forward) there is no complaint concerning any defect in any other part of the Duckenfield Colliery. On the following day (18th August), I visited the colliery, and made a thorough examination of the spot complained of, and all the length of the fault road, and at once took such steps as caused the matter to be remedied eventually. I also beg to forward copies of miners inspectors' reports of 4th August and 26th September, as taken from the report book kept in the Duckenfield Colliery office, from which it will be seen that there is no mention of black damp in either report. The only place where the manager's attention is drawn to any defect is in the August report, and that relates to the bords 25 to 30 in the D heading, where it is alleged the anemometer would not work. Why one report of inspection should be entered in the book specially kept for the purpose in the colliery office, and another report of the same inspection (but very different in many respects) should be written for the Miners' Lodge, and forwarded to the Department as a true report of said inspection, I am at a loss to know.

2. On 15th July last I inspected the Duckenfield Colliery, and as regards the ventilation found nothing to complain of. (*Vide* my report of 16th July.) Again, on 14th and 16th September, I made another inspection of said colliery, and on 24th September wrote a report on the state of the colliery. On the first day I found the ventilation a little defective in the H heading district, but on the second day the matter was remedied. During this inspection the ventilation at the far end of the B heading was not quite up to the requirements of the Act for the number of men, &c., employed at that time. I at once drew the manager's attention to the matter, and since that time about sixteen miners have been withdrawn from the top end of B heading, until such times as the special places are holed into the west heading. It is a fact well known to the miners' inspectors that the places above referred to are being pushed ahead with all speed, in order to connect the B heading district with the west heading ventilating furnace. When completed the whole of the dip side workings will be benefited, as the route for the air currents will be considerably shortened. I however see no notice taken of this matter in either report, which, in fairness to the management, ought to have been done, as I have no doubt the connection would have been made before now, only for trade being so slack at the colliery, as I am informed that only about twelve days have been worked during the last five weeks.

3. If the miners' inspectors had found the ventilation ever so defective in the Duckenfield Colliery between my inspections, I submit that would be no evidence of any laxity of duty on my part, providing I found the Act complied with during my inspections, for it is a fact well known to anyone acquainted with mine ventilation that air currents can be deranged even in a few minutes, let alone a few days.

In

In the colliery under notice, where so many doors are to be depended upon for the proper circulation of the air currents, it would be impossible for one person to check the measurements of another person, even after the lapse of only 10 minutes, unless the same conditions could be observed during each measurement in keeping all the doors shut and having an uniform velocity in the air current at the ventilating furnace. And further, I have found in my experience that a difference has been found in the observed reading of two anemometers both in the same air current at the same time, and I recollect an instance where the anemometer, at present used by the Duckenfield miners' inspectors would not register 1 foot in the same air current where the anemometer used by me registered over 2,000 cubic feet per minute.

4. In conclusion, I further beg to state that I have held the office of Inspector of Collieries for a period extending over five years, and I defy any person to truthfully charge me with neglect of duty or laxity in carrying out the provisions of the Coal Mines Regulation Act either at the Duckenfield Colliery or any other colliery in the trade. I have at all times endeavoured to keep every mine up to the Act in every particular, and have paid immediate attention to every complaint brought under my notice, and had the Duckenfield miners requested a joint inspection of the colliery they could have had one at any time. To show the present state of the Duckenfield Colliery, I herewith beg to forward a report of inspections made by Mr. Inspector Bates on Tuesday last, the 11th inst. I accompanied Mr. Bates through the colliery, but he took the measurements of air currents in every instance.

Hoping that the above explanation will be deemed satisfactory,

I have, &c.,  
JOHN DIXON,  
Inspector of Collieries.

Submitted.—H.W., 25/10/87. Seen.

I have the fullest confidence in the honesty and ability of Mr. Inspector Dixon. I feel sure he will administer the law without fear or favour, and so confirm my present good opinion. Mr. Inspector Bates' report is a strong confirmation of the correctness of Mr. Dixon's report.—F.A., 27/10/87.

Messrs. W. Teague and J. Cook informed, 4th November, 1887.

#### The Under Secretary for Mines to Messrs. W. Teague and J. Cook.

Gentlemen,

4 November, 1887.

Referring to your letter of the 29th September last, covering reports of check inspections made at the Duckenfield Colliery on the 4th August and 29th September last, and intimating that Mr. J. Dixon, Inspector of Collieries, was lax in his duty in not prosecuting the manager of that colliery for the alleged deficient ventilation therein, I am directed to inform you that Mr. Dixon has been called upon for an explanation of the circumstances, and that the Secretary for Mines deems such explanation satisfactory.

I have, &c.,  
G. E. HERRING,  
(For the Under Secretary).

#### Messrs. W. Teague and J. Cook to The Secretary for Mines.

Sir,

Minmi, 13 November, 1887.

We are instructed to acknowledge receipt of communication from your Department, dated 4th November, and to request that you would forward a copy of Mr. Dixon's explanation *re* Duckenfield Colliery, as our Lodge is anxious to know how such, or any, explanation could be deemed satisfactory.

We are, &c.,  
W. TEAGUE,  
JAMES COOK,  
Secretaries to Miners.

The writer may be informed that the Minister regrets he cannot comply with the request, as to comply would tend to impair the efficiency of the Inspectors.—H.W., 18/11/87. Approved.—F.A., 19/11/87. Informed, 23/11/87.

#### The Under Secretary for Mines to Messrs. W. Teague and J. Cook.

Gentlemen,

23 November, 1887.

Referring to your letter of the 13th instant, in which you ask that a copy of Mr. Inspector Dixon's explanation in relation to the Duckenfield Colliery may be furnished to your Lodge, I have the honor to inform you that the Secretary for Mines regrets that he cannot comply with the request, as to comply would tend to impair the efficiency of the Inspectors.

I have, &c.,  
HARRIE WOOD,  
Under Secretary.



1887-8.

LEGISLATIVE ASSEMBLY.

NEW SOUTH WALES.

APPLICATION OF MR. J. F. CONNELLY TO MINE IN  
PARISH OF CURRAJONG.

(CORRESPONDENCE, &amp;c., RESPECTING.)

*Ordered by the Legislative Assembly to be printed, 23 February, 1887.*

RETURN to an *Order* made by the Honorable the Legislative Assembly of New South Wales, dated 3rd November, 1887, That there be laid upon the Table of this House,—

“Copies of all letters, minutes, and correspondence having reference to the application of Mr. John F. Connelly, of Parkes, between the years 1884 and 1887, to mine upon portion 423, parish of Currajong, county of Ashburnham.”

*(Mr. Stokes.)*

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### No. 1.

#### Mr. J. F. Connelly to The Secretary for Lands.

Sir,

Parkes, 6 August, 1884.

There is a suburban allotment of about 2 acres of land, held by Mr. E. M'Gee as a freehold, fenced in for a yard, and a hay-shed stands upon it, situated on the left-hand side of Dalton-street and adjoining section 42. The said freehold is surrounded on three sides by quartz-mining in full operation, and I would most respectfully request that you will kindly grant me permission to mine upon the said land, as provided in the "Lands Act Further Amendment Act of 1880." Trusting you will kindly grant my application,—

I remain, &c.,

JOHN F. CONNELLY.

For report of survey officer as to nature of purchase under which the land is held.—J.G.B., 12/8/84. The freehold referred to cannot be identified from the information given in this letter.—J. SMALL, 22/8/84. Submitted that the applicant be asked to furnish particulars of the land referred to.—J.G.B., 29/8/84. Ask.—H.W. (for U.S.), 30/8/84.

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### No. 2.

#### Mr. J. F. Connelly and Party to The Secretary for Lands.

Sir,

Parkes, 16 August, 1884.

I wrote you on the 6th inst. *in re* an application to mine upon a particular piece of land that has lately become a freehold to the great surprise of every one, and held by Mr. Edward M'Gee. I may mention that the said land is in the great centre of present quartz-mining operations, and has been occupied almost continuously for the last fourteen years for mining purposes, and that the above person has never resided upon it. Trusting that, at your earliest convenience, you will kindly grant our application under the "Lands Act Further Amendment Act of 1880," we are awaiting your kind consideration to commence operations.

I remain, &c.,

JOHN F. CONNELLY

(For self and party).

---

### No. 3.

#### The Under Secretary for Lands to Mr. J. F. Connelly.

Sir,

Department of Lands, Sydney, 4 September, 1884.

In reference to your letter of the 6th ultimo, applying for permission to mine on certain land at Parkes, held as a freehold by Mr. E. M'Gee, I have the honor to inform you that the particulars given in your application are not sufficient to admit of the freehold referred to being identified, and I have therefore to request that you will be good enough to furnish me with more definite information on the subject.

I have, &c.,

CHARLES OLIVER,

Under Secretary.

---

### No. 4.

#### Mr. J. F. Connelly and Party to The Secretary for Lands.

Sir,

Parkes, 6 September, 1884.

In reply to yours of the 4th instant, I beg most respectfully to inform you that you do not refer to my letter of the 16th ultimo, where I have given you particulars under which I apply to mine upon Mr. Edward M'Gee's land. (Copy of same I enclose.)

I would further beg to draw your attention to the fact that the said land has been occupied for mining purposes nearly the whole of the last fourteen years, and it was occupied for mining purposes while under application by Mr. E. M'Gee, and has been occupied ever since. He never resided upon it, he got it by ways and means unknown to the miners, and contrary to the Crown Lands Alienation Act; therefore I pray that you will grant my application to mine upon said land, as I know of a quartz reef going through it containing gold. Trusting this will meet with your favourable consideration,—

I remain, &c.,

JOHN F. CONNELLY

(For self and party).

13 October, 1884.

Neither this letter nor the one of the 16th August contains any further information by which the land referred to can be identified on the maps of this office, and no freehold in the name of M'Gee, fronting Dalton-street, can be traced, except allotments 8 and 11, of section 6, neither of which would appear to be the one referred to, as their areas are only 31½ perches and 34 perches respectively. A new map of the town of Parkes was published in July last, and the writer should therefore be able to give the number of the portion. Perhaps he might be asked to give a sketch showing the position of the land upon which he wishes to mine; at all events, to give the number of the portion.

J. T. SMALL,

13 October, 1884.

May again be written to perhaps.—J.G.B., 21/10/84. Yes; and inform as suggested.—F.H.W., 21/10/84.

No. 5.

Mr. J. F. Connelly and Party to The Secretary for Lands.

Sir,

Parkes, 20 September, 1884.

I again most respectfully beg to ask that you will kindly grant our application to mine upon Mr. E. M'Gee's 2-acre freehold suburban land referred to in my previous letters, under clause 29 of the Lands Act Further Amendment Act, also clauses 6 and 23, Crown Lands Regulations of 1883.

Trusting this will meet with your most favourable consideration and earliest convenience, as we are anxiously waiting to commence operations,—

I remain, &c.,

JOHN F. CONNELLY

(For self and party).

Invite attention to letter of the 4th instant.—J.G.B., 23/9/84.

No. 6.

The Under Secretary for Lands to Mr. J. F. Connelly.

Sir,

Department of Lands, Sydney, 26 September, 1884.

With reference to your letter of the 20th instant, respecting your application for permission to mine upon certain land at Parkes held by Mr. E. M'Gee as a freehold, I have the honor to invite your attention to my letter of the 4th instant, requesting you to be good enough to furnish me with particulars as to the position of the land referred to.

I have, &c.,

CHARLES OLIVER,

Under Secretary.

No. 7.

Mr. J. F. Connelly and Party to The Secretary for Lands.

Sir,

Parkes, 29 September, 1884.

In reply to yours of the 26th instant, *in re* particulars and position of Mr. E. M'Gee's 2 acres, suburban allotment, I beg to inform you that on looking over the plan of the town of Forbes, find it is adjoining the reserve for gold-mining purposes, and abutting W. Boyd's allotment No. 424, Dalton-street, on the south, and No. 423, in the name of J. M'Connell, but known as Mr. E. M'Gee's paddock. I may inform you that W. Boyd's allotment has been called in from sale (cancelled), because it interfered with the mining industry, as also does No. 423, which is being mined upon three sides of it, and where quartz reefs are known to be going through the whole of the said 2 acres, is now, and has been, held by the miners for years, and should duly belong to the miners, as it is known to be highly auriferous, and was occupied by the miners while under application, and up to the purchase it has been fenced off, partly fencing in the holdings of the miners. Trusting that this will be sufficient explanation, and that you will kindly grant our application to mine upon the same,—

I remain, &c.,

JOHN F. CONNELLY

(For self and party).

No. 8.

Mr. J. F. Connelly and Party to The Secretary for Lands.

Sir,

Parkes, 18 October, 1884.

I beg most respectfully to draw your attention to the fact that I have been writing to you since last August 6th, *in re* our application to mine upon Mr. Edward M'Gee's freehold suburban land. Particulars I have given in detail, being No. 423, in the name of John M'Connell, now known as Mr. Edward M'Gee. I may inform you that we have permission by the owner to mine under, but not upon, said land, which we are doing, and also other parties, but under a very great disadvantage, and trust you will kindly grant our application to mine upon the said land, as provided under the "Lands Act Further Amendment Act of 1880." The land is highly auriferous, and we are anxiously waiting your kind consideration to commence operations.

I remain, &c.,

JOHN F. CONNELLY

(For self and party).

No. 9.

## No. 9.

The Under Secretary for Lands to Mr. J. F. Connelly.

Sir,

Department of Lands, Sydney, 27 October, 1884.

In reference to your letter of the 6th ultimo, respecting your application for permission to mine on a suburban allotment of 2 acres fronting Dalton-street, in the town of Parkes, and held as a freehold by Mr. E. M'Gee, I have the honor to inform you that the land in question cannot be identified on the maps in this Department from the particulars given in your communications, and the only freehold in the name of the gentleman mentioned, fronting the street referred to, are allotments Nos. 8 and 11 of section 6, containing  $31\frac{1}{2}$  and 34 perches respectively.

I have, therefore, to request that you will be good enough to specify the number of the allotment alluded to you in your application, or to furnish me with a sketch showing the position.

I have, &amp;c.,

CHARLES OLIVER,

Under Secretary.

## No. 10.

Mr. J. F. Connelly and Party to The Secretary for Lands.

Sir,

Parkes, 28 October, 1884.

In reply to your letter of the 27th instant, *in re* the land mentioned in my letters, to mine upon Mr. E. M'Gee's freehold suburban land, I beg most respectfully to inform you that upon examining the map of Parkes, I find the allotment No. 423, in the name of J. M'Connell, being a 2-acre block, with a barn and hut upon it, adjoining the gold-mining reserve, which is the block of land I am applying for to mine upon, and which we are now mining under, and trust you will kindly grant our application to mine upon the same.

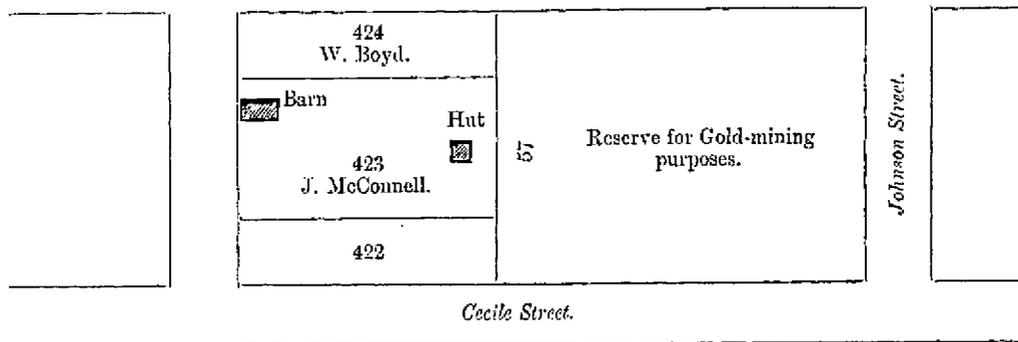
I remain, &amp;c.,

JOHN F. CONNELLY

(For self and party).

P.S.—A copy or plan of the block of land requested.

Dalton Street.



Portion 423, parish of Currajong, was purchased by John M'Connell under improvement purchase.—J. T. SMALL, 8/12/84. Submitted. Writer may be informed.—J.G.B., 18/12/84. Yes.—F.H.W. (for U.S.), 19/12/84.

## No. 11.

The Under Secretary for Lands to Mr. J. F. Connelly.

Sir,

Department of Lands, Sydney, 7 January, 1885.

Referring to your letter of the 28th October last, I have the honor to inform you that portion 423, parish of Currajong, was purchased in virtue of improvements by John M'Connell.

I have, &amp;c.,

F. H. WILSON,

(For the Under Secretary).

## No. 12.

Mr. J. F. Connelly to The Secretary for Mines.

Sir,

Parkes, 12 July, 1886.

I beg most respectfully to ask that you will kindly grant me permission to mine upon that piece of land, No. 423, being 2 acres applied for by John M'Connell, since transferred to Edward M'Gee, and situated in the town of Parkes (as per enclosed sketch).

I further wish to draw your attention that some months back I wrote seven letters to the Minister for Lands, asking the same privilege, and giving all particulars *in re* the said land, and was in treaty with the Minister some eight or ten months pending his reply, and could get no satisfaction.

I did a great deal of prospecting outside and under the said land, until I could do no more for baid air.

I have good reason to believe that there is gold-bearing quartz reefs in said land, because I found good gold-bearing veins outside the fence running into said land, and I wish to further continue prospecting said land. The land is being mined upon on three sides at present, and I have been prospecting upon the fourth for some considerable time, and wish to continue.

Trusting you will kindly grant my request to mine upon said land, and if so, to grant me an opening through the fence,—

I remain, &c.,

JOHN F. CONNELLY.

If the land in question has been sold the power to grant permission to search rests with the Minister for Lands. Inform, and then forward to the Lands Department.—H.W., 3/9/86.

No. 13.

Mr. J. F. Connelly to The Secretary for Lands.

Sir,

Parkes, 30 August, 1886.

I have the honor to request that you will grant me permission to mine in and upon that piece of land, No. 423, situate in the town of Parkes, and being 2 acres applied for by Mr. John M'Connell, and since transferred to Mr. Edward M'Gee.

The said land, I believe, is conditionally purchased, and the deeds issued about two years, although the ground was then held and in occupation for years for mining purposes when granted to him.

I have done a great deal of prospecting outside and under the said land, but through insufficient air and fear of trespass I had to abandon the search.

I beg to state that within the past eighteen months I have written seven or eight letters to the Minister to the above effect, and have been in treaty some eight or ten months, pending his reply, but up to the present have received none; whilst on the other hand Mr. Wm. Hazelhurst has, within the last three or four months, obtained permission to mine upon the said land, and which he has since abandoned. The land is being worked on all sides.

Trusting you will kindly consider my application in the most favourable light,—

I have, &c.,

JOHN F. CONNELLY.

As it is herein alleged that Wm. Hazelhurst, the person to whom a permit was granted on 25th June, 1886, has not prosecuted the search for gold as required by Regulation 171, perhaps the Department of Mines may be asked to procure a report from the Warden as to the facts.—S.F., 18/9/86. C.O., 20/9/86. Approved.—H.C., 22/9/86.

No. 14.

Mr. J. F. Connelly to A. Stokes, Esq., M.P.

Sir,

Parkes, 30 August, 1886.

I have the honor to request that you will kindly interview the Minister for Lands on my behalf respecting an application (posted this 30th day of August, 1886) to mine upon 2 acres of land, No. 423, situate in the town of Parkes, being a conditional purchase applied for by John M'Connell, and since transferred to Mr. Edward M'Gee.

I beg to state that within the past eighteen months I have written seven or eight letters to the Minister *in re* the above, but up to the present have elicited no reply; whilst on the other hand Mr. Wm. Hazelhurst has, within three or four months, had an application to mine on part of said land granted him, but has since abandoned it.

The land I seek is not held in occupation for mining purposes by others.

Regretting that I should have occasion to trespass so much on your valuable time,—

I have, &c.,

JOHN F. CONNELLY, SENR.

No. 15.

The Under Secretary for Mines to Mr. J. F. Connelly.

Sir,

Department of Mines, Sydney, 7 September, 1886.

Referring to your letter of the 12th July last, in which you apply for permission to mine upon portion No. 423 in the town of Parkes, containing 2 acres, applied for as an improvement purchase by John M'Connell, I have the honor to inform you that if the land in question has been sold, the power to grant permission to search for gold rests with the Minister for Lands, to whose Department your letter has been forwarded.

I have, &c.,

HARRIE WOOD,

Under Secretary.

No. 16.

Mr. J. F. Connelly to The Secretary for Lands.

Sir,

Parkes, 27 September, 1886.

I most respectfully beg that you will kindly grant my application to prospect for gold upon portion 423, town of Parkes, parish of Currajong, county of Ashburnham, Billabong Gold-field, which, on the 14th April, 1883, was sold to John M'Connell, as an improvement purchase.

I further humbly beg to draw your attention to the fact that I have been applying to the Minister for Lands nearly two years for the same privilege, and have written eleven or twelve letters during that time, to the Minister, for permission to mine upon the same, and, up to the present, can get no satisfactory reply.

I now beg that you will grant me the permission so long sought for, and enclose you an acknowledgment from Mr. Hazelhurst, who, strange to say, has been a privileged person, he having made application for the said land on 10th May, and through the instrumentality of Arthur Cubitt, gets the permit on the 13th July, 1886, and abandoned it in August following.

I have been expecting that you would send me up the proper form to fill up for my application, which certainly must have been first (viz., nearly two years), corresponding for same.

Trusting that, under the existing circumstances, you will send me up the proper form to fill in, and also the permit for same, to search and dig for gold,—

I remain, &c.,  
JOHN F. CONNELLY.

---

No. 17.  
Certificate.

Parke, 27 September, 1886.

Permit to dig and search for gold, dated 13th July, 1886.

This is to certify that I, the undersigned, have done with the above permit (having prospected the land to my satisfaction), and am willing to return the permit to the Under Secretary for Lands.

WILLIAM HAZELHURST.

---

No. 18.

Mr. J. F. Connelly to A. Stokes, Esq., M.P.

Sir,

Parke, 27 September, 1886.

The telegram from Mr. Freeman, and your memo. attached, to hand, which does not seem very favourable on my behalf, when you say that the Warden will be called upon to report on the prior applications, and my claim comes next.

I beg to draw your attention to my letter of explanation to you, in which I have already stated that my application to the Minister to mine upon portion 423, in the town of Parke, has been pending nearly two years, and I have written eleven or twelve letters *in re* same, consequently, my application being first, should have prior claim; and, strange to say, W. Hazelhurst has been privileged, having made application in May last, obtained the permit on 13th July, prospected, and abandoned the same in August last.

My case seems to me a very hard one, under these circumstances, and, I think, requires a little looking into, as there certainly seems to be some very great misunderstanding or neglect somewhere.

Trusting that, under the existing circumstances, you will kindly see into the matter, and get for me the proper form to fill in, and also the permit to search and dig for gold, and I will be ever thankful. Sorry for trespassing so much upon your valuable time,—

I remain &c.,  
JOHN F. CONNELLY.

P.S.—I have again (27th instant) written to the Minister for Lands *in re* my application, stating my exceptional case.—J.F.C.

Will the Under Secretary for Lands be good enough to say what has been done in this case, so that I may inform Mr. Stokes, M.P., to-day.—H.W., B.C., 14/10/86.

---

No. 19.

The Under Secretary for Lands to The Under Secretary for Mines.

Sir,

Department of Lands, Sydney, 29 September, 1886.

I have the honor to request that you will be good enough to procure for the information of the Minister for Lands a report from the Warden of the Parke District as to whether W. Hazelhurst, to whom a permit was granted on the 25th June, 1886, to dig and mine for gold on the land noted below, has executed the same as required by the 171st Regulation of the "Crown Lands Act of 1884."

I have, &c.,  
STEPHEN FREEMAN  
(For the Under Secretary).

Parke, 2 acres, E. M'Gee, No. 423. Mr. Warden Sharpe for report.—G.E.H. (for U.S.), B.C., 26/9/86.

---

No. 20.

Mr. Warden Sharpe to The Under Secretary for Mines.

20 October.

I do not understand what information I am requested to supply, and the Regulation referred to affords no clue. W. Hazelhurst has not presented his permit to me, nor is he required to by the Regulation referred to. I have seen the permit, and the holder, who informs me that he has abandoned the land in question for a month past, and has written to the Department stating that he will surrender his permit.

ERNEST L. SHARPE,  
Warden.

The Under Secretary for Lands.—G.E.H. (for U.S.). B.C., 23/9/86.

No. 21.

## No. 21.

Mr. J. F. Connelly to The Secretary for Lands.

Sir,

Parkes, 20 November, 1886.

I again respectfully beg to inform you that this is the thirteenth or fourteenth letter that I have written to you within a period of two years, making applications for permission to mine or prospect for gold upon portion No. 423, town of Parkes, being an improvement purchase sold to J. M'Connell (No. 80-1,393, Parkes), and up to the present can get no satisfactory reply. I do not know what to think of such treatment, and shall be compelled to bring this matter before the House.

Strange to say that in June last Mr. W. Hazelhurst applied for the same land for same purpose, obtained it, worked it, and has abandoned it (all within three months). He tells me he had to tip £5 for it, and here are my applications (twelve or fourteen, as above) now standing two years perfectly ignored. I may inform you that I have on different occasions sent you plans and particulars, and as I wish to search for gold on that parcel of land, believing it to exist, I humbly trust you will kindly grant me that permit so long sought for.

Yours, &c.,  
JOHN F. CONNELLY.

Submitted.—R.H.D., 23/11/86.

William Hazelhurst, to whom a permit was granted on 25th June, 1886, has not prosecuted the search for gold, as required by Regulation 171. Backstrom and party have made application in due form for a similar permit, but Connelly has for years been seeking for permission in respect of the same land, although he has not lodged same in due form (L.A.—M.) As, however, the form is not a schedule to the Act or Regulations its use is not apparently imperative. Submitted that a permit be granted to Connelly and that Backstrom and party be informed that their application cannot for that reason be granted.

S.F., 7/12/86.

Approved.—H.C., 7/12/86. Permit to Hazelhurst cancelled. Permit issued to Mr. Connelly, and informed. 10/12/86.

## No. 22.

The Under Secretary for Lands to Mr. J. F. Connelly.

Sir,

Department of Lands, Sydney, 10 December, 1886.

With reference to your letter of the 20th ultimo, I have the honor to inform you that Mr. W. Hazelhurst having failed to prosecute the search for gold upon the land noted below under the permit granted to him, the Secretary for Lands has approved of a permit to dig and search for gold upon the said land being granted to you, and herewith I forward such permit.

I have, &c.,  
STEPHEN FREEMAN  
(For the Under Secretary).

Portion 423, parish of Currajong, county of Ashburnham.

## No. 23.

Copy of Permit.

(Crown Lands Act of 1884—Part III, section 45.)

Permit to dig and search for gold.

THIS is to permit John F. Connelly to take possession in accordance with the Mining Board Regulations, and to dig and search for gold within a parcel of land of the dimensions of a prospecting protection area, as prescribed by the said Regulations, situated within the Billabong Gold-field, county of Ashburnham, parish of Currajong, being part of portion No. 423, which, on the 18th day of January, 1884, was sold to John M'Connell as an improvement purchase (No. 80-4, Parkes), but so as not to interfere with any prospecting protection area occupied in virtue of any permit of prior date to this.

Given under my hand at the Department of Lands, Sydney, in the Colony of New South Wales, this 11th day of December, 1886,—

HENRY COPELAND,  
Minister for Lands.

## No. 24.

Mr. J. F. Connelly to The Secretary for Lands.

Sir,

Parkes, 22 December, 1886.

I respectfully beg to inform you that, having commenced operations by a special permit from the Secretary for Lands to dig and search for gold on part of portion No. 423, parish of Currajong, upon a piece of land sold to Mr. John M'Connell on the 18th January, 1884, as an improvement purchase No. 80-4, Parkes, that I have started two shafts which I propose sinking to a depth of 200 feet, a great part through blue rock; that there is a party known as Messrs. Drummond and party trespassing upon my right by undermining said land and taking out auriferous quartz, whom I beg you will kindly order to discontinue.

I most positively declare that there is highly auriferous quartz now being worked and traced under said land, which I respectfully beg you will cause to be cancelled at an early date.

I have, &c.,  
JOHN F. CONNELLY.

No. 25.

No. 25.

## Quaile and Party to The Secretary for Lands.

Sir,

Parkes, 10 January, 1887.

See Appendix A.

We beg most respectfully to call your attention to the fact that Mr. John F. Connelly, of Parkes, has applied for and obtained a permit from you to search for gold on a portion of land situate at Parkes, and numbered 423. According to plan sent herewith you will see that our party have sunk two shafts on each side of this land, and we have traced the reef right through it and are at present, with the permission of the owner of the land, working the reef, and we claim that the spirit of the law was never intended to grant permission to mine for gold where gold had already been discovered. Connelly knew well of the direction of the line of reef, having frequently gone down our shaft with the pretended purpose of buying into the claim, but as it turns out only to find the direction of the line of reef. Having the permission of the owner of the land to drive under it we thought that was sufficient, but now we learn Mr. Connelly has got a permit and he is now sinking a shaft right on the reef. We claim that the permit should be revoked and permission given to us to mine, as we are the discoverers of the reef and should have prior claim to the ground. We enclose plan herewith. Your early attention would greatly oblige,—

See enclosure A. Appendix A.

Yours, &amp;c.,

A. DRUMMOND

(For Quaile and party).

The application is for cancellation of Connelly's permit for the reasons set out in this letter.—S.F., 11/1/87.

The permit to Connelly has been issued in error and was obtained by what appears a suppression of the facts of the case. Under the Mining Board Regulations a prospecting protection area can only be held when gold is not being worked within half-a-mile of the land applied for, whereas it appears that Quaile and party have a claim immediately adjoining this land and are obtaining gold from the very ground applied for by Connelly, and this with the permission of the owner of the land. Connelly's permit must therefore be cancelled as contrary to the Mining Board Regulations, and I think additional regulations should be provided before any more such permits be granted.—H.C., 15/1/87.

Inform parties, and call upon Connelly & Co. to return the permit at once.—R.H.D., 18/1/87.

No. 26.

## Mr. J. F. Connelly to R. M. Vaughn, Esq., M.P.

Sir,

Parkes, 18 January, 1887.

About the 22nd December, 1886, by letter, and since personally I called upon Mr. A. E. L. Sharpe, the Warden, *in re* the said trespass. He positively declined to have anything to do with private land, he refused me an order to enter trespassers' shaft, a licensed surveyor to inspect and report, a summons against them, and an injunction; consequently, I have no redress here.

I have a shaft down over 100 feet, and can hear the trespassers undermining my shaft, which will take a considerable time to sink. Trespass still going on.

I have just returned from Sydney, where I went purposely to consult the Lands and Mines Departments, but with no result other than from the Under Secretary for Mines, who thought an order from the Attorney-General against the trespassers for stealing gold from private land as against the Queen without being specially authorized, would be the proper course. It seems to me a very hard case, considering that there is now about two and a half years I have been continuously applying for said land, and now that I have the permit from the Crown, Messrs. Drummond and party still continue the trespass, and strange to say, up to the present I have no alternative. Trusting you will, in conjunction with Messrs. Jas. Watson, E. A. Baker, T. F. De Courcy Browne, A. A. Stokes, Esqs., M.S.P., with whom I am personally acquainted, use your influence and see me protected at as early a date as possible; and as the party are about to crush in three weeks' time, I beg that you will, if possible, kindly get an order from the Attorney-General to stay their trespass, and also their crushing, pending further hearing.

The above party have taken about 400 or 500 tons of stone from underneath the said private land.

I may also inform you that during the last three years the reef in question has been working Messrs. Drummond and party have had every opportunity, if they so desired, to secure and protect themselves in that private land, because they must have known the course of the reef better than any other persons. On the other hand, from the first discovering of said line of reef, self and party sunk and drove about 1,000 feet, prospecting for said reef from the outside of said private land, and while so doing I sent in my application to the Minister for Lands for permission to mine upon the same, and for nearly two years and a half I persisted in my application for permission to mine upon said land, and under the above circumstances I certainly consider I am the first applicant; and had it been attended to in due course by the powers that were I should have had permission granted me two years ago, which would have given me 400 or 500 tons of stone averaging 4 ounces to the ton in soft country; but now through the delay or neglect of the Department, I have to content myself by sinking one and probably two shafts to a depth of 250 feet, a great portion being through blue rock, for a reef now reduced to 15 inches thick, and about 1½ ounce per ton; hence, my loss through the powers that were, with all due respect. Trusting you, with the assistance of the other gentlemen, will put this through for me at an early date, under the circumstances, when I will be ever thankful.

Apologising for trespassing so much upon your valuable time,—

I remain, &amp;c.,

JOHN F. CONNELLY.

P.S.—On my return home from Sydney I called upon Messrs. M'Loughlin and Pileher, solicitors, &c., of Orange, *in re* as to how I stood affected under my special authority from the Crown as against the trespassers. They told me the Minister had the power to grant and also to withdraw my permit, but consider that he had ample time in my case to consider, and to know what he was doing, and that it should have been granted long ago, but should he be unfavourably disposed towards me, the Government in all probability

probability would recoup me for my loss and expenses through having misled me; that in view of the present Ministry going out I had better await the new Minister, who will likely hold a very different view; that a few influential members of the House could put the matter through at once for me by getting the conditional purchase cancelled; my title would then be sound; that they thought the Mining Department had a right to deal with the case; that Drummond and party had had the same opportunity as myself, but did not embrace it; that it legally belongs to the first applicant, and that Drummond and party were illegally winning gold as against the Crown, and open to criminal prosecution.—J.F.C.

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No. 27.

R. M. Vaughn, Esq., M.P., to The Under Secretary for Lands,

Sir,

I beg to hand you enclosed a letter I have received from J. F. Connelly, and to ask that it may be favourably considered, and that the protection asked for may be granted. See No. 28.

Sydney, 20 January, 1887.

Yours, &c.,

R. M. VAUGHN.

Special.—This letter of Mr. Vaughn's, M.P., and its enclosed letter from John F. Connelly, are submitted in view of the Minister's decision of 15th January, 1887 (on letter of the 10th January), to the effect that the permit to Connelly was issued improvidently. It is observed that the letter of this Department to Connelly, conveying the Minister's decision, is dated 20th instant. Connelly's letter is dated the 18th instant. The letters have crossed each other evidently.—R.H.D., 25/1/87.

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No. 28.

The Under Secretary for Lands to Mr. J. F. Connelly.

Sir,

Department of Lands, Sydney, 20 January, 1887.

Referring to the permit, dated 11th December, 1886, to dig and search for gold within the improvement purchase noted below, issued to you, I am directed to inform you that the authority thereunder has been withdrawn, as it was obtained by what appears a suppression of the facts of the case, and issued contrary to the Mining Board Regulations, and therefore request that you will be good enough to return the permit to this Department at once.

I have, &c.,

STEPHEN FREEMAN

(For the Under Secretary).

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Parkes, I.P. 80-4, 7th July, 1880, 2 acres, parish of Currajong, county of Ashburnham, John M'Connell.

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No. 29.

Mr. J. F. Connelly to The Under Secretary for Mines.

Sir,

Sydney, 25 January, 1887.

I respectfully beg to inform you that I have, during the last two years and a half, been continuously applying for permission to mine upon part of portion 423, which, on the 18th day of January, 1884, was sold to John M'Connell as an improvement purchase, No. 80-4, Parkes, and strange to say that in June last a Mr. W. Hazelhurst made application for same land and got it at once over my head. He prospected said land to his satisfaction and then abandoned it. Then again, after considerable writing to the Department of Lands, I got special permission to search and dig for gold. I commenced my operations about the 14th of December last, when I found that Messrs. Drummond and party were undermining my workings (shaft) from outside on Crown lands. I cautioned them not to trespass by undermining my special authority from the Crown, as I would hold them responsible for any gold they may have taken from under said private property.

I have applied to the Warden on different occasions for protection. He declined having anything to do with it, it being private property.

I then came to Sydney, saw the Assistant Under Secretary for Lands, who told me to settle the matter between ourselves as best we could, as I had no right to the ground.

On the 22nd instant I received a letter from the Lands Department, stating that the authority has been withdrawn, as it was obtained by what appears a suppression of the facts of the case, and issued contrary to the Mining Board Regulations, and therefore requests that I will be good enough to return the permit at once.

Now, Sir, I would respectfully beg to draw your attention to the facts that I have, during the last three years, been prospecting outside said private land, and have sunk and drove about 1,000 feet unsuccessfully, and during two years and a half of that time I have been continuously making applications to mine in said private property (I am the first applicant), and during the last two years the said Messrs. Drummond and party have been continuously undermining said private land without being specially authorized, and have taken 400 or 500 tons of auriferous quartz from underneath, being detrimental to my interest; whereas had my application been attended to in due course by the Department, I would this day have been £2,000 or £3,000 a better man. As it is I am out at least £300, and now told to withdraw from the land.

Messrs. Drummond and party certainly had the privilege, if they so were inclined, by making the first application, inasmuch as they were the only persons in possession of the direction and the course of the vein when they opened it some three or four years ago.

Trusting you will see that my application has not been a suppression of the facts, as alleged, and that I, being the first applicant, should have been duly considered, that Drummond and party, having neglected to protect themselves by special authority, have been in illegal possession, taking out what should have been my legal right had it been attended to in due course.

Trusting you will kindly see me protected in the above,—

I remain, &c.,

JOHN F. CONNELLY.

Will the Under Secretary for Lands do me the favour to say why the permission to search has been withdrawn from Mr. Connelly? He has shown me your letter, dated 20th January, in which the reasons assigned are a suppression of the facts of the case, and issued contrary to the Mining Board Regulations. Kindly say which Regulation is infringed, and what was the suppression of facts?—H.W., B.C., 27/1/87. Urgent.

No. 30.

Mr. J. F. Connelly to E. A. Baker, Esq., M.P.

Dear Sir,

Sydney, 27 January, 1887.

*In re* our interview, this day, with Mr. Freeman, I feel very much hurt to think that he should be under the impression that I should cast any reflections upon the Department *in re* taking tip from Mr. W. Hazelhurst, as I could not possibly say so, because I knew better. What I did say, or meant to convey, was that Hazelhurst had to tip £5 to get the permit, which he told me he had done to an agent outside.

I certainly felt hurt to think that he could get a permit at once, when I had been applying and waiting so long without any result. Should you see Mr. Freeman, I trust you will kindly explain this matter to him. Trusting he will banish that idea from his mind, as it was never meant,—

I remain, &c.,

JOHN F. CONNELLY.

Notwithstanding this disclaimer, there is no possibility of misunderstanding the nature of Mr. Connelly's insinuation, or his foolish threat to bring the matter before the House. The threats were, however, not allowed to prejudice what then appeared to be his very strong claim for a permit.—S.F., 22/2/87.

This letter has been attached to the papers at the request of Mr. E. A. Baker.—S.F., 22/2/87.

No. 31.

Mr. A. Drummond to The Secretary for Lands.

Sir,

Parkes, 27 January, 1887.

As the permit to Mr. J. F. Connelly to mine for gold on portion No. 423, at Parkes, has been cancelled, we beg to renew our application for a permit, we already having the permission of the owner of the land to mine under it.

Yours, &c.,

A. DRUMMOND

(For Quaile and party).

Submitted in view of memo. of 25th January, 1887. Attention is invited to the minute of the Under Secretary for Mines, dated 27th January, 1887.—R.H.D., 31/1/87. Refer the papers to the Under Secretary for Mines with reference to the minute above referred to.—C.O., B.C., 22/2/87. The Under Secretary for Mines.

No. 32.

Minute by The Under Secretary for Mines.

8 March, 1887.

*IN* view of the decision of the late Minister for Lands (Mr. Copeland), dated 15th January last, in regard to the permit granted to Mr. J. F. Connelly, I venture, with great diffidence, to submit that the decision appears to be based on a misconception concerning the Regulations relating to such permits. The Regulation (169) provides that the person named in the permit shall mark out the land in such position as shall interfere as little as possible with any permanent improvements on such land.

This is the only provision in the Regulation concerning the position of the "area." The words in the Regulation quoted, which may have misled the late Minister for Lands, are:—"Such area shall be of the dimensions, and subject to the conditions, and shall be marked out in the manner [*e.g.*, with posts and trenches at each angle] prescribed by the Mining Board Regulations."

The power to cancel such a permit is contained in Regulation 171, and the grounds of cancellation are failure to "maintain the boundary marks of such area, and prosecute the search for gold in accordance with the provisions of the Regulations aforesaid."

If the facts are as set out by Mr. Connelly, that he has expended a sum of money in sinking a shaft while holding his permit, he will probably lose the money so spent unless the permit can be revived.

H. W.,

8/3/87.

Submitted. For the consideration of the Minister for Lands.—F.A., 8/3/87. The Under Secretary for Lands.—G.E.H. (for U.S.), B.C., 9/3/87. Submitted specially.—R.H.D., 15/3/87. S.F., 17/3/87. Perhaps the opinion of the Attorney-General may be sought as to the power of the Minister to cancel a permit under section 45, for reasons other than those set out in Regulation 171.—S.F., 30/3/87. Approved.—T.G., 31/3/87. The Crown Solicitor.—R.H.D. (for the U.S., Lands), B.C., 4/8/87.

## No. 33.

## Mr. W. S. Ritchie to The Secretary for Lands.

Sir,

Parkes, 16 March, 1887.

Mr. J. F. Connelly, who, in December last, was in error granted a permit to mine in portion No. 423, of 2 acres, parish of Currajong, county of Ashburnham, and which authority was withdrawn by the late Minister of Lands, on or about the 18th day of January, 1887, continues to work in said portion, despite the fact that authority to mine in said portion was vested in Drummond and party by the late Minister, they also holding a duly registered permission to mine in said portion from Mr. Edward M'Gee, the owner thereof.

Connelly has now broken into Drummond and party's mineral selection No. 251, damaging the workings, knocking out our timber, and dropping stones, &c., on Drummond and party, one of them being injured thereby to-day.

Drummond and mates are patient, law-abiding men, suffering from great provocation; have summoned Connelly to the Warden's Court. The Warden said he had no jurisdiction, but forwarded the papers to the Lands Department. Drummond and party ask that you will take prompt steps, as per telegram, for their protection, to prevent a breach of the peace, and possible bloodshed, if Connelly attempts to remove quartz from the mine, which he will be in a position to do in a few days.

I am, &amp;c.,

W. S. RITCHIE,

Underground Manager

(For Drummond and party).

Referred to the Under Secretary for Mines in connection with the previous papers.—R.H.D. (for U.S.), 16/5/87. Seen.—H.W., 21/5/87.

## No. 34.

## Telegram from Mr. W. S. Ritchie to The Secretary for Mines.

Parkes, 16 March, 1887.

CONNELLY, working in portion 423, broken into Drummond and party's mining tenement No. 251, weakening the walls of the mine, knocking out our timber, and dropping stones and mullock into Drummond and party's workings, one of whom injured to-day. Prompt steps necessary to prevent a breach of the peace.

W. S. RITCHIE,

Underground Manager

(For Drummond and party).

Ask Mr. Warden Sharpe to inquire at once into this matter, and ask the Lands Department whether the cancellation of the permit to Connelly has been revoked.—H.W., 17/3/87. Mr. Warden Sharpe.—G.E.H. (for U.S.), B.C., 18/3/87.

## No. 35.

## Telegram from Mr. W. S. Ritchie to The Secretary for Lands.

Parkes, 16 March, 1887.

CONNELLY, working in portion 423, broken into Drummond and party's mining tenement No. 251, weakening the walls of the mine, knocking out our timber, and dropping stones and mullock into Drummond and party's workings, one of whom injured to-day. Prompt steps necessary to prevent a breach of the peace.

W. S. RITCHIE,

Underground Manager

(For Drummond and party).

## No. 36.

## Mr. W. S. Ritchie to The Secretary for Mines.

Sir,

Parkes, 16 March, 1887.

Mr. J. F. Connelly, who, in December last, was in error granted a permit to mine in portion No. 423, of 2 acres, parish of Currajong, county of Ashburnham, and which authority was withdrawn by the late Minister for Lands on or about the 18th day of January, 1887, continues to work in said portion despite the fact that authority to mine in said portion was vested in Drummond and party by the late Minister for Lands, they also holding a duly registered permission to mine in said portion from Mr. Edward M'Gee, the owner thereof.

Connelly has now broken into Drummond and party's mineral selection No. 251, damaging the workings, knocking out our timber, and dropping stones and mullock on Drummond and party, one of them being injured thereby to-day. Drummond and mates are patient, law-abiding men, suffering from great provocation; have summoned Connelly to the Warden's Court. The Warden said he had no jurisdiction, but forwarded the papers to the Lands Department. Drummond and party ask that you will take prompt steps as per telegram, for their protection, to prevent a breach of the peace and possible bloodshed, if Connelly attempts to remove quartz from the mine, which he will be in a position to do in a few days.

I am, &amp;c.,

WM. S. RITCHIE,

Underground Manager

(For Drummond and party).

My report in this case was sent to the Department on the 18th instant. I have nothing to add to it except that it appears the No. of Drummond's mining tenement is 252, and not 251. See telegram herewith.—ERNEST A. L. SHARPE, Warden. The Under Secretary for Mines, B.C., 26/3/87.

No. 37.

## No. 37.

Telegram from The Under Secretary for Mines to Mr. Warden Sharpe.

Sydney, 17 March, 1887.

COMPLAINT received that one Connelly, working in portion 423, had broken into Drummond and party's mining tenement 251, weakening the walls of mine, and damaging workings. Please inquire into matter at once.

HARRIE WOOD,  
Under Secretary for Mines.

## No. 38.

E. A. Baker, Esq., M.P., to The Secretary for Lands.

Dear Sir,

Sydney, 18 March, 1887.

It is so difficult to see you that I send you a line to ask you to be good enough to give a decision as soon as possible in the matter I spoke to you about some time since (Connelly's permit to search for gold in alienated land).

You referred the matter to the Mines, and the papers are back with the opinion of the Minister. Mr. Freeman tells me they will be on your table to-day.

Will you give your decision, and have me communicated with.

Yours, &c.,  
E. A. BAKER.

## No. 39.

The Under Secretary for Mines to The Under Secretary for Lands.

Sir,

Department of Mines, Sydney, 18 March, 1887.

I have the honor to request that you will be good enough to inform me whether the cancellation of the permit granted to one Connelly, to mine on certain land, portion 423, I.P. 80-4, Parkes, has been revoked. The papers were forwarded to your Department on the 10th instant.

I have, &c.,  
GERARD E. HERRING  
(For the Under Secretary.)

## No. 40.

W. T. Coonan, Esq., to The Secretary for Lands.

Sir,

Sydney, 18 March, 1887.

On behalf of Messrs. Quaile and party, gold-miners, of Parkes, I am instructed to respectfully call your attention to the fact that, notwithstanding the cancellation of J. F. Connelly's permit to search and dig for gold on portion No. 423, town of Parkes, he is still working under the said authority, and has sunk a shaft on the line of reef discovered by Quaile and party, and has also broken into their workings. The permit having been obtained by a suppression of the facts of the whole case, and the same having been cancelled, I respectfully submit that action should at once be taken by the proper officer of your Department to compel Mr. Connelly to return the permit granted to him.

Yours, &c.,  
W. T. COONAN.

P.S.—Quaile and party seem to have right on their side. Could not the Minister demand from Connelly the return of permit, and at same time advertise in the local papers that the permit had been drawn? Presented by H. H. Cooke, M.P.

The question as to the cancellation of Connelly's permit being revoked is now under the consideration of the Minister for Lands, submitted on the 16th instant.—R.H.D.

## No. 41.

Telegram from Mr. Warden Sharpe to The Warden's Clerk, Parkes.

18 March, 1887.

PLEASE ask Connelly, working portion 423, and Drummond and party, working mining tenement No. 251, to meet me at Court-house this evening at half-past 5, re complaint that former has broken into latter's mining tenement, weakening walls of mine, and damaging workings.

## No. 42.

Mr. Warden Sharpe to The Under Secretary for Mines.

Sir,

Warden's Office, Forbes, 19 March, 1887.

Referring to the annexed telegram, I have the honor to state that, in accordance with your request, I proceeded to Parkes with the least possible delay and made inquiry concerning the matter complained of. I requested the parties interested to meet me at the Court-house, Parkes, on yesterday evening, which they did, and made certain statements, which are annexed for the information of the Minister for Mines.

2. It appears that portion 423 is freehold land, 2 acres in area, the property of Edward M'Gee, of Parkes. Mr. John F. Connelly obtained permission from the Minister for Lands to mine on this land, but the permission it seems was withdrawn, having been issued in error, and Messrs. Quaille and party or Drummond and party were informed by letter, dated 20th January last. Drummond and party have been mining under portion 423 for a considerable period, and have removed probably a large body of stone with the permission of Mr. M'Gee. Drummond and party admit that they have no permit from the Minister for Lands. They sunk two shafts on their quartz claim (see rough sketch) which adjoins portion No. 423, and have taken out the reef between these shafts, but under the freehold. Connelly and party sunk a shaft on the freehold, and broke through into the workings which Drummond and party had partly filled up and timbered as they took out the reef.

Enclosure No. 18.  
Appendix B.

It seems that a stone about the size of an egg fell through and inflicted a slight wound on the head of Thomas Tulloch, who was in the workings below Connelly's shaft, and that about a load of mullock has fallen through since. Connelly says fine sand fell through. Drummond and party say rocks and mullock.

Connelly states that his party are in danger from Drummond and party, and that they have threatened to do them serious injury if they persist in sinking the shaft, which, if continued down, will follow the wall of the reef, with one side open to the workings, where the reef has been removed by Drummond and party, and this is what Drummond and party are anxious to prevent. These workings are timbered and partly filled with mullock. Connelly states that his object is to get down to the reef Drummond and party are working. Some time since Drummond and party summoned Connelly and party in the Warden's Court, at Parkes, for trespass on the freehold land, and the case was dismissed for want of jurisdiction, and the parties were warned that they should take the proper steps to determine who had a right to mine on the land, and they informed me that they would take legal advice.

It seems to me that neither party has, at present, any right to mine under portion 423, as they do not possess any legal permit, and I would urge that the necessary steps be taken at once to determine who has a right to mine on it, as a great deal of ill-feeling exists between the parties, who are each evidently under the impression that the other is depriving them, or endeavouring to deprive them, of the reef, which they each claim. Having heard the statements of each side, I advised them that they should abstain from working on the freehold until the dispute was determined, and I also stated that I would bring the urgency of the matter under the notice of the Minister.

I may add that I believe the reef in Quaille and party's claim (now Drummond and party) was very profitable, if not rich, and as it runs through the freehold where Drummond and party have been working, probably the stone taken out was rich, and this is the reason the parties in question were so bitter against one another.

I have, &c.,  
ERNEST A. L. SHARPE,  
Warden.

[Enclosure.]

DEPOSITIONS taken at Court-house, Parkes, on the 18th March, 1887.

ALEXANDER DRUMMOND states that he is one of the shareholders in mining tenement No. 251, at Parkes, six men's ground, quartz claim; I have complained that John F. Connelly and party have so worked the adjoining mine, which is on a freehold, portion 423, that the lives of our working men are endangered; if not stopped, Connelly and party will do our mine serious damage; we are on the freehold belonging to Mr. M'Gee; we started to work on our mining tenement, but the workings are in the freehold; but I can't say how far we are under it; I have no permit from the Minister for Lands, but I have leave from Mr. M'Gee to work under his land; I have a letter, which I produce, from the Department of Lands, dated 20th January, 1887, stating that the permit issued to John F. Connelly was issued in error, and that the authority has been withdrawn.

William Spark Ritchie states that he is an underground manager for Drummond and Company; their workings are under the freehold portion No. 423; we are on the northern side of portion 423; our southern boundary adjoins the north boundary of portion 423; one of the shafts is about 20 feet from the north boundary of portion 423, the other is on the eastern boundary, one 197 feet, the other 180 feet, connected with a drive, and the reef has been taken out to the surface, and we are about 17 feet under the freehold at the 197-foot level; the danger is, Connelly and party have broken into our workings at about the 150-foot level, and drop rocks through; one of the shareholders received a blow from a rock; his head was cut, and I stanchied the blood; the mullock and rock were falling; the workings of Connelly and party are still being carried on; I consider that I am responsible for the safety of the men working in our mine and the mine itself; if their work proceeds they will be in a position to remove quartz from the reef we are working.

John F. Connelly states that he and his party are working on freehold land, portion 423; we have a permit, but I don't produce it; I can't say whether it has been cancelled or not; we are sinking a shaft to catch a reef—any we can find; we have come into the workings of Drummond and party; we have sunk two shafts and driven about 450 feet; the shaft complained of is down about 170 feet, and broke through into Quaille and party's working (now Drummond and party); we have been three days, and successfully timbered up the workings; there is a pass and an opening, through which small stuff (small mullock) can dribble through; I can't account for the fact that a rock fell on Thomas Tulloch; there are no rocks to come through; in their workings there is a floor which would prevent anything from falling down; when we were breaking through I cautioned Drummond and party to look out below several times for fear anything might fall through; I have been threatened by Drummond and party that they will injure us if we attempt to do any more work; I complain that we are in danger from Drummond and party; I have asked them to put in a stall below to prevent anything that may fall from our workings so as to protect their crossing; this they refused to do, and I offered to do it myself for our mutual benefit and protection.

Thomas Tulloch says he was working in the freehold of Edward M'Gee; I am one of Drummond's party; I received an injury from a stone, about the size of an egg; I got a nasty knock; the skin was cut; it is nearly well; the stone came from above; I could not say that it came from Connelly's shaft; I think it did; about a load of mullock has come from where Connelly and party broke through.

Taken before me this 18th day of March, 1887,—  
E.T.

Both parties should be ordered to withdraw at once from the private land until the Minister for Lands has decided what is to be done in regard to Connelly's permit. Drummond and party appear to have been guilty of stealing gold, the property of Her Majesty the Queen, and are probably liable to prosecution. As soon as the Minister for Lands has dealt finally with Connelly's permit, it might be considered whether the land, or some part of it, should not be resumed, and whether Drummond and party might not be allowed to pay royalty upon the gold taken out.—H.W., 21/3/87. Submitted. Approved.—F.A., 25/3/87.

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No. 43.

Telegram from Mr. Warden Sharpe to The Under Secretary for Mines.

Forbes, 19 March, 1887.

REPORT *re* Drummond and party's complaint by next post.E. A. L. SHARPE,  
Warden.

No. 44.

The Under Secretary for Lands to The Under Secretary for Mines.

Sir, Department of Lands, Sydney, 23 March, 1887.

In reply to your letters of the 18th instant, I have the honor to inform you that the cancellation of the permit, granted to one Connelly to mine on portion 423, I.P. 80-4, of Parkes, has not been revoked, but that the case is now under the consideration of the Minister.

I have, &amp;c.,

STEPHEN FREEMAN  
(For the Under Secretary).

No. 45.

Telegram from Mr. W. S. Ritchie to Mr. Warden Sharpe.

Parkes, 24 March, 1887.

DRUMMOND and party's mining tenement should be No. 252; calling it 251 was a mistake.

W. S. RITCHIE

(For Drummond and party).

No. 46.

The Under Secretary for Mines to Mr. Warden Sharpe.

Sir, Department of Mines, Sydney, 25 March, 1887.

I have the honor to acknowledge the receipt of your letter of the 19th instant, with your report on the complaint of Drummond and party, that one Connelly had broken into their mining tenement No. 231, in the parish of Currajong, which lies adjacent to portion 423, on which Connelly was working under a permit from the Secretary for Lands; and I am directed by the Secretary for Mines to request that you will order both parties to withdraw at once from the private land on which they have been working, until the Minister for Lands has decided what is to be done in regard to Connelly's permit.

I have, &amp;c.,

HARRIE WOOD,  
Under Secretary.

No. 47.

Mr. J. F. Connelly to Mr. Warden Sharpe.

Sir, Parkes, 1 April, 1887.

In reply to yours of the 28th ultimo, *in re* withdrawal from Mr. E. M'Gee's private land, I beg to say that I have, since your inquiry a fortnight ago, also to inform you that Messrs. Drummond and party are working under said land detrimental to my interest, and ask that you will stay them, pending decision from the Department.

Yours, &amp;c.,

JOHN F. CONNELLY.

No. 48.

Mr. Warden Sharpe to The Under Secretary for Mines.

Sir, Forbes, 2 April, 1887.

I enclose a letter I have received from Mr. John F. Connelly, stating that he has withdrawn from certain private land at Parkes, portion 423, belonging to Mr. Edward M'Gee, and complaining that Drummond and party are working under the said portion. I have the honor to state that I have made inquiry as to Connelly's statement, and am informed by Drummond and party that they have not been working under the said land since an order was served on them to desist. Having regard to the fact that their working shafts are connected under the freehold land, although the said shafts have been sunk on their quartz claim, and follow the reef under the freehold land, at the request of Messrs. Drummond and party I have registered the said quartz claim for suspension of labour for a short time; but the parties interested have requested me to urge that the matter may be settled as soon as possible, as they are unable to follow their occupation pending the settlement of the dispute, and are consequently, they allege, suffering a heavy loss. I may add that I think that it is very advisable that the question, who has or has not a right to mine on the freehold, should be determined with as little delay as possible.

I have, &amp;c.,

ERNEST A. L. SHARPE,  
Warden.

No. 49.

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No. 49.

Mr. Warden Sharpe to The Under Secretary for Mines.

Sir,

Forbes, 4 April, 1887.

Referring to your letter of the 25th ultimo, respecting the complaint that Connelly and party were trespassing on the mining tenement of Drummond and party, which lies adjacent to portion No. 423, on which Connelly and party were working under a permit from the Secretary for Lands, and requesting me to order both parties to withdraw from the private land until the Minister for Lands has decided what is to be done in regard to Connelly's permit, I have the honor to state that the said request has been complied with.

I may add that I am informed that the number of the claim abovementioned is 252, and not 251.

I have, &amp;c.,

ERNEST A. L. SHARPE,

Warden.

I understand the Lands Department has referred the question for opinion of the Attorney-General, and I presume definite action will be taken as soon as that is given.—H.W., 7/4/87.

No. 50.

H. H. Cooke, Esq., M.P., to The Secretary for Lands.

Baxtrom and Connelly.

Sir,

Parkes, 11 April, 1887.

I have the honor to again draw your attention to this case, and I earnestly ask you to give it your early consideration, as I have reason to believe there has been some occult working, with the intention, perhaps, of misleading your Department.

My only desire is, as I am sure it is yours also, that a just and equitable decision may be arrived at.

The case seems perfectly clear to me, and to my mind the whole matter depends on the priority of the respective applications for the permits of Baxtrom and Connelly, as I think you will also see by referring to your letters to Baxtrom, of 5th October and 10th December, 1886, and to the respective applications.

In dealing with this case some confusion may have arisen through the party being variously designated as Baxtrom and party, Quaile and party, and Drummond and party, which are one and the same.

If when Baxtrom and party's application of 24th August, 1886, was received, the prior application of Hazelhurst had been granted, Baxtrom's application could not be entertained, but when Hazelhurst relinquished, and abandoned his right to mine by virtue of his permit, Baxtrom's application being next in order, and not having been withdrawn, ought, I respectfully submit, to have been at once granted.

Connelly's name does not appear in the correspondence until in your letter to Baxtrom on the 10th December, 1886, more than two months after you acknowledged Baxtrom's application.

Baxtrom and party in continuing to work their mining claim, which adjoins the freehold, followed their quartz reef on the underlay into and under the freehold, having first obtained permission from the owner to do so.

There was no intention to evade any law, and they having obtained permission from the owner of the freehold were at first ignorant of the necessity of making an application to you. They are now prepared to pay any royalty due on account of any gold obtained from the ground in question, and to comply with the law in all respects.

To my mind, by every right in law and equity, Baxtrom and party are entitled to have their application granted, and the withdrawal of Connelly's permit sustained, and to be allowed peaceable possession, without having recourse to the Law Courts, which to them would be perhaps costly beyond their means.

In addition to the foregoing, please allow me to remind you that the reasons which existed when Connelly's permit was withdrawn still exist.

I may add that a great injustice is attempted against Baxtrom and party, and will fall especially heavy on some of the shareholders who bought into the claim, believing the right to mine under the freehold was a good right.

Leaving the case with all confidence in your hands,—

I have, &amp;c.,

HENRY H. COOKE.

Forward to the Under Secretary for Mines with reference to previous correspondence.—S.F., B.C., 14/4/87. Inform.

No. 51.

The Crown Solicitor to The Under Secretary for Lands.

*Subject*:—Permit granted to Mr. J. F. Connelly.

Sir,

Crown Solicitor's Office, Sydney, 13 April, 1887.

I have the honor to return herewith the papers relating to the above matter, which were forwarded to me from your Department on the 30th day March, 1887, and to state that I have submitted them to Mr. Attorney-General Foster, a copy of whose memo. thereon will be found below.

I have, &amp;c.,

JOHN WILLIAMS,

Crown Solicitor.

Memo.

## MEMO.

I CAN conceive that there may be cases not within 171 of the Regulations under the Lands Act in which the Minister might withdraw or cancel a permit granted under section 45 of the Lands Act. No case is stated sufficient to enable me to form any opinion whether the papers before me come in the category of such cases (which must be very exceptional), and I cannot undertake to search through the documents of other Departments than my own to find out what the case contained in them is. Unless a clear statement of facts and acts, and the authority under which they purport to be done, is sent, I must decline to enter upon the consideration of matters submitted for my opinion.

W. J. F.,  
Attorney-General, 6/4/87.

The Under Secretary for Mines.—S.F., B.C., 23/4/87.

## No. 52.

The Under Secretary for Lands to H. H. Cooke, Esq., M.P.

Sir,

Department of Lands, Sydney, 14 April, 1887.

I have the honor to acknowledge receipt of your letter of the 11th instant, respecting the matter of Baxtrom's application for permission to dig and search for gold, and to inform you that your communication has been forwarded to the Department of Mines, where all matters in connection with the issue of such permits are now dealt with.

I have, &c.,

STEPHEN FREEMAN  
(For the Under Secretary).

## No. 53.

E. A. Baker, Esq., M.P., to The Under Secretary for Lands.

Dear Sir,

Sydney, 1 May, 1887.

As regards the case of Mr. Connelly, of Parkes, to whom was granted a permit to search for gold in alienated land by the late Secretary for Lands, will you be good enough to inform me what is being done in the matter?

Mr. Garrett referred the case to the Attorney-General for his opinion, but on inquiry of the Secretary, Mr. Stephen, I find the Attorney-General has returned the case to your Department, as he cannot, it seems, understand what he is to advise about.

This case has been sent to the Mines Department, who, I believe, advised on it. It has been in hand for a very long time.

Yours, &c.,

E. A. BAKER.

Inform Mr. Baker that his letter has been forwarded to Mines Department. Informed, 28/5/87.  
The Under Secretary for Mines.—S.F., B.C., 28/5/87. Mr. Baker, M.P., informed of decision of Secretary for Mines, dated 6/5/87.

## No. 54.

Minutes by The Under Secretary and Minister for Mines.

*Subject*:—Permission to dig and search for gold on portion 423, at Parkes.

THE papers in this case disclose the following facts:—J. F. Connelly's application for a permit (not on the printed form) is dated 6th August, 1884. In this he sets out that the land in question is bounded on three sides by quartz-mining in full operation. On the 16th August, 1884, he states, when urging his application, "the land is in the centre of quartz-mining operations." On the 29th September, 1884, he states the land is being mined on three sides, and quartz reefs are known to run through it.

Mr. Hazelhurst's first application for a permit is dated 3rd November, 1885; his second application is dated 10th May, 1886. Permits were granted to Hazelhurst, one dated June, 1886, the other 13th July, 1886. On the 1st October, 1886, Hazelhurst notified the Lands Department that he had tested the ground and abandoned the permit. The Warden reported on the 20th October, 1886, that Hazelhurst had abandoned his permit a month since. Permit to Hazelhurst cancelled by the Minister for Lands on the 7th December, 1886. Permits returned by Hazelhurst to the Lands Department on the 22nd December, 1886.

Baxtrom and party made application for permit on the printed form, dated 24th August, 1886. On the same date as Hazelhurst's permit was cancelled, namely, 7th December, 1886, the Minister for Lands decided that a permit be granted to J. F. Connelly, and a permit dated 11th December, 1886, was granted to him.

On the 15th January, 1887, the Minister for Lands decided that the permit had been issued to Connelly in error, "and was obtained by what appears a suppression of the facts of the case" \* \* \* "whereas it appears Quaille and party (Baxtrom and party) have a claim immediately adjoining this land" \* \* \* "Connelly's permit must therefore be cancelled." From the above facts it will be seen that Connelly was the first applicant, and that he not only set out in his first application, but reiterated the statement, that mining was being actively carried on upon three sides of the land, that the land was in the centre of quartz-mining, and that quartz reefs were known to run through it. His application was not on the printed form, because the printed form (Form L.A.M.) was not then in use.

From the papers it appears that, relying upon the permit, Connelly has sunk two shafts and constructed drives, the cost of which will be lost to him if he be deprived of his permit.

Baxtrom

Baxtrom and party rely upon a permission granted by the owner of the land to mine upon and remove gold from the land. The owner of the land never had any right to the gold, and has never obtained a permit in terms of the Crown Lands Act of 1884, section 7, to remove the gold from such land. It appears that a large quantity of gold has been wrongfully removed from the land without the sanction of the Crown and without paying any royalty thereon.

Baxtrom and party, it is stated, had no intention to evade the law, and are now prepared to pay any royalty due. I do not know whether the royalty can now be received, or whether, in view of the 7th section of the Act aforesaid, the Attorney-General will consider that the parties should be punished; but if the royalty can be received it is not clear how the amount due is to be ascertained. As it appears to me, the questions to be decided are: 1. Should Connelly's permit be cancelled? 2. If so, should he receive compensation; and if so, by whom should it be paid? 3. Should Baxtrom and party be prosecuted for removing gold without permission, and if not, should they pay the royalty due?

H.W., 5/5/87.

Submitted.

After going through these papers I do not feel justified in altering the decision of the late Minister for Lands (Mr. Copeland). Replying to the questions submitted by the Under Secretary in their order: 1. I decide that Connelly's permit should be cancelled. 2. He should not receive any compensation. 3. Baxtrom and party should not be prosecuted for removing gold without permission, but should be called upon to at once pay the royalty on all gold taken out of the land.—F.A., 6/5/87.

Inform Mr. Connelly, and call upon Baxtrom and party to pay royalty upon all gold taken out of the land, portion 423, Parkes. The Warden should obtain from Baxtrom and party a statutory declaration as to the quantity of gold taken, and satisfy himself as far as practicable that a true return is made. Inform the members.—H.W., 7/5/87.

No. 55.

Mr. J. F. Connelly to The Secretary for Mines.

Sir,

Parkes, May, 1887.

I have the honor to submit to your notice that having been granted a permit from the Lands Department to mine and search for gold upon the improvement purchase of Mr. E. M'Gee, No. 423, situate upon the gold-fields reserve, town of Parkes, the great injustice I have suffered through an error of judgment on their part when after being put to an outlay of over £100, has been withdrawn from me, and the whole of the affair now held in abeyance.

Within the last three years I have completed considerably over 1,000 feet of sinking and driving in prospecting for Quaille's or any other line of reef (a plan of which I herein enclose).

I now beg that you will be pleased to call for the whole of my papers, &c., that have passed through the Lands Department for the past three years, and cause the same to be laid before the Assembly, showing the injustice I have been subjected to anent my applications to mine upon the said improvement purchase as compared with others.

I would also humbly ask:—

1. By what influence was Wm. Hazelhurst lately granted a permit to mine upon the said I.P., my application being prior by two years?
2. Why was my permit withdrawn after subjecting me to such expense?
3. What right has Quaille and party to mine such I.P. without a permit?
4. How did E. M'Gee become possessed of the decds of said I.P. situate on gold reserve?
5. When is a decision of the Mines and Lands Departments likely to be arrived at over same?

Trusting some light will be thrown upon this unsatisfactory state of affairs,—

I have, &c.,

JOHN F. CONNELLY, SENR.

See enclosure G.  
Appendix G.

This matter has recently been decided by the Minister. I presume it is not intended to reopen the case.—H.W., 11/5/87. Approved.—F.A., 12/5/87.

No. 56.

The Under Secretary for Mines to H. H. Cooke, Esq., M.P.

Sir,

Department of Mines, Sydney, 10 May, 1887.

I have the honor to acknowledge the receipt of your letter of the 11th ultimo, addressed to the Minister for Lands, which has been referred to this Department, relating to the applications of one Connelly and Baxtrom and party for a permit to dig and search for gold on land, portion 423, at Parkes, and I am directed to inform you that the Secretary for Mines has decided to endorse the action of Mr. Copeland, the late Minister for Lands, cancelling the permit granted to Connelly, and Baxtrom and party have been called upon to pay royalty upon all gold taken out of the land before-mentioned.

I have, &c.,

HARRIE WOOD,

Under Secretary.

No. 57.

The Under Secretary for Mines to Messrs. Baxtrom and Party.

Gentlemen,

Department of Mines, Sydney, 12 May, 1887.

I have the honor, by direction of the Secretary for Mines, to call upon you to pay royalty upon all gold taken out of the land, portion 423, Parkes, which gold was removed without the sanction of the Crown.

I have, &c.,

HARRIE WOOD,

Under Secretary.

18'

No. 58.

The Under Secretary for Mines to Mr. Warden Sharpe.

Sir, Department of Mines, Sydney, 12 May, 1887.  
I have the honor, by direction of the Secretary for Mines, to request that you will obtain from Baxtrom and party a statutory declaration as to the quantity of gold taken from the land, portion 423, Parkes, and satisfy yourself, as far as practicable, that a true return is made.

I have, &c.,  
HARRIE WOOD,  
Under Secretary.

No. 59.

The Under Secretary for Mines to Mr. J. F. Connelly.

Sir, Department of Mines, Sydney, 12 May, 1887.  
I have the honor to inform you that the Secretary for Mines has decided to endorse the action of Mr. Copeland, the late Minister for Lands, in cancelling the permit granted to you to dig and search for gold on land, portion 423, Parkes, and I am also to inform you that no compensation can be made you.

I have, &c.,  
HARRIE WOOD,  
Under Secretary.

No. 60.

The Under Secretary for Mines to Mr. J. F. Connelly.

Sir, Department of Mines, Sydney, 16 May, 1887.  
Referring to your letter, bearing no date, in respect to the permit granted to you to dig and search for gold on land, portion 423, at Parkes, which has now been cancelled, I am directed by the Secretary for Mines to inform you that a decision has been arrived at, and that the case will not be reopened.

I have, &c.,  
HARRIE WOOD,  
Under Secretary.

No. 61.

The Under Secretary for Lands to E. A. Baker, Esq., M.P.

Sir, Department of Lands, Sydney, 28 May, 1887.  
I have the honor to acknowledge receipt of your letter of the 1st instant, respecting the matter of the permit to dig and search for gold, granted to Mr. Connelly, of Parkes, and to inform you that your communication has been forwarded to the Department of Mines, where all matters in connection with the issue of such permits are now dealt with.

I have, &c.,  
STEPHEN FREEMAN  
(For the Under Secretary).

No. 62.

The Under Secretary for Mines to E. A. Baker, Esq., M.P.

Sir, Department of Mines, Sydney, 4 June, 1887.  
Referring to your letter of the 1st ultimo, addressed to the Under Secretary, Department of Lands, in which you ask what is being done in the matter of Mr. J. F. Connelly's permit to mine for gold on portion 423, at Parkes, I am directed to inform you that the Secretary for Mines has decided to endorse the action of Mr. Copeland, the late Minister for Lands, cancelling the permit granted to Connelly, and that Baxtrom and party have been called upon to pay royalty upon all gold taken by them from the land above referred to.

I have, &c.,  
HARRIE WOOD,  
Under Secretary.

No. 63.

Telegram from The Under Secretary for Mines to Mr. Warden Sharpe.

17 June, 1887.  
HAVE Baxtrom and party paid royalty on all gold taken out of the land, portion 423, Parkes, and have they made statutory declaration as to the quantity of gold taken, in accordance with request in my letter of the 12th ultimo?

HARRIE WOOD,  
Under Secretary.

No. 64.

Telegram from Mr. Warden Sharpe to The Under Secretary for Mines.

17 June, 1887.  
THE papers re gold taken from portion 423, referred to in your telegram of to-day, were forwarded to you yesterday. No royalty has been paid as far as I know.

ERNEST A. SHARPE,  
Warden.

No. 65.

No. 65.

Mr. J. F. Connelly to The Secretary for Mines.

Sir,

Parkes, 26 August, 1887.

I respectfully beg to place before your notice the great injustice which has been done to the mining community of Parkes in reference to portion No. 423-80-4, sold to John M'Connell on the 18th January, 1884, who held said land without improvements or fulfilling the residence clause, he being an employé for Mr. E. M'Gee, was shifted and resided at different places to suit Mr. M'Gee's convenience, who afterwards bought said land from J. M'Connell, the said land being then lawfully occupied by surveyed and registered claims, viz., Messrs. Bolcher and party, and others who have been in full occupation before and since (refer dates in the Mining Registrar's Books).

I now beg that you will kindly cause an inquiry to be made to show and prove that said land was sold to John M'Connell for Mr. E. M'Gee's benefit as an undue preference to him as against all others in same locality, when the sale of all other lands on same hill was refused on account of its contiguity to the mines surrounding.

I therefore beg to ask that said piece of land be cancelled for the above reasons.

Under the above circumstances I respectfully beg to ask and hereby make application for part of said portion No. 423-80-4, town of Parkes, sold to John M'Connell on the 18th January, 1884, for to dig and search for gold under the Lands Act so provided, and guarantee not to interfere in any way whatever with any existing rights, and will do no injury to said land more than is required for ordinary mining purposes.

I have, &amp;c.,

JOHN F. CONNELLY

(For Self and party).

The deed for the portion has issued. Application for permit under section 7 of the Land Act of 1884 has been made by E. M'Gee (the owner), and the application has been approved by His Excellency and the Executive Council. The permit is to-day being sent on for His Excellency's signature.—W.R.C., 22/9/87.

[Three Plans.]



APPENDIX A  
Enclosure to N<sup>o</sup> 25

M T. 252  
QUAILE & PARTY

PORTION 423

Quaile and party ask for the right to mine / claim on this portion

Quaile & party  
N<sup>o</sup> 2 shaft

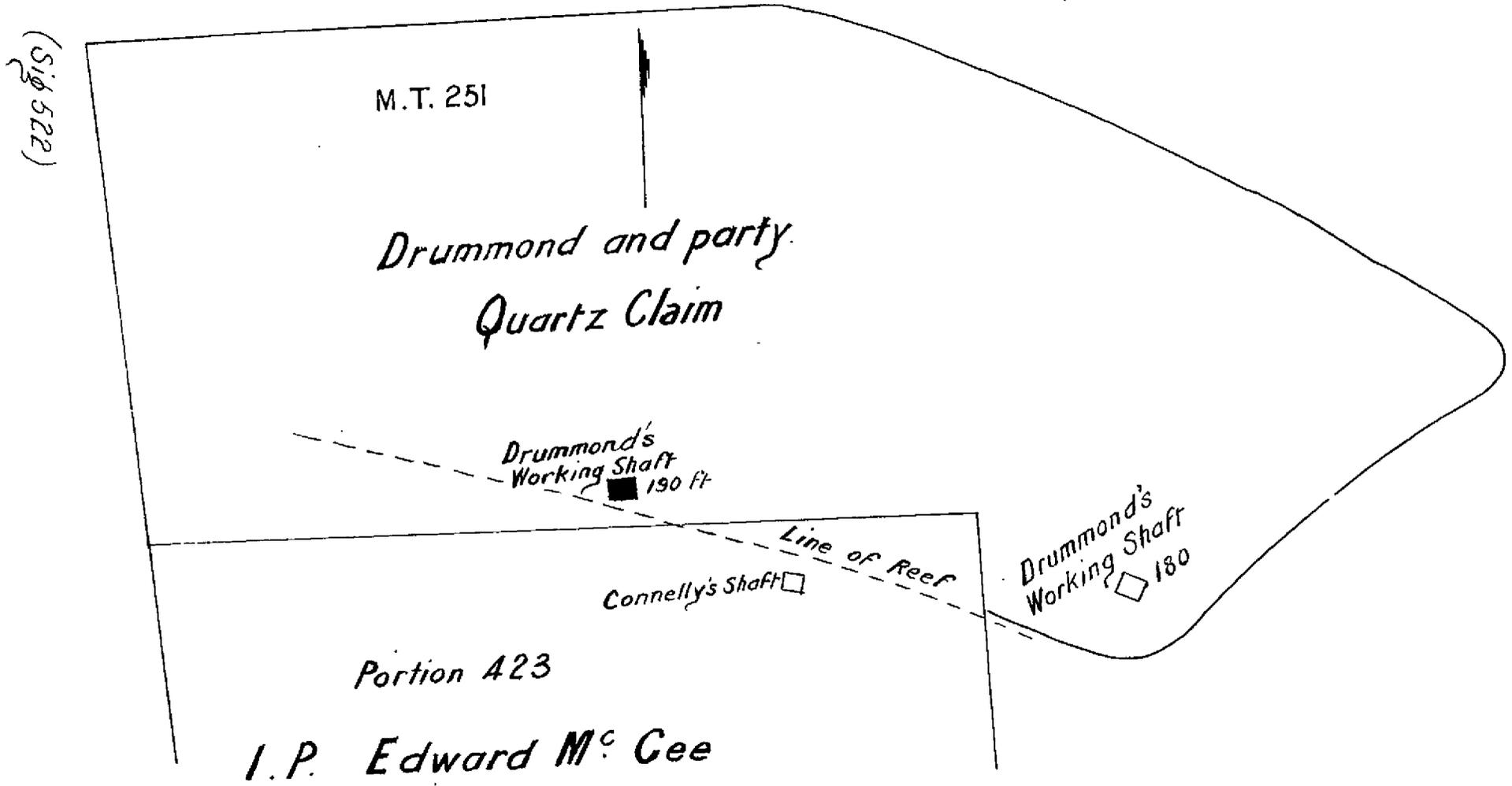
Quaile & party  
N<sup>o</sup> 1 shaft

Quaile & party  
N<sup>o</sup> 1 shaft

C LEASE 253

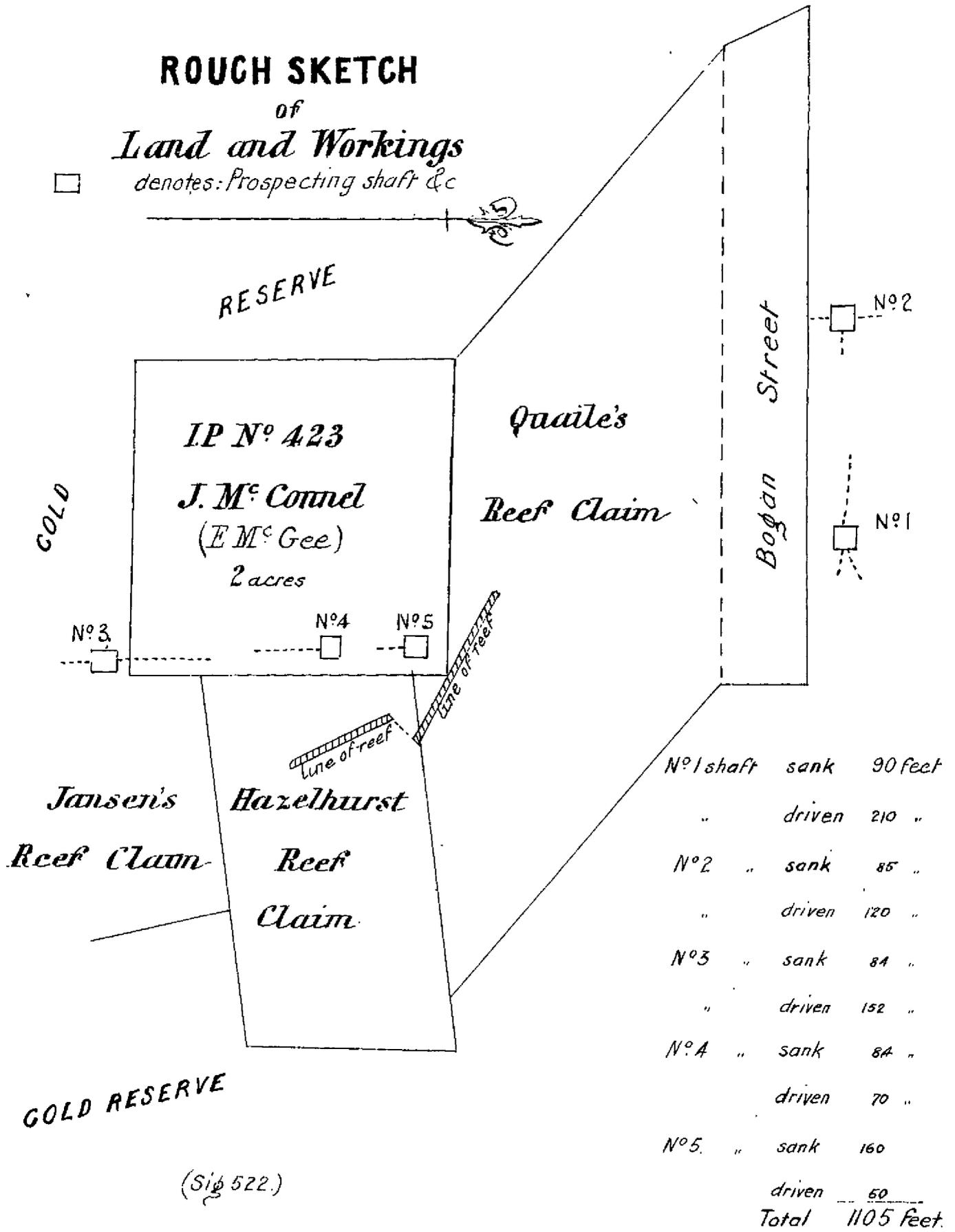
NOTE.  
The Purple line on Originals on this Plan  
shewn thus -----

(Sig. 522)



**ROUGH SKETCH**  
of  
*Land and Workings*

□ denotes: Prospecting shaft &c



(Sig 522.)

1887-8.

LEGISLATIVE ASSEMBLY.  
NEW SOUTH WALES.

APPLICATIONS OF MESSRS. HOUGHTON AND PALMER  
TO MINE UNDER RESERVES AT KAHIBAH.

(PAPERS, &amp;c.)

*Ordered by the Legislative Assembly to be printed, 7 February, 1888.*

RETURN to an *Order* made by the Honorable the Legislative Assembly of New South Wales, dated 4th October, 1887, That there be laid upon the Table of this House,—

“ A copy of all applications made by Messrs. Houghton & Palmer, on the  
“ 31st July, 1886, or at any time during the year 1886, to mine for coal  
“ under any reserves in the parish of Kahibah, together with copies of all  
“ correspondence, surveys, plans, and reports relating to the same, and  
“ all advertisements of the same, showing the date of such advertise-  
“ ments and the names of the papers in which the same were inserted,  
“ together with copies of any permits issued in respect of the application  
“ of the said Messrs. Houghton & Palmer, and copies of all applications  
“ made by the said Messrs. Houghton & Palmer to convert any such permit,  
“ as aforesaid, into a lease, and copy of such lease and all papers relating  
“ thereto.”

*(Mr. J. P. Abbott.)*

APPLICATIONS OF MESSRS. HOUGHTON AND PALMER.

No. 1.

No.	SCHEDULE.	PAGE.
1.	V. T. S. Houghton and Samuel Palmer, application under 28th section of the Mining Act of 1884, to mine for coal, parish of Kahibah, county of Northumberland (minutes and tracing attached). 31 July, 1886. ....	2
2.	<i>Government Gazette</i> , &c., notice of above. 6 August, 1886 .....	3
3.	The Examiner of Coal-fields to the Under Secretary for Mines, reporting on above application. 7 September, 1886 .....	3
4.	V. T. S. Houghton to the Under Secretary for Mines, forwarding survey fee (minutes attached). 7 October, 1886 .....	3
5.	Under Secretary for Mines to Under Secretary for Lands, urging report on above application. 1 November, 1886 .....	3
6.	Under Secretary for Lands to Under Secretary for Mines, in reply to above. 12 November, 1886.....	3
7.	Mining Surveyor Gray to Chief Mining Surveyor, forwarding plan and tracings (minutes attached). 3 December, 1886 .....	4
8.	Copy of permit (diagram). 14 December, 1886 .....	4
9.	Under Secretary for Mines to Under Secretary for Finance and Trade, asking that balance of rent tendered by above applicants may be transferred to revenue. 16 April, 1887 .....	6

No. 1.

Application by Messrs. Houghton and Palmer.

The Honorable the Secretary for Mines, Sydney,—

Sir,

“Aaron’s Exchange Hotel,” Sydney, 31 July, 1886.

By virtue of our mineral licenses of 12th and 31st July, 1886, we hereby make application for permission, under the 28th section of the Mining Act, 1874, to mine for coal upon and under that portion, containing about 1,280 acres, of the reserves hereunder described, such portions being more particularly

\*See Appendix A defined on the sketch annexed.\*

We make this application subject to the notice of the 21st December, 1881, published in *Gazette* No. 542, and I agree to accept the permission, if granted, subject to the terms, conditions, and restrictions set forth in such notice.

We have, &c.,

V. T. SHERBROOKE HOUGHTON.  
SAMUEL PALMER.

Description referred to.

All lands comprising portions Nos. 114, 115, and 221, parish of Kahibah, county of Northumberland, being portion of W.R. No. 27, notified 23rd November, 1875; also the whole of W.R. No. 4, notified 1st of January, 1867, including part R. 23a, notified 8th February, 1876, in all about 1,280 acres.

*Conditions under which the Application for Authority is made.*

1. The area upon or under which permission to mine for minerals or for gold, as the case may be, may be granted by virtue of an authority as aforesaid shall not exceed, in regard to coal or shale, 640 acres for each person, but several persons may make a joint application for any area not exceeding 6,000 acres; in regard to any mineral other than coal, shale, silver, and gold, 80 acres; and in regard to gold and silver, 20 acres.

2. In regard to mining for coal or shale upon or under any reserve (other than small reserves, such as roads, streets, &c.), the Secretary for Mines may impose a royalty of not less than 6d. per ton upon all coal or shale taken under such authority from any reserve, and may fix the times for payment of such royalty, and may, in any case in which it may appear to him expedient, require the persons to whom the authority is granted to pay periodically a certain fixed sum of money, and so long as such sum exceeds the royalty reserved under the authority, no further sum by way of royalty will be claimed, but if at any time, upon adjustment, it appears that the royalty reserved upon the coal or shale raised to date amounts to more than has been received to such date by such periodical payments, the difference may be thereupon claimed.

3. In regard to mining for minerals other than coal, shale, or gold under any reserve (other than small reserves, such as roads, streets, &c.), the Secretary for Mines may impose a royalty not less than 5 per centum upon the value of the ore raised from such reserve, and may fix the times for payment of such royalty, and may, in any case in which it may appear to him expedient, require the persons to whom the authority is granted to pay periodically a certain fixed sum of money, and so long as such sum exceeds the royalty reserved under the authority no further sum by way of royalty will be claimed, but if at any time, upon adjustment, it appears that the royalty reserved upon the minerals raised to date amounts to more than has been received to such date by such periodical payments, the difference may be thereupon claimed.

4. In regard to mining upon or under small reserves, such as roads, streets, &c., for coal, shale, or other minerals, the Secretary for Mines may require the persons to whom the authority is granted to hold a certain number of mineral licenses, instead of paying royalty.

5. In regard to mining for gold upon or under any reserve, the Secretary for Mines may require the person to whom the authority is granted to hold such a number of miner’s rights as shall appear to him necessary to represent a reasonable rent for the use of the land.

6. The Secretary for Mines may require the person to whom any such authority is granted to deposit such a sum of money as he may think fit as security that such person will make good any damage that may be done to any road, street, or reserve, or to any adjoining property by reason of the mine works carried on under or in connection with such authority.

V. T. S. Houghton, No. 140, 12 July, 1886; S. Palmer, No. 155, 31 July, 1886; received, 11.30 a.m., £6 cheque.—E.C.P., 3/8/86. Receipt sent, 5/8/86; *Gazette* notice, 6/8/86; copies herewith for Lands and Examiner; Chief Draftsman for sketches, please.—W.L., 9/8/86. Mr. J. H. Mayes, 12/8/86. Entered, sketches herewith—P.D., *pro* S.W., 16/8/86. Chief Mining Surveyor, Chief Clerk.—E.F.B., 18/8/86. Mines, 18/8/86. Copies sent, 19/8/86. Chief Draftsman,—Please state if survey is necessary.—W.C., 19/8/86. Survey necessary for that portion of W.R. 4, included in the application; fee £8, with 50 per cent. added, in all £12.—P.D., *pro* Chief Draftsman, 1/10/86. The Chief Mining Surveyor,—It is recommended that survey fee (£12) be asked for.—E.F.P., 6/10/86. The Under Secretary Mines, 6/10/86. Approved.—H.W., 11/10/86. Asked, 14 Oct., 1886. Appendix A.

## No. 2.

*Government Gazette Notice.*

COPY of advertisement which appeared in the *Government Gazette* of the 6th, 13th, 20th, and 27th August, 1886, and in the *Daily Telegraph* on the 14th August, *Evening News* on the 26th August, and *Sydney Morning Herald* on the 20th August, 1886, and four insertions in the *Newcastle Call*.

Department of Mines, Sydney, 6 August, 1886.

APPLICATION received in the Department of Mines for permission to mine under roads, &c., &c., under the Mining Act, 1874, section 28.

JAMES FLETCHER.

Date of Application	Date of Receipt of Application.	Name.	Description of Land applied for.	Extent.	Purpose for which land is to be used.
31 July, 1886	3 Aug., 1886	V. T. Sherbrooke Houghton and Samuel Palmer.	Part of water reserve 27, being portions 114, 115, and 221; also whole of water reserve 4, including part of reserve 23a., parish of Kahibah, county of Northumberland.	About a. r. p. 1,280 0 0	To mine for coal.

## No. 3.

*Report of The Examiner of Coal-fields.*

W.R. No. 4 has been previously applied for by sundry persons, and in my report of 27/4/84 on Mr. Lane's application I said I know of no objections to granting authority to mine under it on the usual terms. I also know of no objection of granting authority to mine under portions 114 and 115, applied for, to the applicants, if there is no prior application.

J.M., 7/9/86.

Under Secretary for Mines, B.C., 7/9/86.

## No. 4.

## Mr. V. T. S. Houghton to The Under Secretary for Mines.

Sir,

"Aaron's Exchange Hotel." Sydney, 7 October, 1886.  
I do myself the honor of herewith enclosing £12, the survey fee for W.R. No. 4, parish of Kahibah, county of Northumberland, in satisfaction of application under the 28th section by Messrs. Houghton & Palmer.

I have, &c.,

V. T. S. HOUGHTON.

£12.—E.C.P., 27/10/86. Amount to Treasury. Receipt acknowledged, 30/10/86. Secn.—H.W., 30/10/86. The Lands Department may perhaps be asked to expedite report.—W.R.C., 30/10/86. Yes.—H.W., 30/10/86. Lands Department asked, 1/11/86. Instructions may be issued to Mining Surveyor, J. T. Gray.—E.F.P., 1/11/86. Chief Draftsman. Mr. Gray instructed, 10/11/86.

## No. 5.

## The Under Secretary for Mines to The Under Secretary for Lands.

Sir,

Department of Mines, Sydney, 1 November, 1886.  
I have the honor to request that you will be good enough to cause the report on the application of Messrs. Houghton & Palmer, for permission, under the 28th section of the Mining Act of 1874, to mine on and under about 1,280 acres of water reserves, Nos. 27 and 4, parish of Kahibah, county of Northumberland, to be expedited.

I have, &c.,

HARRIE WOOD,

Under Secretary.

## No. 6.

## The Under Secretary for Lands to The Under Secretary for Mines.

Sir,

Department of Lands, Sydney, 12 November, 1886.  
Referring to your letter of the 1st instant, relative to an application by Messrs. Houghton & Palmer, for permission, under the 28th section of the Mining Act of 1874, to mine on and under about 1,280 acres of water reserve, Nos. 27 and 4, parish of Kahibah, county of Northumberland, I have the honor to inform you that the matter is at present under reference to the District Surveyor.

I have, &c.,

STEPHEN FREEMAN

(For the Under Secretary).

Await Lands, report and plan.—W.R.C., 16/11/86.

No. 7.

## No. 7.

## Mr. Mining-Surveyor Gray to The Chief Mining Surveyor.

Sir,

Winding Creek, 3 December, 1886.

\*Appendix B.

I have the honor to transmit herewith the plan\*, together with three tracings, of portion M.P. 177, parish of Kahibah, county of Northumberland, the survey of which has been effected by me in accordance with your instructions.

I have, &amp;c.,

JAMES T. GRAY.

Submitted that this application be referred for the consideration of the Local Land Board.—R.H.D., 31/8/86. S.F., 31/8/86. Approved.—H.C., 1/9/86. The Chairman, Land Board, Metropolitan District, for consideration, 6/9/86. The Metropolitan District Surveyor for report.—T. WARRE HARRIOTT, Chairman. Sydney, 7/9/86. The Chairman, L.L. Board, Sydney. This land is in the district under the supervision of Mr. District-Surveyor Allworth.—J.W.D., Metropolitan District-Surveyor, 10/9/86. The District Surveyor, East Maitland, for report. Lands, B.C., 25/9/86. Returned to Lands Department, as the land referred to herein is not within the Metropolitan Land Board Division.—D.H. (for Chairman). L.B. Office, Sydney, 18/9/86.

Telegram to V. T. S. Houghton.

"Aaron's Exchange," 8 November, 1886.

Yes; forwarded to Lands Department on the 5th instant. Collect, Houghton &amp; Palmer.

J. W. ALLWORTH,  
District Surveyor, East Maitland.

M.L. for coal, parish of Kahibah, county of Northumberland.

I am not aware of any objection to granting the permission. I would, however, point out that part of portion 114 falls only within the Newcastle population area. Is this a reserve within the meaning of the 28th section of the Mining Act of 1874.—J. WITTE ALLWORTH, District Surveyor, 4/11/86.

Submitted that this report be forwarded for the information of the Mines Department.—R.H.D., 10/11/86. S.F., 15/11/86. The Under Secretary for Mines. Department of Lands.—R.H.D. (for the U.S.), B.C., 16/11/86.

S6-13,539. V. T. S. Houghton and another—28th section—1,280 acres.—The Examiner of Coal-fields has furnished his report herewith. The Lands Department has also reported. Attention is invited to that part of the District Surveyor's report respecting portion 114. Survey is necessary in this case. Fee, £12, paid, and the surveyor has been instructed to measure the land, but has not furnished his plan yet.—W.R.C., 18/11/86.

Submitted. Surveys should be expedited, and application dealt with as speedily as possible.—H.W., 18/11/86. The Chief Mining Surveyor.—G.E.H. (for the U.S.), 18/11/86. I believe the survey has already been made, but the plan has not yet been received. Let action be expedited as soon as it arrives.—E.F.P., 18/11/86. Chief Draftsman.

The Lands Department and the Examiners' reports have been received. No objections reported. It is submitted as to whether the application may be granted, provided no prior application for the same area has been granted or is pending.—W.R.C., 9/12/86.

Submitted for approval.—G.E.H. (for the U.S.), 9/12/86.

V. T. S. Houghton and another. Authority, 352. 1,263 acres, being part of W.R. 4, part of W.R. 27, and part of reserve 23a, county Northumberland, parish Kahibah, portions Nos. 115, M.P. 177, and part of portion 114, 610-325, 82-2-14. The areas comprised in portions M.P. 177 and 221 are now held by the parties under M.Ls. 215 and 216 (48 Vic. No. 107), and Mr. Houghton, on the 2nd instant, tendered the sum of £14 5s. rent in respect of the balance of the area, viz., 569 acres 2 roods 1 perch. It is submitted as to whether the amount may be accepted and be paid to Treasury (Revenue Account).—W.R.C., 5/4/87.

Full rent on the 1,263 acres under authority has been paid to the 31st March ultimo. The rent under leases 215 and 216 (being portions of the 1,263 acres) has been paid for one year in advance, from 26th March, 1887. He now tenders the rent under authority for the balance of the 1,263 acres for one quarter in advance, from the 31st March ultimo. I think such rent should be accepted. Submitted.—H.W., 6/4/87. Approved.—F.A., 7/4/87.

The amount having been paid to Suspense Account may perhaps be transferred to Revenue from Suspense Account, and the Treasury be informed as above as to the amount £14 5s. being received. Submitted.—W.R.C., 7/4/87. Approved.—G.E.H. (for the Under Secretary), 14/4/87.

Will the Chief Mining Surveyor please state whether the whole of the area previously held under the within permit is now held under mineral lease?—W.R.C., 27/7/87. Chief Draftsman.—E.F.P., 28/7/87. Mr. J. H. Mayes, 28/7/87.

Area held under application.—Lease, 215; in force, 87-1; Newcastle, M. 4,280. Lease, 216; in force, 87-2; Newcastle, M. 4,281. Lease, 241; in force, 87-7; Newcastle, M. 4,332. Lease, 242; in force, 87-8; Newcastle, M. 4,333.—J.H.M., 22/7/87. W.S.C., 29/7/87.

The Under Secretary.—C.S.W. (for C.M.S.), 5/8/87. Please give dates of above leases.—W.R.C., 13/8/87. M.L. 215, section 48, 26th March, 1887; M.L. 216, section 48, 26th March, 1887; M.L. 241, section 48, 26th May, 1887; M.L. 242, section 48, 26th May, 1887.—E.C.P., 16/8/87. Rent under the authority has been paid to the 30th June, 1887. It is submitted as to whether these papers may now be put away.—W.R.C., 16/8/87. Yes.—H.W. The land being now covered by leases, the authority, No. 352, may be cancelled.—H.W., 17/8/87. Submitted. Approved.—F.A., 18/8/87.

## No. 8.

## Copy of Permit issued to Messrs. Houghton &amp; Palmer.

Schedule A.—Authority to mine—issued under section 28. Mining Act, 1874.

VICTOR THOMAS SHERBROOKE HOUGHTON and Samuel Palmer, each being the holder of a mineral license, having applied to me in writing, in accordance with section 28 of the Mining Act, 1874, and I having inquired into the case and decided that the same can be effected without injury to adjoining property, or injury

injury or obstruction to water reserve 4, part of water reserve 27, and part of reserve 23a, county of Northumberland, parish of Kahibah, I, James Fletcher, the Secretary for Mines for the Colony of New South Wales, in pursuance of the power to me given in this behalf by the said Act, do, by this order, authorize, empower, and permit the said Victor Thomas Sherbrooke Houghton and Samuel Palmer, hereinafter called lessees, to mine for coal under all those parts of the reserves aforesaid, being portions Nos. 115 and M.P. 177, and part of portion No. 114, delineated in the diagram on the other side hereof,\* and containing, exclusive of all reserved roads, except that shown from A to B on diagram, 1,263 acres, upon condition that the said lessee shall not mine under this authority in any place other than that hereinbefore described, and on the terms and conditions set out on the back hereof, so far as they are applicable to this authority, and on the further special terms and conditions, and subject to the restrictions following, that is to say:—

See Appendix (a)

- First.—That the said lessees, during their occupancy under this authority, shall each be the holder of one mineral license in force, which shall be produced at the Department of Mines on the 12th and 31st days of July in each year, and failure therein shall render this authority void, and shall on delivery of this authority pay the sum of £6 10s. 5d., as rent for the quarter ending 31st December, 1886, and thereafter shall pay the sum of £31 11s. 6d., on the first day of January, April, July, and October in each year, and shall on the 1st day of January, April, July, and October respectively, in each year, pay to the Colonial Treasurer, by way of royalty, a sum equal to 6d. for every ton of coal raised from under the said reserves during the three months next preceding the day on which such payment should be made as aforesaid. Provided that if the royalty for any quarter shall exceed the sum of £31 11s. 6d., no rent shall be payable for such quarter; but if during any quarter the royalty at the rate aforesaid does not amount to the said sum of £31 11s. 6d. such sum shall be paid as rent for that quarter in lieu of royalty.
- Second.—That plans and sections of the mine, and books and vouchers showing the quantity of coal raised, shall be kept by the lessees, and shall, together with the mine works, be open at all times to the inspection of the Examiner of Coal-fields or such officer as the Secretary for Mines shall authorize to inspect the same.
- Third.—That no excavation shall be made or carried under any public railway line, or any building or erection, or within 30 feet thereof, or of any site upon which any building is about to be erected, or under any road or street within the portions, except the road aforesaid, and that the said lessees shall in no way interfere with the surface of such reserves without the express sanction in writing of the Secretary for Mines aforesaid, who may, and if necessary shall, before giving such sanction, require the said lessees to deposit in the hands of the Colonial Treasurer a sum of money sufficient to cover the cost of repairing any damage that may be done to any such building or erection by reason of such excavation, and may impose such conditions as he shall deem advisable.
- Fourth.—The Secretary for Mines may, at any time, by an order in writing, or by a notice in the *Government Gazette*, prohibit the construction of mine works under such portion of the reserve as shall or may be required for any public purpose, until such Secretary shall be satisfied that such works may be carried on without interfering with such purpose.
- Fifth.—That all mine works within the portion of the reserves hereby permitted to be mined under shall be commenced on or before the 14th day of June, 1887, by six miners, workmen, or others and shall thereafter be carried on by such number of miners, workmen, or other persons, and shall be constructed in such a manner as shall be satisfactory to the Secretary for Mines.
- Sixth.—Such works shall at all times be open to inspection by the Examiner of Coal-fields or such officer as the Secretary for Mines shall authorize to inspect the same; and if it shall appear to the Secretary for Mines that the work has not been commenced, or is not being carried on as aforesaid, or that any excavation or mine work is being, or has been, so made or constructed as to endanger or injure any adjoining property, or to interfere with the use or enjoyment of the said reserves aforesaid, or any public railway line, or any building or erection, or if for any other reason it shall appear to the Secretary for Mines expedient so to do, he may cancel this authority, and thereupon the right to mine under the said reserves shall cease and determine absolutely.
- Seventh.—And if the said lessees shall continue to mine under the said reserves after notice of cancellation of this authority shall have been served upon them or published in the *Government Gazette*, they shall be liable to be prosecuted for unlawfully mining under reserved land, in terms of the Mining Act, 1874, section 123.

And if the said reserves shall at any time during the existence of this authority be cancelled, or if the said lessees shall fail to observe, perform, and keep all and every the terms and conditions upon which this order or permission is granted as aforesaid, or shall mine in any way contrary to the restrictions hereinbefore stated, then, and in any such case, the permission and authority hereby given shall immediately cease and determine. And the occupation of such reserves under this authority, and the making of improvements or construction of works thereunder, shall confer no right to purchase the land in virtue of improvements or otherwise, or entitle the said lessees to any compensation upon the cancellation of the reserves or of this authority.

In witness whereof, I have hereunto set my hand, at Sydney, in the said Colony, this 14th day of December, in the year of our Lord 1886.

JAMES FLETCHER,  
Secretary for Mines.

We hereby accept the within permit upon the terms herein stated,—

V. T. SHERBROOKE HOUGHTON,  
SAMUEL PALMER

(By his Agent,—V. T. S. HOUGHTON).

Witness,—

W. LLOYD, 14/12/86.

Authority

Authority from Samuel Palmer for V. T. S. Houghton to sign for him.

Brook-street, Newcastle, 13 December, 1886.

THIS is to certify that I, Samuel Palmer, do hereby authorize V. T. S. Houghton, of "Aaron's Exchange Hotel," Sydney, to sign on my behalf all papers in connection with our joint application for permission to mine under water reserve No. 4 and sections 114 and 115, portions, county Kahibah.

SAMUEL PALMER.

Witness,—JOHN REAY.

### No. 9.

The Under Secretary for Mines to The Under Secretary for Finance and Trade.

Sir,

Department of Mines, Sydney, 16 April, 1887.

I have the honor, by direction of the Secretary for Mines, to inform you that the balance of rent, amounting to £14 5s., tendered by Mr. V. T. S. Houghton and another, in respect to authority No. 352, may be accepted; and I am to request that you will be good enough to move the Colonial Treasurer to cause the amount above-mentioned, which was placed to Suspense Account on the 7th instant, to be transferred to Revenue.

I have, &c.,

HARRIE WOOD,

Under Secretary.

### No. 2.

SCHEDULE in connection with application under 28th Section, dated 2nd August, 1886.

#### SCHEDULE.

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### No. 1.

Application by Mr. V. T. S. Houghton.

"Aaron's Exchange Hotel," Sydney, 2 August, 1886.

The Honorable the Secretary for Mines, Sydney,—

Sir,

By virtue of my mineral license of 12th July, 1886, I hereby make application for permission, under the 28th section of the Mining Act, 1874, to mine for coal upon and under that portion containing 480 acres, of the reserve hereunder described, such portions being more particularly defined on the sketch annexed

I make this application subject to the notice of the 21st December, 1881, published in *Gazette*, No. 542, and I agree to accept the permission, if granted, subject to the terms, conditions, and restrictions set forth in such notice.

I have, &c.,

V. T. SHERBROOKE HOUGHTON.

Description referred to.

All lands comprising portions 119 and 120, parish Kahibah, county Northumberland, being part of reserve 27, notified 23rd January, 1875.

Conditions under which the application for authority is made.

1.—The area upon or under which permission to mine for minerals or for gold, as the case may be, may be granted by virtue of an authority as aforesaid, shall not exceed, in regard to coal or shale, 640 acres for each person, but several persons may make a joint application for any area not exceeding 6,000 acres; in regard to any mineral other than coal, shale, silver, and gold, 80 acres; and in regard to gold and silver, 20 acres.

2.—In regard to mining for coal or shale upon or under any reserve (other than small reserves, such as roads, streets, &c.), the Secretary for Mines may impose a royalty of not less than 6d. per ton upon all coal or shale taken under such authority from any reserve, and may fix the times for payment of such royalty, and may in any case in which it may appear to him expedient require the persons to whom the authority is granted to pay periodically a certain fixed sum of money, and so long as such sum exceeds the royalty reserved under the authority no further sum by way of royalty will be claimed, but if at any time, upon adjustment, it appears that the royalty reserved upon the coal or shale raised to date amounts to more than has been received to such date by such periodical payments, the difference may be thereupon claimed.

3.—In regard to mining for minerals other than coal, shale, or gold under any reserve (other than small reserves, such as roads, streets, &c.), the Secretary for Mines may impose a royalty not less than 5 per centum upon the value of the ore raised from such reserve, and may fix the times for payment of such royalty, and may in any case in which it may appear to him expedient, require the persons to whom

whom the authority is granted to pay periodically a certain fixed sum of money, and so long as such sum exceeds the royalty reserved under the authority no further sum by way of royalty will be claimed, but if at any time, upon adjustment, it appears that the royalty reserved upon the minerals raised to date amounts to more than has been received to such date by such periodical payments, the difference may be thereupon claimed.

4.—In regard to mining upon or under small reserves, such as roads, streets, &c., for coal, shale, or other minerals, the Secretary for Mines may require the persons to whom the authority is granted to hold a certain number of mineral licenses instead of paying royalty.

5.—In regard to mining for gold upon or under any reserve, the Secretary for Mines may require the person to whom the authority is granted to hold such a number of miner's rights as shall appear to him necessary to represent a reasonable rent for the use of the land.

6.—The Secretary for Mines may require the person to whom any such authority is granted to deposit such a sum of money as he may think fit as security that such person will make good any damage that may be done to any road, street, or reserve, or to any adjoining property, by reason of the mine works carried on under or in connection with such authority

V. T. Sherbrooke Houghton—2S section application.

THE Lands Department has not yet furnished the required report. A reminder was sent respecting same on 1st instant. The Examiner of Coal-fields has reported, and his report is favourable. Survey is not necessary. It is submitted as to whether this application may be granted, subject to the usual conditions, provided no prior application for the same land has been granted or is pending.

W.R.C., 12/11/86.

Yes, submitted for approval.—H.W., 13/11/86. Approved.—J.F., 15/11/86. Chief Mining Surveyor, for action, 16/11/86. Chief Draftsman.—E.F.P. The Under Secretary for Lands, for report.—G.E.H. (for the U.S.), 16/9/86. The District Surveyor, at Maitland, for report. Lands.—R.H.D. (for the U.S.), B.C., 23/9/86. The Under Secretary. I am not aware of any objection to granting the permission.—J. WITTE ALLWORTH, D.S., 4/11/86. Submitted that this report be forwarded for the information of the Mines Department.—R.H.D., 10/11/86. Entered.—P.F., 15/11/86. Approved.—H.C., 16/11/86. The Under Secretary for Mines.—R.H.D. (for the U.S.) Department of Lands, B.C., 16/11/86. The application was granted 15/11/86, submitted 17/11/86. Seen. Chief Mining Surveyor.—G.E.H. (for the U.S.), 18/11/86. Chief Draftsman.—E.F.P., 19/11/86.

V. T. Sherbrooke Houghton.—Application under section 28, Mining Act, for permission to mine for coal upon and under 480 acres, parish of Kahibah, county of Northumberland, being part of water reserve 27, notified 23 November, 1875, also within population reserve, Newcastle.—W.R.C., 7 December, 1886.

Diagrams herewith entered.

Tracings for Lands.\*

Chief Mining Surveyor. The Under Secretary for Mines.—E.F.P., 8/12/86. Submitted, as to what action should be taken *re* road running through the portions.—W.R.C., 9/12/86. See authority 351.—W.R.C., 9/12/86. Rent paid to 31/12/86, £2 17s. 6d. Amount to Treasury, receipt acknowledged, reported to Treasury, 15/12/86. Issued by Acting Registrar, 14/12/86. Mr. Morgan,—Please forward tracing to Lands and copy of authority to Examiner.—W.R.C., 16/12/86. Tracings to Lands and copy authority to Examiner, 24 December, 1886.

\* Appendix C

## No. 2.

COPY of advertisement which appeared in the *Government Gazette* of the 13th, 20th, and 27th August, and 3rd September, and in the *Sydney Morning Herald* and *Daily Telegraph* of the 20th August, 1886, and four insertions in the *Newcastle Daily News*.

Department of Mines, Sydney, 13 August, 1886.

APPLICATION received in the Department of Mines, for permission to mine under roads, &c., &c., under the Mining Act, 1874, section 28.

JAMES FLETCHER.

Date of Application.	Date of Receipt of Application.	Name.	Description of Land applied for.	Extent.	Purposes for which land is to be used.
2 Aug., 1886 ...	4 Aug., 1886...	V. T. Sherbrooke Houghton.	Part of reserve 27, being portions 119 and 120, parish of Kahibah, county of Northumberland.	a. r. p. 480 0 0	To mine for coal.

NOTE.—This notice is in lieu of that which appeared in Gazette of 10th instant.

## No. 3.

### The Examiner of Coal-fields to The Under Secretary for Mines.

THE granting of this cannot cause any injury to public or private rights or interests.

2. Permission might be granted to mine upon a portion, and under the whole, area.
3. No sum of money need be deposited as security for repair of any damage and the surface, &c.
4. All surface or underground works to be carried on and constructed in accordance with the instructions of the Examiner of Coal-fields, Inspector of Collieries, or any other person authorized by the Secretary for Mines.
5. Works to commence in six months.
6. Coal might be wrought from under the reserve, in connection with adjoining lands.

J.M., 20/9/86.

Under Secretary for Mines, B.C., 20/9/86. The Lands Department may perhaps be asked to expedite report.—W.R.C., 30/11/86. Yes.—H.W., 30/10/86. Lands Department asked.

No. 4.

## No. 4.

## The Under Secretary for Mines to The Under Secretary for Lands.

Sir,

Department of Mines, Sydney, 1 November, 1886.

I have the honor to request that you will be good enough to cause the report on the application of Messrs. Houghton & Palmer, for permission, under the 28th section of the Mining Act of 1874, to mine on and under about 1,280 acres of water reserves, Nos. 27 and 4, parish of Kahibah, county of Northumberland, to be expedited.

I have, &amp;c.,

HARRIE WOOD,  
Under Secretary.

## No. 5.

## The Under Secretary for Lands to The Under Secretary for Mines.

Sir,

Department of Lands, Sydney, 11 November, 1886.

I have the honor to acknowledge receipt of your letter of the 1st instant, and to inform you the matter of V. T. Sherbrooke Houghton's application for permission, under the 28th section of the Mining Act, to mine on and under 480 acres of reserve No. 27, parish of Kahibah, county of Northumberland, is at present under reference to the District Surveyor.

I have, &amp;c.,

STEPHEN FREEMAN  
(For the Under Secretary).

## No. 6.

## Copy of Permit.

Schedule A.—Authority to mine, issued under Section 28, Mining Act, 1874.

VICTOR THOMAS SHERBROOKE HOUGHTON, of Sydney, being the holder of a mineral license, having applied to me in writing, in accordance with section 28 of the Mining Act, 1874, and I, having inquired into the case and decided that the same can be effected without injury to adjoining property, or injury or obstruction to water reserve 27, county Northumberland, parish Kahibah, I, James Fletcher, the Secretary for Mines for the Colony of New South Wales, in pursuance of the power to me given in this behalf by the said Act, do, by this order, authorize, empower, and permit the said Victor Thomas Sherbrooke Houghton, hereinafter called lessee, to mine for coal under all those parts of the reserve aforesaid being portions 119 and 120 delineated in the diagram on the other side hereof,\* and containing 480 acres, exclusive of roads running through the portions, upon condition that the said lessee shall not mine under this authority in any place other than that hereinbefore described, and on the terms and conditions set out on the back hereof, so far as they are applicable to this authority, and on the further special terms and conditions, and subject to the restrictions following, that is to say:—

See Appendix (b)

First.—That the said lessee during his occupancy under this authority shall be the holder of one mineral license in force, which shall be produced at the Department of Mines on the 12th day of July in each year, and failure therein shall render this authority void, and shall on delivery of this authority pay the sum of £2 17s. 6d. as rent for the quarter ending 31st December, and thereafter shall pay the sum of £12, on the 1st day of January, April, July, and October in each year, and shall, on the 1st day of January, April, July, and October respectively, in each year, pay to the Colonial Treasurer, by way of royalty, a sum equal to 6d. for every ton of coal raised from under the said reserve during the three months next preceding the day on which such payment should be made as aforesaid: Provided that if the royalty for any quarter shall exceed the sum of £12, no rent shall be payable for such quarter; but if during any quarter the royalty at the rate aforesaid does not amount to the said sum of £12, such sum shall be paid as rent for that quarter in lieu of royalty.

Second.—That plans and sections of the mine, and books and vouchers showing the quantity of coal raised, shall be kept by the lessee, and shall, together with the mine works, be open at all times to the inspection of the Examiner of Coal-fields or such officer as the Secretary for Mines shall authorize to inspect the same.

Third.—That no excavation shall be made or carried under any public railway line, or any building or erection, or within 30 feet thereof, or of any site upon which any building is about to be erected, or under any road or street within the portion, and that the said lessee shall in no way interfere with the surface of such reserve without the express sanction in writing of the Secretary for Mines aforesaid, who may, and if necessary shall, before giving such sanction, require the said lessee to deposit in the hands of the Colonial Treasurer a sum of money sufficient to cover the cost of repairing any damage that may be done to any such building or erection by reason of such excavation, and may impose such conditions as he shall deem advisable.

Fourth.—The Secretary for Mines may, at any time, by an order in writing, or by a notice in the *Government Gazette*, prohibit the construction of mine works under such portion of the reserve as shall or may be required for any public purpose until such Secretary shall be satisfied that such works may be carried on without interfering with such purpose.

Fifth.—That all mine works within the portion of the reserve hereby permitted to be mined under shall be commenced on or before the 10th day of June, 1887, by four miners, workmen, or others, and shall thereafter be carried on by such number of miners, workmen, or other persons, and shall be constructed in such a manner as shall be satisfactory to the Secretary for Mines.

Sixth.—Such works shall at all times be open to inspection by the Examiner of Coal-fields or such officer as the Secretary for Mines shall authorize to inspect the same; and if it shall appear to the Secretary for Mines that the work has not been commenced, or is not being carried on as aforesaid, or that any excavation or mine work is being, or has been, so made or constructed as to endanger or injure any adjoining property, or to interfere with the use or enjoyment of the said reserve aforesaid, or any public railway line, or any building or erection, or if for any other reason it shall appear to the Secretary for Mines expedient so to do, he may cancel this authority, and thereupon the right to mine under the said reserve shall cease and determine absolutely.

Seventh—

Seventh.—And if the said lessee shall continue to mine under the said reserve after notice of cancellation of this authority shall have been served upon him or published in the *Government Gazette*, he shall be liable to be prosecuted for unlawfully mining under reserved land, in terms of the Mining Act, 1874, section 123.

And if the said reserve shall at any time during the existence of this authority be cancelled, or if the said lessee shall fail to observe, perform, and keep all and every the terms and conditions upon which this order or permission is granted as aforesaid, or shall mine in any way contrary to the restrictions hereinbefore stated, then, and in any such case, the permission and authority hereby given shall immediately cease and determine. And the occupation of such reserve under this authority, and the making of improvements or construction of works thereunder, shall confer no right to purchase the land in virtue of improvements or otherwise, or entitle the said lessee to any compensation upon the cancellation of the reserve or of this authority.

In witness whereof, I have hereunto set my hand, at Sydney, in the said Colony, this 10th day of December, in the year of our Lord, 1886.

JAMES FLETCHER,  
Secretary for Mines.

I hereby accept the within permit upon the terms herein stated.—

V. T. SHERBROOKE HOUGHTON.

Witness—WM. LLOYD, 14/12/86.

### No. 7.

#### The Under Secretary for Mines to The Under Secretary for Lands.

Sir,

Department of Mines, Sydney, 24 December, 1886.

I have the honor to forward herewith a tracing showing certain lands in the parish of Kahibah, county of Northumberland, under which permission to mine for coal, in terms of section 28 of the Mining Act of 1874, has been granted, under authority No. 352, to Victor Thomas Sherbrooke Houghton and Samuel Palmer.

I have, &c.,

GERARD E. HERRING  
(For the Under Secretary).

### No. 8.

#### The Under Secretary for Mines to The Examiner of Coal-fields.

Sir,

Department of Mines, Sydney, 30 December, 1886.

I have the honor to forward herewith a copy of authority No. 352, issued under section 28 of the Mining Act of 1874 to Victor Thomas Sherbrooke Houghton and Samuel Palmer, to mine for coal; 1,263 acres, part of reserve 4, 27 and 23 acres, parish of Kahibah, county of Northumberland.

I have, &c.,

GERARD E. HERRING  
(For the Under Secretary).

### No. 3.

#### SCHEDULE in connection with Mineral Lease Applications Nos. 1 and 2.

##### SCHEDULE.

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### No. 1.

#### Application by Messrs. Houghton & Palmer.

Mineral Lease Regulations.—Schedule 6.—Notice of application and deposit.

Sir

Newcastle, 17 January, 1887.

We have the honor to inform you that we have this day deposited with the Land Agent at Newcastle the sum of £61 10s., being the first year's rent in advance of 615 acres of land at Redhead, parish of Kahibah, county of Northumberland, for the purpose of mining for coal. The number of our application is 87-1.

We have, &c.,

VICTOR THOMAS SHERBROOKE HOUGHTON.  
SAMUEL PALMER.

The Under Secretary for Mines, Sydney.

## No. 2.

## Application by Messrs. Houghton &amp; Palmer.

Mineral Lease Regulations.—Schedule 2.—Form of application under 48 Vic. No. 10, section 3.

To the Honorable the Secretary for Mines, Sydney,—  
Sir,

Newcastle, 17 January, 1887.

We hereby make application for a mineral lease of that piece or parcel of land situated at Redhead, parish of Kahibah, county of Northumberland, containing 615 acres, of which we took possession on the 17th day of January, 1887, at the hour of 5 o'clock in the forenoon, for the purpose of mining thereon and therein for coal for a period of twenty years, by placing 3-foot stakes and 6-foot trenches at each angle thereof. The datum point is the south-west corner of water reserve No. 4, notified 1st January, 1867.

Notice of our having made this application will be given in accordance with the regulations in that behalf, and we hand herewith the sum of £61 10s., being the first year's rent in advance of the said land.

We hereby acknowledge that this application is made upon the distinct understanding and condition that if we shall abandon or fail to proceed with it, or if it is refused, the Secretary for Mines for the time being may deduct from the sum of £61 10s. deposited as aforesaid any cost to which in his opinion the Crown may have been put in, or about, or in respect of this application; and this application shall thereupon become and be void, and the possession aforesaid shall cease and determine. And if the lease shall be granted, we shall and will commence mining operations upon or in connection with the demised land within six months from and after the granting thereof, and shall and will employ upon such land not less than three men during the first three years of the term thereby created, and not less than six men during the remainder of such term. And shall, and will, at any time when called upon in terms of the regulations relating to mineral leases to do so, execute and take delivery of such lease, or failing therein for a period of fourteen days after being so called upon we shall and will forfeit the said sum of £61 10s., and all right, title, or interest in and to the said land and the possession thereof, and the said lease shall be forthwith cancelled.

We have, &c.,

VICTOR THOMAS SHERBROOKE HOUGHTON,  
of Sydney.  
SAMUEL PALMER,  
of Newcastle.

## Description.

All that part of water reserve No. 4, notified 1st January, 1867, situated to the south of portions 221 of 79 acres, 58 of 40 acres, 49 of 56 acres 1 rood, 57 of 40 acres, and 92 of 44 acres 1 rood, situated in the parish of Kahibah, county of Northumberland, containing 615 acres.

This application was received by me this 17th day of January, 1887, at the hour of 10 o'clock in the forenoon, and is numbered 87-1.

ALEXANDER LUMSDAINE,  
Crown Lands Agent, Newcastle.

## Questions to be answered by applicants for lease.

WHEN receiving an application to lease land for mining purposes, the Warden, Warden's Clerk, or Land Agent, as the case may be, shall require the applicant or applicants, or his or their agent, to answer the following questions, and shall take down such in writing. The statement, when complete, to be read over to, and signed by, the persons furnishing the answers:—

1. Were you, or each of you (applicants), the holder of a miner's right in force at the date of taking possession of the land referred to in application No. 87-1? Not within a gold-field.
2. Do you produce them? Stated to be in Sydney, in favour of V. T. S. Houghton.
3. What was the date and hour of the day when you took possession of the land referred to in application No. 87-1? 17th February, 1887, at 5 a.m.
4. Did you take possession by erecting posts and cutting trenches at each angle of the land? Yes.  
If No. 4 be replied to in the affirmative, then 5, 6, and 7.
5. What was the diameter of the posts? 3 inches.
6. How high did they project above the surface when fixed in the ground? 3 feet.
7. What was the length of each arm of each trench? and what was the depth of each trench? 6 feet; 9 inches.
8. If a substitute for post or trench was used, describe it.
9. At which angle of the land is the datum post fixed? South-west corner.
10. Did you affix a board or metal plate to the datum post? Board.
11. What was written or painted on such board or plate? Mineral lease applied for 17th January, 1887, by V. T. S. Houghton and S. Palmer.
12. Where did you post the notices, Schedule 1? At Crown Lands Office, Newcastle, and Post Office, Charlestown.
13. When did you post such notices? 17th January, 1887.
14. Did anybody claim or appear to be in possession of the land applied for, or any portion of it? No.
15. Did you serve notice in the form Schedule 1 upon every such person? and when? (See answer to question 14.)
16. Have you obtained the consent of every such person to the granting of the lease for which you apply? (See answer to questions 14, 15.)

I, Samuel Palmer, on behalf of Victor Thomas Sherbrooke Houghton and myself, declare that the foregoing questions have been answered by me truthfully in every particular, and the answers thereto have been read over to me and are correctly taken down in writing.

SAMUEL PALMER.

Witness to signature,—

ALEX. LUMSDAINE, Crown Lands Agent, Newcastle.

Mining District, Hunter and Macleay; applicant's locality, Redhead.

Application 87-1, at Newcastle.

Description.

610 acres 3 roods 25 perches, county of Northumberland, parish of Kabibah, portions M.P. 177. Commencing at the south-east corner of portion 92, and bounded thence on part of the north by part of the south boundary of that portion bearing south  $87^{\circ} 50'$  west 11 chains 44 links; on part of the west by the east boundary of portion 57, bearing south  $34'$  west 20 chains 50 links; again on the north by the south boundary of that portion bearing north  $89^{\circ} 26'$  west 20 chains; on part of the east by the west boundary of that portion bearing north  $34'$  east 20 chains 39 links; again on the north by part of the south boundary of portion 49 bearing west 9 chains 93 links; again on the west by the east boundary of portion 58 bearing south  $35'$  east 20 chains 36 links; again on the north by the south boundary of that portion bearing south  $89^{\circ} 25'$  west 20 chains 24 links; again on the west by part of the east boundary of portion 221 bearing south  $35'$  east 60 links; again on the north by the south boundary of that portion bearing south  $87^{\circ} 45'$  west 20 chains 1 link; again on the west by part of the east boundary of portion 90 bearing south  $2^{\circ} 30'$  east 16 chains 48 links; on the remainder of the north by part of the south boundary of that portion bearing south  $87^{\circ} 30'$  west 2 chains 54 links; on the remainder of the west by parts of the east boundaries of portions 115 and 116 bearing respectively south  $1^{\circ} 30'$  east 28 chains 35 links and south  $1^{\circ} 36'$  east 14 chains 73 links; on the south by part of the north boundary of portion 113 bearing north  $88^{\circ} 29'$  east 91 chains 32 links to the edge of the high cliffs fronting the South Pacific Ocean; and on the remainder of the east by the edge of the cliffs northwards, to the point of commencement.

W.S.C.

Application No. 87-1, at Newcastle, for a Mineral Lease.

1. By whom application was received? Crown Lands Agent.
2. At what place? Newcastle.
3. Date and hour when received? 17th January, at 10 a.m.
4. Receipt for first year's rent, No. 87-1. Date? 17th January, 1887.
5. To whom receipt was issued? Samuel Palmer, of Newcastle, one of the two applicants.
6. Date when notice to survey was sent to surveyor? Portions surveyed.
7. Date when report and plan were received from the surveyor?
8. Names of objectors, and dates on which they lodged their objections by the 31st January, 1887? Nil lodged.
9. Date of inquiry? 3rd February, 1887.
10. Are the applicants holders of miners' rights? No; land not being within a gold-field, but of mineral licenses.
11. Is the land applied for exempted from leasing under the 34th section of the Mining Act, 1874? No.
12. Is the time proposed for commencing work reasonable? Yes.
13. Is the number of men proposed to be employed reasonable? Yes.

ALEXR. LUMSDAINE,  
Crown Lands Agent.

Crown Lands Office, Newcastle, 1st February, 1887.

Within W.R. 4, notified 1st January, 1867; within R. 23a, notified 8th February, 1876.

Mr. District-Surveyor Allworth reports that he does "not see any objections to granting permission to mine upon and under the area herein applied for." *Vide* 86-13,539, Mines. The area applied for is 615 acres, and the rent for this area (£61 10s.) was paid. The area available is only 611 acres, the rent for which is £61 2s. It is submitted that the balance of rent, 8s., be made available for the excess area in application 87-2.

Dealt with. Diagrams herewith.—W.S.C., 22/2/87. Chief Draftsman.—E.T.P., 4/2/87. Area within applied for is included in permit granted to same applicants, 9th December, 1886.—P.D. (*pro* C.D.), 4/2/87. Chief Mining Surveyor. The Under Secretary.—C.S.W. (for Chief Mining Surveyor), 15/2/87. Mines, 15/2/87. Authority 352 granted 9th December, 1886, to Houghton & Palmer still in force. Rent paid to 31st March, 1887. Submitted.—W.R.C., 15/2/87. May go on.—H.W., 15/2/87. The Chief Draftsman.—C.S.W. (for C.M.S.), 16/2/87.

Will the Examiner of Coal-fields please say whether it is necessary to reserve any of the surface, as the applicants cannot at present fix the best position to open out and work the coal?—S.B., 19/3/87. Under the above circumstances, I recommend that the surface be granted over the whole area, any portion of which may be resumed at any time.—J.M., 22/3/87. Under Secretary for Mines, B.C., 22/3/87. Approved.—H.W., 23/3/87.

## No. 3.

## Application by Messrs. Houghton &amp; Palmer.

Mineral Lease Regulations.—Schedule 6.—Notice of Application and Deposit.

Sir,

Newcastle, 17 January, 1887.

We have the honor to inform you that we have this day deposited with the Land Agent at Newcastle the sum of £7 18s., being the first year's rent, in advance, of 79 acres of land at Redhead, parish of Kahibah, county of Northumberland, for the purpose of mining for coal. The number of our application is 87-2.

We have, &amp;c.,

VICTOR THOMAS SHERBROOKE HOUGHTON.  
SAMUEL PALMER.

The Under Secretary for Mines, Sydney.

## No. 4.

## Application by Messrs. Houghton &amp; Palmer.

Mineral Lease Regulations.—Schedule 2.—Form of Application under 48 Vic. No. 10, section 3.

To the Honorable the Secretary for Mines, Sydney.

Sir,

Newcastle, 17 January, 1887.

We hereby make application for a mineral lease of that piece or parcel of land situated parish of Kahibah, county of Northumberland, portion No. 221, containing 79 acres, of which we took possession on the 17th day of January, 1887, at the hour of 6 o'clock in the forenoon, for the purpose of mining thereon and therein for coal, for a period of twenty years, by placing 3-foot stakes and 6-foot trenches at each angle thereof. The datum point is the south-west corner of portion 221, of 79 acres.

Notice of our having made this application will be given in accordance with the regulations in that behalf, and we hand herewith the sum of £7 18s., being the first year's rent in advance of the said land.

We hereby acknowledge that this application is made upon the distinct understanding and condition that if we shall abandon or fail to proceed with it, or if it is refused, the Secretary for Mines for the time being may deduct from the sum of £7 18s. deposited as aforesaid any cost to which in his opinion the Crown may have been put in or about or in respect of this application; and this application shall thereupon become and be void, and the possession aforesaid shall cease and determine. And if the lease shall be granted, we shall and will commence mining operations upon or in connection with the demised land within six months from and after the granting thereof, and shall and will employ upon such land not less than two men during the first three years of the term thereby created, and not less than four men during the remainder of such term. And shall and will at any time when called upon in terms of the regulations relating to mineral leases to do so, execute and take delivery of such lease, or failing therein for a period of fourteen days, after being so called upon, we shall and will forfeit the said sum of £7 18s., and all right, title, or interest in and to the said land and the possession thereof, and the said lease shall be forthwith cancelled.

We have, &amp;c.,

VICTOR THOMAS SHERBROOKE HOUGHTON,  
of Sydney.  
SAMUEL PALMER,  
Newcastle.

## Description.

Measured portion No. 221, of 79 acres, in the parish of Kahibah, county of Northumberland, being part of water reserve No. 4, notified 1st of January, 1867.

This application was received by me this 17th day of January, 1887, at the hour of 10.30 o'clock in the forenoon, and is numbered 87-2.

ALEX. LUMSDAINE,

Crown Lands Agent, Newcastle.

17th January, 1887.

## Questions to be answered by Applicants for Mineral Lease.

WHEN receiving an application to lease land for mining purposes, the Warden, Warden's Clerk, or Land Agent, as the case may be, shall hand to the applicant or applicants, or his or their agent, to answer to the following questions, and shall take down such answers in writing. The statement, when complete, to be read over to, and signed by, the person furnishing the answers:—

1. Were you, or each of you (applicants), the holder of a miner's right in force at the date of taking possession of the land referred to in application No. 87-2? Not within a gold-field.
2. Do you produce them (mineral license, 31st July, 1886)? In favour of S. Palmer, stated to be in Sydney.
3. What was the date and hour of the day when you took possession of the land referred to in application No. 87-2? 17th January, 1887, at 6 a.m.
4. Did you take possession by erecting posts and cutting trenches at each angle of the land? Yes.  
If No. 4 be replied to in the affirmative, then 5, 6, and 7.
5. What was the diameter of the posts? 3 inches.
6. How high did they project above the surface when fixed in the ground? 3 feet.
7. What was the length of each arm of each trench? and what was the depth of each trench? 6 feet; 9 inches.
8. If a substitute for post or trench was used, describe it.

9. At which angle of the land is the datum post fixed? South-west corner.
10. Did you affix a board or metal plate to the datum post? Board.
11. What was written or painted on such board or plate? Mineral lease applied for 17th January, 1887, by V. T. S. Houghton and S. Palmer.
12. Where did you post the notices, Schedule 1? At Crown Lands Office, Newcastle, and Post Office, Charlestown.
13. When did you post such notices? 17th January, 1887.
14. Did anybody claim or appear to be in possession of the land applied for, or any portion of it? No.
15. Did you serve notice in the form Schedule 1 upon every such person? and when? (See answer to question 14.)
16. Have you obtained the consent of every such person to the granting of the lease for which you apply? (See answers to questions 14 and 15.)

I, Samuel Palmer, on behalf of Victor Thomas Sherbrooke Houghton and myself, declare that the foregoing questions have been answered by me truthfully in every particular, and the answers thereto have been read over to me, and are correctly taken down in writing.

SAMUEL PALMER.

Witness to signature.—

ALEX. LUMSDAINE, Crown Lands Agent, Newcastle.

Mining District, Hunter and Macleay; applicant's locality, Redhead.

Application No. S7-2, at Newcastle.

Description.

82 acres 2 roods 14 perches, county of Northumberland, parish of Kahibah.

Portions 221: Commencing at the south-east corner of portion 65, and bounded thence on the north by the south boundary of that portion bearing south  $88^{\circ} 40'$ ; west 20 chains and  $87\frac{1}{2}$  links; on the west by part of the east boundary of portion 114, and part of the east boundary of portion 90, bearing respectively south  $1^{\circ} 44'$  east 37 chains and  $6\frac{1}{2}$  links and south  $2^{\circ} 30'$  east 3 chains and 44 links; on the south by a north boundary of portion M.P. 177 bearing north  $87^{\circ} 45'$  east 20 chains and 1 link; and on the east by a west boundary of that portion, the west boundary of portion 58, and part of the west boundary of portion 55, in all bearing north  $35'$  west 40 chains and  $21\frac{1}{2}$  links, to the point of commencement.

Application No. S7-2, at Newcastle, for a Mineral Lease.

1. By whom application was received? Crown Lands Agent.
2. At what place? Newcastle.
3. Date and hour when received? 17th January, 1887, at 10:30 a.m.
4. Receipt for first year's rent, No. S7-2? Date, 17th January, 1887.
5. To whom receipt was issued? Samuel Palmer, of Newcastle (one of the two applicants).
6. Date when notice to survey was sent to surveyor? Portions surveyed.
7. Date when report and plan were received from the surveyor?
8. Names of objectors, and dates on which they lodged their objections? Lodged by 31st January, 1887.
9. Date of inquiry? 5th February, 1887.
10. Are the applicants holders of miners' rights? No. Land not within a gold-field, but of mineral license.
11. Is the land applied for exempted from leasing under the 34th section of the Mining Act, 1874? No.
12. Is the time proposed for commencing work reasonable? Yes.
13. Is the number of men proposed to be employed reasonable? Yes.

ALEX. LUMSDAINE,

Crown Lands Office, Newcastle, 1st February, 1887.

Crown Lands Agent, Newcastle.

Within W.R. 4, notified 1st January, 1867.

Mr. District-Surveyor Allworth reports that he does not see any objection to granting permission to mine upon and under the area herein applied for. *Vide* 86-13,539. The area applied for was 79 acres, and the rent for this area, £7 18s., paid. The correct area of portion, by the recent survey of Mr. Gray, is 82 acres 2 roods 14 perches, the rent for which is £8 6s. It is submitted that the balance due may be taken from the amount overpaid on application S7-1.

Dealt with. Diagrams herewith.—W.S.C., 22/2/87. Chief Draftsman.—E.F.P., 4/2/87. Area within applied for is included in permit granted to same applicants, 9th December, 1886.—P.D., *pro* Chief Draftsman. Chief Mining Surveyor. The Under Secretary. Mines, 15/2/87. Authority, 352, granted 9/12/86 to Houghton & Palmer still in force. Rent paid to 31/3/87.—J.M., 15/2/87. Submitted.—W.R.C., 15/2/87. May go on.—H.W., 15/2/87. Chief Draftsman.

Will the Examiner of Coal-fields please say whether it is necessary to reserve any portion of the surface, as the applicant, cannot at present fix the best position to open out and work the coal?—S.B., 19/3/87.

Under the above circumstance, I recommend that the surface be granted over the whole area, any portion of which may be resumed at any time.—J.M., 22/3/87. Under Secretary for Mines., B.C., 22/3/87. Approved.—H.W., 23/3/87.

Department

Department of Mines.—Under 48 Vic. No. 10.—Hunter and Macleay Mining District.  
 Applications No. Newcastle, 87-1 and 2, for mineral leases submitted herewith for the consideration of the Honorable the Minister for Mines.  
 The plans and descriptions have been checked.  
 No objections appear to have been made.  
 The number of men proposed to be employed appears reasonable.  
 The time for commencing work appears to be reasonable.  
 Applications No. Newcastle 87-1 and 2, as modified, Hunter and Macleay mining district, approved of.  
 Minute for the Executive Council.

F.A.

## No. 5.

## Minute for The Governor and Executive Council.

Recommending the approval of certain applications for Mineral Leases.

Department of Mines, Sydney, 25 February, 1887.

The applications for Mineral Leases of Crown Lands, specified in the annexed Schedule, are submitted for the approval of His Excellency the Governor and the Executive Council, in terms of the Mining Act Further Amendment Act of 1884.

FRANCIS ABIGAIL.

The Executive Council advise that the recommendations herein set forth be approved.—A.C. BUDGE, Clerk of the Council. Min. 87-7, 28/2/87. Confirmed, 7/3/87. Approved.—CARRINGTON, 28/2/87. *Gazette* Notice, 18/3/87.

## Schedule alluded to.

No.	Name.	Portion No.	Locality.	Area.	Period.	Date of Application.
UNDER 48 VIC., NO. 10.—HUNTER AND MACLEAY MINING DISTRICT.						
Newcastle 87-1	V. T. S. Houghton and another.	MP 177	County Northumberland, parish Kahibah.	a. r. p. 610 3 25	Years. 20	17 January, 1887.
„ 2	Do	221	do do	82 2 14	20	17 „ „

## No. 6.

## Government Gazette Notice.

[1841]

Department of Mines,  
 Sydney, 18th March, 1887.

## NOTICE TO APPLICANTS FOR MINERAL LEASES.

NOTICE is hereby given that the undermentioned applications for Mineral Leases of Crown Lands have been approved by His Excellency the Governor and the Executive Council.  
 [87-2,958; 2,959]

FRANCIS ABIGAIL.

Application No	Name.	Portion No.	Locality.	Area.	Years.	Date of Application.
UNDER 48 VIC. NO. 10.—HUNTER AND MACLEAY MINING DISTRICT.						
Newcastle 87-1	V. T. S. Houghton and another.	MP 177	County Northumberland, parish Kahibah.	a. r. p. 610 3 25	20	17 January, 1887.
„ „ 2	Do	221	do do	82 2 14	20	17 „ „

## No. 7.

## Copy of Lease issued to Messrs. Houghton and another.

THIS Indenture, made the 26th day of March, in the year of our Lord 1887, between Her Most Gracious Majesty Queen Victoria, of the one part, and Victor Thomas Sherbrooke Houghton, of Sydney, in the Colony of New South Wales, and Samuel Palmer, of Newcastle, in the Colony aforesaid (hereinafter called the lessees), of the other part, witnesseth:—That in consideration of the sum of £61 2s. paid by the said lessee on the 17th day of January, 1887, and of the rents and royalties hereinafter reserved, and of the covenants and provisos hereinafter contained, Her Majesty doth by these presents grant and demise unto the lessees, their executors, administrators, and transferees, all that piece or parcel of land, containing by admeasurement 610 acres 3 roods 25 perches, and more particularly described and delineated in the Schedule hereto or in the plan hereunto annexed, and numbered MP 177, and all those mines, veins, seams, or deposits of coal, in, on, and under the said land (hereinafter called the said mine), together with all and singular the shafts, levels, drifts, works, ways, fixtures, erections, liberties, easements, advantages, and appurtenances which are now or at any time during the term hereby granted may be held, occupied, or enjoyed therewith, for the purpose of mining upon and under the said land for coal, and also with full power for the said lessees, their executors, administrators, and transferees, and his and their agents and workmen (including contractors, tributors, and so forth), to dig, sink, drive, make, and use excavations, pits, shafts, levels, tunnels, watercourses, and other works necessary for winning and raising the coal in, on, or under the said land, and to take and appropriate the same during the term hereby granted, and to make and construct, on that portion of the surface of the said land, races, drains, dams, reservoirs, roads, and tramways, and also to erect, on that portion of the surface of the said land, all buildings,

buildings, engines, furnaces, pumps, machinery, and appliances necessary for the purpose of winning and obtaining the coal in, on, or under the said land, and for effectually carrying on the works of the said mine, and also to erect, on that portion of the surface not excepted as aforesaid of the said land, such offices, cottages, and dwelling-houses, for the use of the agents, workmen, and persons employed in the said mine and works, as the said lessees, their executors, administrators, and transferees shall think proper, to hold the said land, mine, and premises, with the appurtenances (subject nevertheless to such rights and interests as may be lawfully subsisting therein at the date of these presents), unto the said lessees, their executors, administrators, and transferees, from the date hereof, for the term of twenty years, for the purpose of mining therein or thereon, for working or winning the said coal, and for no other purpose.—Yielding and paying therefor unto Her Majesty, her heirs and successors, yearly and every year during the said term, the yearly rent of £61 2s. in advance, or in lieu thereof a royalty equal to 6d. for every ton of coal raised during the year, the first year's rent having been paid as aforesaid on the 17th day of January, 1887, the next payment being the rent of the said land at the rate of 2s. per acre per annum to the 25th day of March, 1889, shall be made to the Colonial Treasurer, in Sydney, on or before the 26th day of March, 1888, and thereafter on or before the 26th day of March in each and every year the yearly rent aforesaid shall be paid to the Colonial Treasurer aforesaid, clear of all rates, taxes, and assessments to which the said land, mine, and premises are now, or at any time during the said term may be, subject or liable: Provided that if the royalty upon the coal raised during any year of the said term, computed at the rate aforesaid, shall exceed the rent paid for such year, such royalty, after deducting therefrom the rent paid for such year, shall be paid to the Colonial Treasurer at the expiration of the year or within one month thereafter; but if such royalty in any year amount to less than the rent paid for such year no royalty shall be demanded in respect of the coal raised during that year: Provided always, and it is hereby agreed, that if the said yearly rent or royalty shall be in arrear for thirty days after the same shall have become payable, whether such rent or royalty shall have been legally demanded or not, any officer appointed or authorized thereto by the Secretary for Mines may, by himself or his agent, enter upon the said land, and seize and distrain all minerals, metals, and ores actually got and raised from the said mine; and all machinery, apparatus, tools, waggons, carts, carriages, engines, plant, and all other goods, chattels, and effects whatsoever, in, upon, and about the said land and premises; and in every distress thus made may take away, sell, and dispose of as in cases of distress for rent reserved in common leases, and out of the moneys arising thereby retain so much as shall be sufficient to satisfy the said arrears, and which shall at the time of such sale be unpaid; and all expenses incurred by him or them in or in respect of such seizure, distraint, removal, and sale; and if there be any surplus such officer shall pay the same to the said lessees, their executors, administrators, or transferees; and the acceptance or receipt of rent or royalty by or on behalf of Her Majesty, after breach of any covenant hereinafter contained, shall not be or be deemed a waiver of the right of Her Majesty, or of the Secretary for Mines, or other officer on behalf of Her Majesty, to enforce observance of such covenant. And if the said lessees, their executors, administrators, or transferees, shall mine for or win from the said land, mine, and premises, any gold, or any earth, rock, stone, quartz, clay, sand, gravel, or soil containing gold, or any mineral or metal with which gold is associated or combined, without the express sanction first had and obtained of the Secretary for Mines for the time being, the Governor, with the advice of the Executive Council, may declare these presents void, and thereupon all the right, title, and interest of the lessees, their executors, administrators, and transferees, under these presents shall cease and determine both at law and in equity. And the said lessees do hereby for themselves, their heirs, executors, administrators, and transferees, covenant with Her Majesty, her heirs and successors, in manner following, that is to say:—

1. That the said lessees, their executors, administrators, and transferees, shall and will during the said term pay unto Her Majesty, her heirs and successors, the rent or royalty hereby reserved, at the times and places hereinbefore appointed for payment thereof, clear of all deductions.

2. And shall and will, after the expiration of six months from the date of delivery hereof, upon and during all lawful working days, except when prevented by inevitable accident or during the execution of repairs, work the said land, mine, and premises, or the land, mine, and premises adjoining thereto and proposed to be worked in connection therewith, in the best and most effectual manner, and to the best advantage, without interruption, and shall and will with reasonable expedition make and construct all necessary works with a view to diligently explore and search for coal in, on, and under the said land, mine, or premises, by employing thereon not less than three men for the first three years of the term.

3. And shall and will, after the expiration of the said three years, or after the underground works shall have reached the said land, employ in the construction of the works, or in mining operations on or under the said land, during the first of the said term, and during the usual hours of labour, six able and competent workmen and miners at the least; unless prevented by inevitable accident or during the execution of repairs: Provided that the lessee, or if there be more than one lessee, each lessee who shall work as aforesaid, shall count as and be deemed for the purposes of these presents to be a workman or miner employed as aforesaid.

4. And shall and will during the said term effectually drain the said mine, and pump all water likely to cause injury thereto, or which would prevent or interfere with the working thereof; and if the said mine shall be affected, or be liable to be affected, by the same flow or body of water as any other mine or mines contiguous thereto, shall and will, if and whenever requested so to do, contribute with the lessee or lessees or owner or owners of such other mines, a reasonable proportion of the machinery and labour necessary to free and keep such mine or mines free from water to a workable extent; or if the said mine shall be kept free from water to a workable extent either wholly or partially by means of the machinery and labour of a contiguous mine or mines, or by reason of any works constructed or money expended by the lessee or lessees, owner or owners, of such contiguous mine or mines—then shall and will pay to such lessee or lessees, owner or owners, as aforesaid, a reasonable proportion of the cost of such machinery, labour, or works, or a reasonable proportion of the money so expended; and the Secretary for Mines for the time being may, if and whenever he shall think fit, depute some efficient person, who shall have access to and inspection of all such mines, to determine when the said mine is so freed or kept wholly or partially free from water, and what are the reasonable proportions of such expenses aforesaid, and to whom and when the same are to be paid,—such decision to be final and conclusive on all parties.

5. And shall and will make such provision for the disposal of the detritus, dirt, waste, or refuse of the said mine that the same shall not be an inconvenience, nuisance, or obstruction to any roadway, river, creek, or private or Crown lands, or shall not in any manner occasion any public or private damage or inconvenience.

6. And shall and will erect, and keep erected, during the said term, a post, painted white, at each angle of the said land, and at such points along the boundary-lines as shall be necessary, so as plainly and accurately to define the boundary-lines and angles of the said land; and each such post shall be fixed firmly in the ground, and shall project above the surface thereof not less than 3 feet.

7. And shall and will keep proper books, or a book, in which shall be entered the quantity of coal raised each day from the land hereby demised, and shall enter therein as soon as known the value of such coal, and permit any officer of the Department of Mines at all times to inspect the same, and as often as required so to do during the term make and deliver to the Secretary for Mines for the time being, or any officer appointed or instructed to collect, obtain, or receive the same, all such true and proper plans, sections, returns, statements, and statistics of the workings and operations of the said mine, made up to the last day of the preceding month (the truth and accuracy of which shall be verified by the statutory declaration of the lessee for the time being, or the manager or other officer having the charge, control, and direction of the works of the said mine), as the Secretary for Mines shall from time to time direct, or as shall be required by any regulation, and shall and will, whenever required by the Secretary for Mines so to do, deliver to any officer appointed or instructed as aforesaid samples of the minerals, metals, and ores, or any of them, found in or upon such mine and lands.

8. And shall and will during the said term make proper and reasonable compensation to the occupier or occupiers, lessee or lessees from the Crown of any adjoining land in respect of any damage which may be sustained by him or them, by reason of the working of the said mine, or the carrying on of the works thereof or connected therewith, such compensation to be determined by the Secretary for Mines, or by some person authorized by him so to do.

9. And shall and will permit any mining surveyor, or other person duly authorized in that behalf, with all proper or necessary assistants, at all reasonable times, during the said term, quietly to enter into and upon the said land, mine, and premises, to survey and examine the state and condition thereof, and for the purposes aforesaid, to descend all pits and shafts, and to enter into and use all adits, levels, galleries, drives, and excavations, and to use all roads, ways, engines, ropes, machinery, gear, appliances, materials, labour, and other things in or on the said land and mine, which shall be by him deemed necessary, without making any compensation for the same, so nevertheless that in so doing no unnecessary interference is caused with the carrying on of the said mining works.

10. And further, shall and will at all times during the said term keep and preserve the said mine and premises from all avoidable injury or damage, and also the levels, drifts, shafts, watercourses, roads, ways, works, erections, and fixtures therein and thereon, in good repair and condition, except such of the matters and things last aforesaid as shall from time to time be considered by a mining surveyor or other proper officer authorized by the Secretary for Mines to inspect and report upon such matters and things to be unnecessary for the proper working of the said mine or any contiguous mine, and in such state and condition shall and will at the end or sooner determination of the said term deliver peaceable possession thereof, and of all and singular the premises hereby demised to Her Majesty, her heirs and successors, or to the Warden or other officer authorized to receive possession thereof. Nevertheless the Secretary for Mines may, if he think fit, permit the lessees, their executors, administrators, and transferees, within six months after possession shall have been received as aforesaid, to enter upon the said land, and to remove therefrom such machinery, plant, and apparatus as shall have been erected and fixed upon such land, and such earth, rock, ore, mineral, or metal as shall have been won from and raised to the surface of such mine.

11. And shall not nor will use or occupy, or permit to be used or occupied, the said land, or any part thereof, for other than mining purposes, or for pasturage, or as sites for dwellings, or garden ground for the persons employed in, on, or about the said mine.

12. And shall not nor will mine in or upon the said mine, land, and premises, for any mineral, metal, or ore other than coal, without the express sanction of the Secretary for Mines.

13. And shall not nor will transfer, underlet, or part with possession of the said land, mine, and premises, or any part thereof, or mortgage, charge, or encumber the same, without the license first had and obtained of the Secretary for Mines for the time being: Provided always that no such license shall be necessary in cases where, by operation of law or otherwise, a sale of the said land, mine, and premises, or any part or parts thereof, is made by any person or persons entitled to sell the same for the benefit of the creditors or a creditor of the lessees or their transferees, or in cases where the lessees or their transferees desire to let the said mine and premises, or any part thereof, to be worked on tribute.

14. And shall not nor will close up or obstruct any adit or adits to or from any contiguous mine or mines whereby fresh air is admitted or ventilation promoted.

15. And shall not nor will plead acceptance of rent or royalty by or on behalf of Her Majesty as a waiver of the right of Her Majesty, or of the Secretary for Mines, or other officer on behalf of Her Majesty, to enforce observance of the covenants herein contained, or of the right of the Governor, with the advice of the Executive Council, to declare these presents void for breach of any such covenant: Provided always and it is hereby agreed and declared in manner following:—

16. That it shall be lawful for Her Majesty, her heirs, successors, and Assigns to make and use in, on, or under the said land, any levels, drifts, leads, shafts, watercourses, adits, roads, ways, and passages for freeing and keeping free any other lands or mines from water, or for conveying water to any other lands or mines for mining purposes, or for supplying any other mines with fresh air, or for effectually working any other mines, or for any public purpose whatsoever, causing as little damage, obstruction, or interference as possible to or with the said mine and the works thereof. And if, at any time during the term hereby created, any part or parts of the land hereby demised, or any part or parts of the surface thereof, shall be required for the purpose of any township, village, railway, road, canal, watercourse, reservoir, or for any other public purpose, it shall be lawful for the Governor for the time being, with the advice of the Executive Council, on giving three months' notice of his intention so to do, to cause to be set out the part or parts of the said land, or of the surface thereof, which shall be so required; and as soon as the same shall be so set out, such part or parts of the said land, or of the surface thereof, shall cease to be included in the land hereby demised, and the lessees, their executors, administrators, or transferees shall not be entitled to any abatement of rent or royalty, or any compensation whatever in respect thereof,

17. And if the said lessees, their executors, administrators, or transferees, shall prove to the satisfaction of the Secretary for Mines for the time being that the said mine is unworkable, or cannot be profitably worked, from any cause whatsoever, or that the lessees, their executors, administrators, or transferees, is or are unable, by reason of sickness or other sufficient cause, to work in such land or mine, or that the supply of water is insufficient to allow the working of the said land, mine, and premises to be profitably carried on, the said Secretary for Mines may grant permission to suspend work therein or thereon, for any period not exceeding six months, without the lessees, their executors, administrators, or transferees incurring in respect thereto any forfeiture or penalty for breach of any covenant herein contained.

18. And, lastly, that if the lessees, their executors, administrators, or transferees, shall at any time during the said term fail to use such land *bonâ fide* for the purpose for which it has been demised, or if and whenever the said rent or royalty shall be in arrear for thirty days after the time appointed for payment thereof, whether the same shall have been legally demanded or not, or if and whenever there shall be a breach of or non-compliance with the covenants and provisoes herein contained by the lessees, their executors, administrators, or transferees, and the lessees, their executors, administrators, or transferees shall not have obtained from the Secretary for Mines for the time being permission to suspend work as aforesaid, in case the breach shall have been for non-compliance with the covenants for the employment of workmen or miners, or for the working of the mine, the Governor, with the advice of the Executive Council, who alone and finally shall judge and determine the matter upon the evidence or reports submitted by the Secretary for Mines for the time being, may declare these presents void, and upon publication in the *Government Gazette* of notice of such declaration, all the right, title, and interest of the lessees, their executors, administrators, and transferees under these presents shall cease and determine both at law and in equity; and the production of a copy of the *Government Gazette* containing a notice, purporting to be signed by the Secretary for Mines, declaring the lease void, shall be conclusive evidence in all Courts whatsoever in the Colony of New South Wales of a breach of or non-compliance with the covenants and provisoes herein contained sufficient to authorize and sustain such declaration having been lawfully made, and that the interest created hereunder has been lawfully determined; and thereupon it shall be lawful for Her Majesty, her heirs and successors, or her or their agents or officers, or for any bailiff or other person duly authorized thereto, or for any holder of a mineral license who has the permission of the Secretary for Mines for the time being, without any previous demand whatsoever, to enter forthwith into and upon the said land and premises hereby granted, and the same to repossess and enjoy as fully and effectually to all intents and purposes as if these premises had not been made, and the said lessees, their executors, administrators, and transferees to expel and remove, without any legal process, and as effectually as the Sheriff might do in case judgment in ejectment had been obtained and a writ of *habere facias possessionem* had been issued on such judgment; and in case of such entry and any legal proceeding taken in respect thereof, the defendant or defendants in any such proceeding may plead leave and license in bar thereof; and these presents shall be conclusive evidence of such leave and license by the lessees, their executors, administrators, and transferees, or other the person or persons, plaintiff or plaintiffs in such proceedings, for such entry or other matters complained of in such proceedings.

In witness whereof, His Excellency the Right Honorable Charles Robert, Baron Carrington, a Member of Her Majesty's Most Honorable Privy Council, Knight Grand Cross of the Most Distinguished Order of Saint Michael and Saint George, Governor and Commander-in-Chief of the Colony of New South Wales and its Dependencies, hath, on behalf of Her Majesty the Queen, caused the seal of the said Colony to be affixed to this grant, and also set his hand, at Government House, Sydney, in the said Colony, the day and year first above written, and the lessees have also set their hands and seals the 28th day of March, 1887.

CARRINGTON.

Signed, sealed, and delivered by the within-named Victor Thomas Sherbrooke Houghton and Samuel Palmer, in the presence of.—

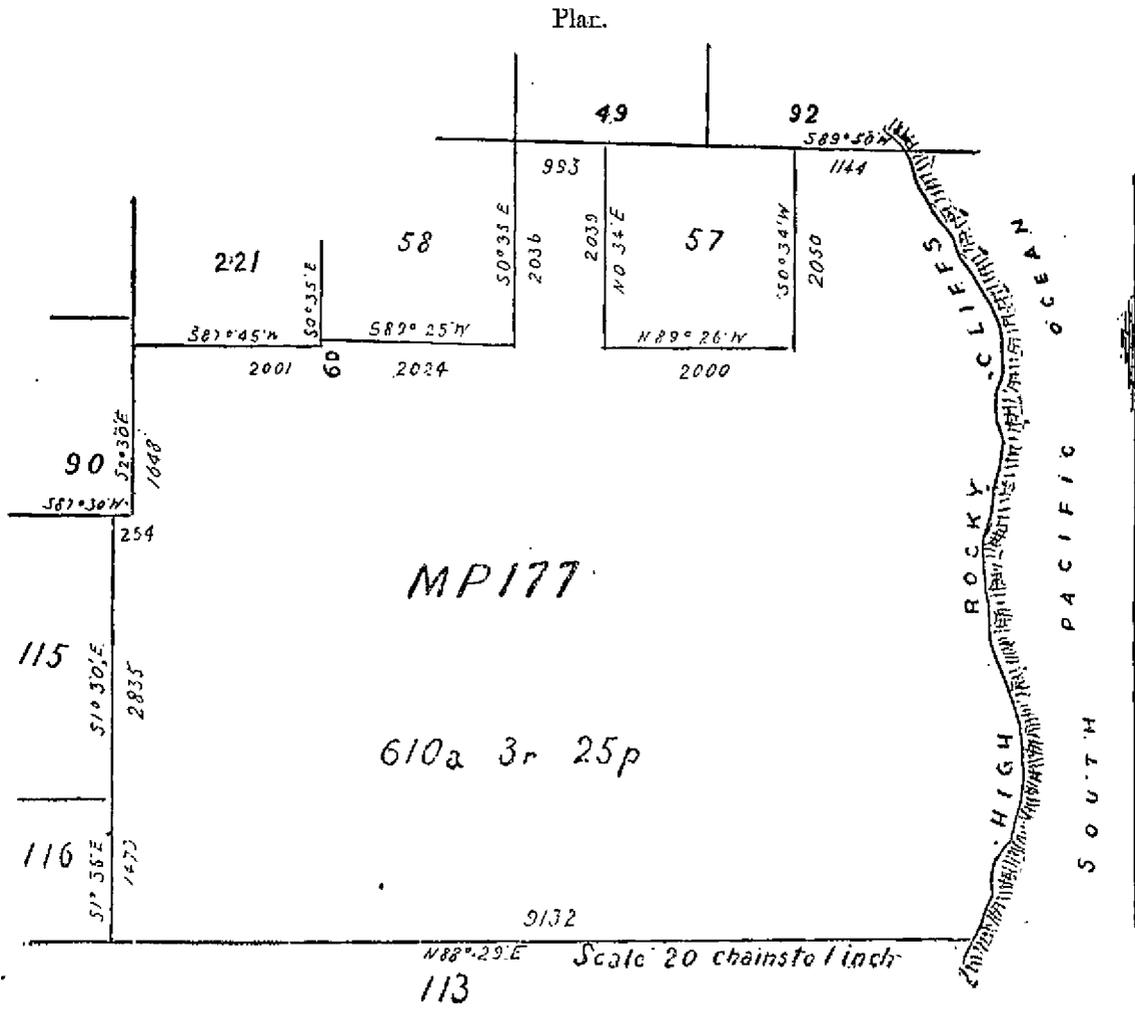
VICTOR THOMAS SHERBROOKE HOUGHTON.  
SAMUEL PALMER.

STEPHEN T. BURCHER.

FRANCIS ABIGAIL.

Schedule.

610 acres 3 roods 25 perches. County of Northumberland, parish of Kahibah, portion M.P. 177: Commencing at the south-east corner of portion 92; and bounded thence on part of the north by part of the south boundary of that portion bearing south 87 degrees 50 minutes west 11 chains 44 links; on part of the west by the east boundary of portion 57 bearing south 34 minutes west 20 chains 50 links; again on the north by the south boundary of that portion bearing north 89 degrees 26 minutes west 20 chains; on part of the east by the west boundary of that portion bearing north 34 minutes east 20 chains 39 links; again on the north by part of the south boundary of portion 49 bearing west 9 chains 93 links; again on the west by the east boundary of portion 58 bearing south 35 minutes east 20 chains 36 links; again on the north by the south boundary of that portion bearing south 89 degrees 25 minutes west 20 chains 24 links; again on the west by part of the east boundary of portion 221 bearing south 35 minutes east 60 links; again on the north by the south boundary of that portion bearing south 87 degrees 45 minutes west 20 chains 1 link; again on the west by part of the east boundary of portion 90 bearing south 2 degrees 30 minutes east 16 chains 48 links; on the remainder of the north by part of the south boundary of that portion bearing south 87 degrees 30 minutes west 2 chains 54 links; on the remainder of the west by part of the east boundaries of portions 115 and 116 bearing respectively south 1 degree 30 minutes east 28 chains 35 links, and south 1 degree 36 minutes east 14 chains 73 links; on the south by part of the north boundary of portion 113 bearing north 88 degrees 29 minutes east 91 chains 32 links, to the edge of the high cliffs fronting the South Pacific Ocean; and on the remainder of the east by the edge of the cliffs northwardly, to point of commencement.



Registered in the Department of Mines, at Sydney, this 28th day of March, A.D. 1887, at the hour of 12 o'clock noon, and numbered in the Register 215.

EDWARD FARR  
(For the Registrar).

Transfer from V. T. Sherbrooke Houghton and Samuel Palmer of their interests in mineral lease No. 215 to the Scottish Australian Mining Co. (Limited). Registered by me, in the Department of Mines, Sydney, this 2nd day of June, 1887, at the hour of 2 o'clock in the afternoon.

EDWARD FARR  
(For the Registrar).

No. 8.

Copy of Lease issued to Messrs. Houghton and Palmer.

This indenture, made the 26th day of March, in the year of our Lord 1887, between Her Most Gracious Majesty Queen Victoria, of the one part, and Victor Thomas Sherbrooke Houghton, of Sydney, in the Colony of New South Wales, and Samuel Palmer, of Newcastle, in the Colony aforesaid (hereinafter called the lessees), of the other part, witnesseth:—That in consideration of the sum of £80 6s., paid by the said lessees on the 17th day of January, 1887, and of the rents and royalties hereinafter reserved, and of the covenants and provisos hereinafter contained, Her Majesty doth by these presents grant and demise unto the lessees, their executors, administrators, and transferees, all that piece or parcel of land containing by admeasurement 82 acres 2 roods 14 perches, and more particularly described and delineated in the Schedule hereto or in the plan hereunto annexed, and numbered 221, and all those mines, veins, seams, or deposits of coal, in, on, and under the said land (hereinafter called the said mine), together with all and singular the shafts, levels, drifts, works, ways, fixtures, erections, liberties, easements, advantages, and appurtenances which are now or at any time during the term hereby granted may be held, occupied, or enjoyed therewith, for the purpose of mining upon or under the said land for coal, and also with full power for the said lessees, their executors, administrators, and transferees, and his and their agents and workmen (including contractors, tributors, and so forth), to dig, sink, drive, make, and use excavations, pits, shafts, levels, tunnels, watercourses, and other work necessary for winning and raising the coal in, on, or under the said land, and to take and appropriate the same during the term hereby granted, and to make and construct, on that portion of the surface of the said land, races, drains, dams, reservoirs, roads, and tramways, and also to erect, on that portion of the surface of the said land, all buildings, engines, furnaces, pumps, machinery, and appliances necessary for the purpose of winning and obtaining the coal in, on, or under the said land, and for effectually carrying on the works of the said mine, and also to erect, on that portion of the surface of the said land, such offices, cottages, and dwelling-houses, for the use of the agents, workmen, and persons employed in the said mine and works, as the said lessees, their executors, administrators, and transferees shall think proper: to hold the said land, mine, and premises, with the appurtenances (subject nevertheless to such rights and interests as may be lawfully subsisting therein at the date of these presents), unto the said lessees, their executors, administrators, and transferees, from the date hereof,

hereof, for the term of twenty years, for the purpose of mining therein or thereon, for working or winning the said coal, and for no other purpose.—Yielding and paying therefor unto Her Majesty, her heirs and successors, yearly and every year during the said term, the yearly rent of £8 6s., in advance, or in lieu thereof a royalty equal to 6d. for every ton of coal raised during the year, the first year's rent having been paid as aforesaid, on the 17th day of January, 1887, the next payment being the rent of the said land at the rate of 2s. per acre per annum to the 25th day of March, 1889, shall be made to the Colonial Treasurer in Sydney, on or before the 26th day of March, 1888, and thereafter on or before the 26th day of March, in each and every year, the yearly rent aforesaid shall be paid to the Colonial Treasurer aforesaid, clear of all rates, taxes, and assessments to which the said land, mine, and premises are now, or at any time during the said term may be, subject or liable: Provided that if the royalty upon the coal raised during any year of the said term, computed at the rate aforesaid, shall exceed the rent paid for such year, such royalty, after deducting therefrom the rent paid for such year, shall be paid to the Colonial Treasurer at the expiration of the year or within one month thereafter; but if such royalty in any year amount to less than the rent paid for such year no royalty shall be demanded in respect of the coal raised during that year: Provided always, and it is hereby agreed, that if the said yearly rent or royalty shall be in arrear for thirty days after the same shall have become payable, whether such rent or royalty shall have been legally demanded or not, any officer appointed or authorized thereto by the Secretary for Mines may, by himself or his agent, enter upon the said land, and seize and distrain all minerals, metals, and ores actually got and raised from the said mine; and all machinery, apparatus, tools, waggons, carts, carriages, engines, plant, and all other goods, chattels, and effects whatsoever, in, upon, and about the said land and premises; and in every distress thus made may take away, sell, and dispose of as in cases of distress for rent reserved in common leases, and out of the moneys arising thereby retain so much as shall be sufficient to satisfy the said arrears, and which shall at the time of such sale be unpaid; and all expenses incurred by him or them in or in respect of such seizure, distraint, removal, and sale; and if there be any surplus such officer shall pay the same to the said lessees, their executors, administrators, or transferees; and the acceptance or receipt of rent or royalty by or on behalf of Her Majesty, after breach of any covenant hereinafter contained, shall not be or be deemed a waiver of the right of Her Majesty, or of the Secretary for Mines, or other officer on behalf of Her Majesty, to enforce observance of such covenant. And if the said lessees, their executors, administrators, or transferees, shall mine for or win from the said land, mine, and premises, any gold, or any earth, rock, stone, quartz, clay, sand, gravel, or soil containing gold, or any mineral or metal with which gold is associated or combined, without the express sanction first had and obtained of the Secretary for Mines for the time being, the Governor, with the advice of the Executive Council, may declare these presents void, and thereupon all the right, title, and interest of the lessees, their executors, administrators, and transferees under these presents shall cease and determine both at law and in equity. And the said lessees do hereby, for themselves, their heirs, executors, administrators, and transferees, covenant with Her Majesty, her heirs and successors, in manner following, that is to say:—

1. That the said lessees, their executors, administrators, and transferees, shall and will during the said term pay unto Her Majesty, her heirs and successors, the rent or royalty hereby reserved, at the times and places hereinbefore appointed for payment thereof, clear of all deductions.

2. And shall and will, after the expiration of six months from the date of delivery hereof, upon and during all lawful working days, except when prevented by inevitable accident or during the execution of repairs, work the said land, mine, and premises, or the land, mine, and premises adjoining thereto and proposed to be worked in connection therewith, in the best and most effectual manner, and to the best advantage, without interruption, and shall and will with reasonable expedition make and construct all necessary works with a view to diligently explore and search for coal in, on, and under the said land, mine, or premises, by employing thereon not less than two men for the first three years of the term.

3. And shall and will, after the expiration of the said three years, or after the underground works shall have reached the said land, employ in the construction of the works, or in mining operations on or under the said land, during the said term, and during the usual hours of labour, four able and competent workmen and miners at the least; unless prevented by inevitable accident or during the execution of repairs: Provided that the lessee, or if there be more than one lessee, each lessee who shall work as aforesaid, shall count as and be deemed for the purposes of these presents to be a workman or miner employed as aforesaid.

4. And shall and will during the said term effectually drain the said mine, and pump all water likely to cause injury thereto, or which would prevent or interfere with the working thereof; and if the said mine shall be affected, or be liable to be affected, by the same flow or body of water as any other mine or mines contiguous thereto, shall and will, if and whenever requested so to do, contribute with the lessee or lessees or owner or owners of such other mines, a reasonable proportion of the machinery and labour necessary to free and keep such mine or mines free from water to a workable extent; or if the said mine shall be kept free from water to a workable extent either wholly or partially by means of the machinery and labour of a contiguous mine or mines, or by reason of any works constructed or money expended by the lessee or lessees, owner or owners, of such contiguous mine or mines,—then shall and will pay to such lessee or lessees, owner or owners, as aforesaid, a reasonable proportion of the cost of such machinery, labour, or works, or a reasonable proportion of the money so expended; and the Secretary for Mines for the time being may, if and whenever he shall think fit, depute some efficient person, who shall have access to and inspection of all such mines, to determine when the said mine is so freed or kept wholly or partially free from water, and what are the reasonable proportions of such expenses aforesaid, and to whom and when the same are to be paid,—such decision to be final and conclusive on all parties.

5. And shall and will make such provision for the disposal of the detritus, dirt, waste, or refuse of the said mine that the same shall not be an inconvenience, nuisance, or obstruction to any roadway, river, creek, or private or Crown lands, or shall not in any manner occasion any public or private damage or inconvenience.

6. And shall and will erect, and keep erected, during the said term, a post, painted white, at each angle of the said land, and at such points along the boundary lines as shall be necessary, so as plainly and accurately to define the boundary lines and angles of the said land; and each such post shall be fixed firmly in the ground, and shall project above the surface thereof not less than 3 feet.

7. And shall and will keep proper books, or a book, in which shall be entered the quantity of coal raised each day from the land hereby demised, and shall enter therein as soon as known the value of such coal,

coal, and permit any officer of the Department of Mines at all times to inspect the same, and as often as required so to do during the term make and deliver to the Secretary for Mines for the time being, or any officer appointed or instructed to collect, obtain, or receive the same, all such true and proper plans, sections, returns, statements, and statistics of the workings and operations of the said mine, made up to the last day of the preceding month (the truth and accuracy of which shall be verified by the statutory declaration of the lessee for the time being, or the manager or other officer having the charge, control, and direction of the works of the said mine), as the Secretary for Mines shall from time to time direct, or as shall be required by any regulation, and shall and will, whenever required by the Secretary for Mines so to do, deliver to any officer appointed or instructed as aforesaid samples of the minerals, metals, and ores, or any of them, found in or upon such mine and lands.

8. And shall and will during the said term make proper and reasonable compensation to the occupier or occupiers, lessee or lessees, from the Crown of any adjoining land in respect of any damage which may be sustained by him or them, by reason of the working of the said mine, or the carrying on of the works thereof or connected therewith, such compensation to be determined by the Secretary for Mines, or by some person authorized by him so to do.

9. And shall and will permit any mining surveyor, or other person duly authorized in that behalf, with all proper or necessary assistants, at all reasonable times, during the said term, quietly to enter into and upon the said land, mine, and premises, to survey and examine the state and condition thereof, and for the purposes aforesaid, to descend all pits and shafts, and to enter into and use all adits, levels, galleries, drives, and excavations, and to use all roads, ways, engines, ropes, machinery, gear, appliances, materials, labour, and other things in or on the said land and mine, which shall be by him deemed necessary, without making any compensation for the same, so nevertheless that in so doing no unnecessary interference is caused with the carrying on of the said mining works.

10. And further, shall and will at all times during the said term keep and preserve the said mine and premises from all avoidable injury or damage, and also the levels, drifts, shafts, watercourses, roads, ways, works, erections and fixtures therein and thereon, in good repair and condition, except such of the matters and things last aforesaid as shall from time to time be considered by a mining surveyor or other proper officer authorized by the Secretary for Mines to inspect and report upon such matters and things to be unnecessary for the proper working of the said mine or any contiguous mine, and in such state and condition shall and will at the end or sooner determination of the said term deliver peaceable possession thereof, and of all and singular the premises hereby demised to Her Majesty, her heirs and successors, or to the Warden or other officer authorized to receive possession thereof. Nevertheless, the Secretary for Mines may, if he think fit, permit the lessees, their executors, administrators, and transferees, within six months after possession shall have been received as aforesaid, to enter upon the said land, and to remove therefrom such machinery, plant, and apparatus as shall have been erected and fixed upon such land, and such earth, rock, ore, mineral, or metal as shall have been won from and raised to the surface of such mine.

11. And shall not nor will use or occupy, or permit to be used or occupied, the said land, or any part thereof, for other than mining purposes, or for pasturage, or as sites for dwellings, or garden ground for the persons employed in, on, or about the said mine.

12. And shall not nor will mine in or upon the said mine, land, and premises, for any mineral, metal, or ore other than coal, without the express sanction of the Secretary for Mines.

13. And shall not nor will transfer, underlet, or part with possession of the said land, mine, and premises, or any part thereof, or mortgage, charge, or encumber the same, without the license first had and obtained of the Secretary for Mines for the time being: Provided always that no such license shall be necessary in cases where, by operation of law or otherwise, a sale of the said land, mine, and premises, or any part or parts thereof, is made by any person or persons entitled to sell the same for the benefit of the creditors or a creditor of the lessees or their transferees, or in cases where the lessees or their transferees desire to let the said mine and premises, or any part thereof, to be worked on tribute.

14. And shall not nor will close up or obstruct any adit or adits to or from any contiguous mine or mines whereby fresh air is admitted or ventilation promoted.

15. And shall not nor will plead acceptance of rent or royalty by or on behalf of Her Majesty as a waiver of the right of Her Majesty, or of the Secretary for Mines, or other officer on behalf of Her Majesty, to enforce observance of the covenants herein contained, or of the right of the Governor, with the advice of the Executive Council, to declare these presents void for breach of any such covenant: Provided always, and it is hereby agreed and declared in manner following:—

16. That it shall be lawful for Her Majesty, her heirs, successors, and Assigns, to make and use in, on, or under the said land, any levels, drifts, leads, shafts, watercourses, adits, roads, ways, and passages for freeing and keeping free any other lands or mines from water, or for conveying water to any other lands or mines for mining purposes, or for supplying any other mines with fresh air, or for effectually working any other mines, or for any public purpose whatsoever, causing as little damage, obstruction, or interference as possible to or with the said mine and the works thereof. And if, at any time during the term hereby created, any part or parts of the land hereby demised, or any part or parts of the surface thereof, shall be required for the purpose of any township, village, railway, road, canal, watercourse, reservoir, or for any other public purpose, it shall be lawful for the Governor for the time being, with the advice of the Executive Council, on giving three months' notice of his intention so to do, to cause to be set out the part or parts of the said land or of the surface thereof which shall be so required; and as soon as the same shall be so set out such part or parts of the said land, or of the surface thereof, shall cease to be included in the land hereby demised, and the lessees, their executors, administrators, or transferees shall not be entitled to any abatement of rent or royalty, or any compensation whatever in respect thereof.

17. And if the said lessees, their executors, administrators, or transferees shall prove to the satisfaction of the Secretary for Mines for the time being that the said mine is unworkable, or cannot be profitably worked, from any cause whatsoever, or that the lessees, their executors, administrators, or transferees is or are unable, by reason of sickness or other sufficient cause, to work in such land or mine, or that the supply of water is insufficient to allow the working of the said land, mine, and premises to be profitably carried on, the said Secretary for Mines may grant permission to suspend work therein or thereon, for any period not exceeding six months, without the lessees, their executors, administrators, or transferees incurring in respect thereto any forfeiture or penalty for breach of any covenant herein contained.

18. And, lastly, that if the lessees, their executors, administrators, or transferees shall at any time during the said term fail to use such land *bonâ fide* for the purpose for which it has been demised, or if and whenever the said rent or royalty shall be in arrear for thirty days after the time appointed for payment thereof, whether the same shall have been legally demanded or not, or if and whenever there shall be a breach of or non-compliance with the covenants and provisoes herein contained by the lessees, their executors, administrators, or transferees, and the lessees, their executors, administrators, or transferees shall not have obtained from the Secretary for Mines for the time being permission to suspend work as aforesaid, in case the breach shall have been for non-compliance with the covenants for the employment of workmen or miners, or for the working of the mine, the Governor, with the advice of the Executive Council, who alone shall finally judge and determine the matter upon the evidence or reports submitted by the Secretary for Mines for the time being, may declare these presents void, and upon publication in the *Government Gazette* of notice of such declaration, all the right, title, and interest of the lessees, their executors, administrators, and transferees under these presents shall cease and determine both at law and in equity; and the production of a copy of the *Government Gazette*, containing a notice purporting to be signed by the Secretary for Mines, declaring the lease void, shall be conclusive evidence in all Courts whatsoever in the Colony of New South Wales of a breach of or non-compliance with the covenants and provisoes herein contained sufficient to authorize and sustain such declaration having been lawfully made, and that the interest created hereunder has been lawfully determined; and thereupon it shall be lawful for Her Majesty, her heirs and successors, or her or their agents or officers, or for any bailiff or other person duly authorized thereto, or for any holder of a mineral license who has the permission of the Secretary for Mines for the time being, without any previous demand whatsoever, to enter forthwith into and upon the said land and premises hereby granted, and the same to repossess and enjoy as fully and effectually to all intents and purposes as if these premises had not been made, and the said lessees, their executors, administrators, and transferees to expel and remove, without any legal process, and as effectually as the Sheriff might do in case judgment in ejectment had been obtained and a writ of *habere facias possessionem* had been issued on such judgment; and in case of such entry and any legal proceeding taken in respect thereof, the defendant or defendants in any such proceeding may plead leave and license in bar thereof; and these presents shall be conclusive evidence of such leave and license by the lessees, their executors, administrators, and transferees, or other the person or persons, plaintiff or plaintiffs, in such proceedings, for such entry or other matters complained of in such proceedings.

In witness whereof, His Excellency the Right Honorable Charles Robert, Baron Carrington, a Member of Her Majesty's Most Honorable Privy Council, Knight Grand Cross of the Most Distinguished Order of Saint Michael and Saint George, Governor and Commander-in-Chief of the Colony of New South Wales and its Dependencies, hath, on behalf of Her Majesty the Queen, caused the Seal of the said Colony to be affixed to this grant, and also set his hand, at Government House, Sydney, in the said Colony, the day and year first above written, and the lessees have also set their hands and seals, the 28th day of March, 1887.

CARRINGTON.

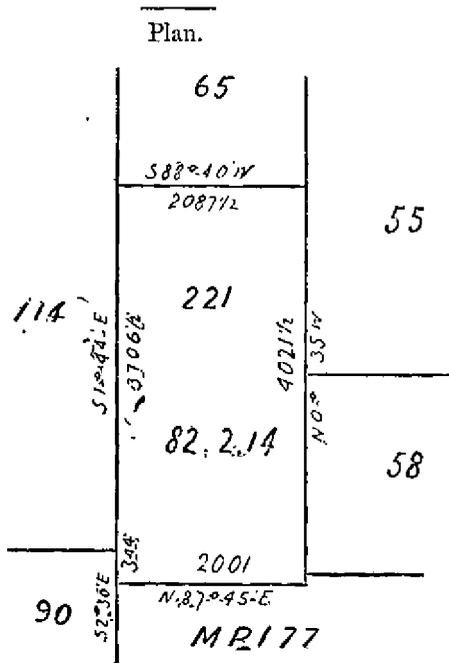
Signed, sealed, and delivered by the within-named Victor Thomas Sherbrooke Houghton and Samuel Palmer, in the presence of,—  
STEPHEN T. BURCHER.

VICTOR THOMAS SHERBROOKE HOUGHTON.  
SAMUEL PALMER.

FRANCIS ABIGAIL.

Schedule.

82 acres 2 roods 14 perches. County of Northumberland, parish of Kalibah, portion 221: Commencing at the south-east corner of portion 65; and bounded thence on the north by the south boundary of that portion bearing south 88 degrees 40 minutes west 20 chains and 87½ links; on the west by part of the east boundary of portion 114 and part of the east boundary of portion 90, bearing respectively south 1 degree 41 minutes east 3 chains and 6½ links, and south 2 degrees 30 minutes east 3 chains and 44 links; on the south by a north boundary of portion 2001, bearing north 87 degrees 45 minutes east 20 chains and 1 link; and on the east by a west boundary of that portion, the west boundary of portion 58, and part of the west boundary of portion 55, in all bearing north 35 minutes west 40 chains and 21½ links, to the point of commencement.



Registered in the Department of Mines, at Sydney, this 28th day of March, A.D. 1887, at the hour 12 o'clock noon, and numbered in the Register 216.

EDWARD FARR  
(For the Registrar).

Transfer from V. T. Sherbrooke Houghton and Samuel Palmer of their interest in mineral lease No. 216, to the Scottish Australian Mining Company (Limited). Registered by me, in the Department of Mines, Sydney, this 2nd day of June, 1887, at the hour of 2 o'clock in the afternoon.

EDWARD FARR  
(For the Registrar).

## No. 4.

SCHEDULE in connection with Mineral Lease Applications Nos. 6 and 8.

### SCHEDULE.

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2. V. T. S. Houghton—Application for above (regulations, description, and tracing attached). 14 February, 1887 .....	22
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5. Minute of the Executive Council, approving of above application, 87-6 & 8. (Minutes thereon.) 26 April, 1887 .....	26
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7. Copy of lease issued application 87-6 (diagram). 26 May, 1887 .....	27
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### No. 1.

#### Application by Mr. V. T. S. Houghton.

Mineral Lease Regulations.—Schedule 6.—Notice of application and deposit.

Sir,

Newcastle, 14 February, 1887.

I have the honor to inform you that I have this day deposited with the Crown Lands Agent, at Newcastle, the sum of £48, being the first year's rent in advance of 480 acres of land at Redhead for the purpose of mining for coal. The number of my application is 87-6.

I have, &c.,

VICTOR THOMAS SHERBROOKE HOUGHTON.

The Under Secretary for Mines, Sydney.

### No. 2.

#### Application by Mr. V. T. S. Houghton.

Mineral Lease Regulations.—Schedule 2.—Form of application.

To the Honorable the Secretary for Mines, Sydney,—

Sir,

Newcastle, 12 February, 1887.

I hereby make application for a mineral lease of that piece or parcel of land situated near Redhead, parish of Kahibah, county of Northumberland, containing 480 acres, of which I took possession on the 12th day of February, 1887, at the hour of 1 minute past 12 o'clock in the afternoon, for the purpose of mining thereon and therein for coal for a period of twenty years, by placing 3-foot stakes and 6-foot trenches at each angle thereof. The datum point is the south-west corner of portion No. 7, parish of Kahibah, county of Northumberland.

Notice of my having made this application will be given in accordance with the regulations in that behalf, and I hand herewith the sum of £48, being the first year's rent in advance of the said land.

I hereby acknowledge that this application is made upon the distinct understanding and condition that if I shall abandon or fail to proceed with it, or if it is refused, the Secretary for Mines for the time being may deduct from the sum of £48, deposited as aforesaid, any cost to which, in his opinion, the Crown may have been put in or about or in respect of this application; and this application shall thereupon become and be void, and the possession aforesaid shall cease and determine. And if the lease shall be granted I shall and will commence mining operations upon or in connection with the demised land within six months from and after the granting thereof, and shall and will employ upon such land not less than four men during the first three years of the term thereby created, and not less than eight men during the remainder of such term. And shall and will, at any time when called upon, in terms of the regulations relating to mineral leases, to do so, execute and take delivery of such lease, or failing therein for a period of fourteen days, after being so called upon, I shall and will forfeit the said sum of £48 and all right, title, or interest in and to the said land and the possession thereof, and the said lease shall be forthwith cancelled.

I have, &c.,

VICTOR THOMAS SHERBROOKE HOUGHTON,

Sydney.

Description.

## Description.

Portions 119 and 120, parish of Kahibah, county of Northumberland, being part of water reserve No. 27, notified 23rd November, 1875.

This application was received by me this 14th day of February, 1887, at the hour of 11 o'clock in the forenoon, and is numbered 87-6.

ALEXR. LUMSDAINE,  
Crown Lands Agent, Newcastle.

## Questions to be answered by applicants to lease.

WHEN receiving an application to lease land for mining purposes, the Warden, Warden's Clerk, or an Agent, as the case may be, shall require the applicant or applicants, or his or their agent, to answer the following questions, and shall take down such in writing. The statement, when complete, to be read over to and signed by the person furnishing the answers:—

1. Were you or each of you (applicants) the holder of a miner's right in force at the date of taking possession of the land referred to in application? No.
2. Do you produce them?
3. What was the date and hour of the day when you took possession of the land referred to in application No. 87-6? 12th February, 1887, at 12.1.
4. Did you take possession by erecting posts and cutting trenches at each angle of the land? Yes.  
If No. 4 be replied to in the affirmative, then 5, 6, and 7.
5. What was the diameter of the posts? 3 inches.
6. How high did they project above the surface when fixed in the ground? 3 feet.
7. What was the length of each arm of each trench? and what was the depth of each trench? 6 feet; 9 inches.
8. If a substitute for post or trench was used, describe it.
9. At which angle of the land is the datum post fixed? South-west corner of portion 7.
10. Did you affix a board or metal plate to the datum post? Board.
11. What was written or painted on such board or plate? Mineral lease applied for by V. T. Sherbrooke Houghton, of Sydney.
12. Where did you post the notices, Schedule 1? At Crown Lands Office, Newcastle, and Post Office, Charlestown.
13. When did you post such notice? 14th February, 1887.
14. Did anybody claim or appear to be in possession of the land applied for, or any portion of it? No.
15. Did you serve notice in the form Schedule 1 upon every such person, and when? No.
16. Have you obtained the consent of every such person to the granting of the lease for which you apply? No.

I, V. T. Sherbrooke Houghton, on behalf of myself, declare that the foregoing questions have been answered by me truthfully in every particular, and the answers thereto have been read over to me, and are correctly taken down in writing.

VICTOR THOMAS SHERBROOKE HOUGHTON.

Witness to signature,—

ALEX. LUMSDAINE, Crown Lands Agent, Newcastle, 14/2/87.

Application No. 87-6, at Newcastle, for a Mineral Lease under 48 Vic. No. 10, Reserve 480 (320 × 160) acres, portions 119 and 120, at Redhead, parish of Kahibah, county of Northumberland.

1. By whom application was received? Crown Lands Agent.
2. At what place? Newcastle.
3. Date and hour when received? 14th February, 1887, at 11 a.m.
4. Receipt for first year's rent, No. 87-6, at 2s. per acre. Date? 14th February, 1887, £48.
5. To whom receipt was issued? Applicant, Victor Thos. Sherbrooke Houghton, of Sydney.
6. Date when notice to survey was sent to surveyor? Portions already surveyed.
7. Date when report and plan were received from the surveyor?
8. Names of objectors, and dates on which they lodged their objections?
9. Dates of inquiry? Notified for Saturday, 5th March, 1887, at 12 noon.
10. Is the applicant holder of a miner's right? Land not within a gold-field.
11. Is the land applied for exempted from leasing under the 34th section of the Mining Act, 1874? No.
12. Is the time proposed for commencing work reasonable? Yes.
13. Is the number of men proposed to be employed reasonable? Yes.

ALEXR. LUMSDAINE,

Crown Lands Office, Newcastle, 7th March, 1887.

Crown Lands Agent, Newcastle.

Mining District, Hunter and Macleay; applicant's locality, near Redhead.

Application, No. 87-6, at Newcastle.

## Description.

480 acres, county of Northumberland, parish of Kahibah, area included in portions 119 and 120: Commencing at the north-east corner of portion No. 5; and bounded thence on the north-west by the south-east boundary of that portion bearing south 45° west 33 chains 68 links; thence on part of the north-east by the south-west and north-west boundaries of that portion bearing respectively north 45° west 36 chains 98 links and north 45° east 9 chains, and the south-west boundary of portion No. 59 and a line bearing respectively north 45° 15' west 6 chains 35 links and south 45° west 6 chains 72 links; thence on part of the west by part of the east boundary of portion M.L. 1 bearing south 51 chains 71 links; thence on part of the south by part of the north boundary of portion No. 121 bearing east 55 chains 95 links; thence on part of the east by part of the west boundary of portion No. 61 bearing

bearing north 15 chains 76 links; thence again on the south by the north boundary of that portion bearing east 25 chains 70 links; thence again on part of the east by the west boundary of portion 62 and part of the west boundaries of portions 115 and 114, in all bearing north 40 chains 5 links; thence on part of the north by part of the south boundary of portion 83 bearing west 10 chains; thence again on part of the east by the west boundary of that portion bearing north 20 chains; thence again on part of the south by part of the north boundary of same portion bearing east 10 chains; then on the remainder of the east by part of the west boundary of portion 114 bearing north 20 chains 65 links; thence on the north by part of the south boundary of portion 108 bearing west 12 chains 21 links, a line bearing south 7 chains 31 links, a line and the south boundary of portion No. 7, in all bearing west 27 chains 73 links, part of the east boundary of portion 6 bearing south 10 chains 8 links, the south boundary of portion 6 bearing west 20 chains 12 links, part of the west boundary of same portion bearing north 17 chains 39 links, and part of the south boundary of portion No. 107 bearing west 21 chains 67 links; thence again on part of the west by a line bearing south 9 chains 90 links; thence on the remainder of the south-west by a part of the north-east boundary of T. Williams's 112 acres bearing south 45° east 20 chains 96 links; thence on the remainder of the south by part of the north-west and the north boundaries of portion No. 59 bearing respectively north 45° east 3 chains 69 links and east 16 chains 50 links; thence on the remainder of the west by the east boundary of that portion bearing south 21 chains 53 links to a creek forming the north-east boundary of portion No. 5 before mentioned; and thence by that creek in a south-easterly direction, to the point of commencement.

Exclusive of reserved roads, 1 chain wide, passing through the portion.

W.L.C.

J.H.M., 1/4/87.

Coal.—Application 87-6, at Newcastle.—V. T. Sherbrooke Houghton; 480 acres, portions 119 and 120, parish of Kahibah, county of Northumberland. Identical with area granted to same applicant under section 28, on 15th November, 1886. Within water reserve 27, notified 23rd November, 1875, and population boundary, Newcastle, portion 119, subject of application 86-13, Newcastle. Portion 120, included in application 86-12, at Newcastle.

These portions were measured in 1874 as mineral selections under the Crown Lands Occupation Act, 1861. Submitted as to form of measurement.—W.L.C., 1/4/87. J.H.M., 1/4/87. Chief Mining Surveyor.

The portion is already held under the 28th section by the same person who now applies for a mineral lease. Under the circumstances it is recommended that the dimensions be approved.—E.F.P., 2/4/87.

The Under Secretary Mines, 4/4/87. Submitted for approval.—G.E.H. (for the U.S.), 14/4/87. Approved.—F.A., 15/4/87. Chief Draftsman.—E.F.P., 18/4/87. Dealt with. Diagrams herewith.\*—W.L.C., 18/4/87. 86-12, Newcastle, refused, 11/2/87. 86-13, Newcastle, refused, 11/2/87.—S.B., 4/3/87.

Appendix D.

### No. 3.

#### Application by Messrs. Houghton & Palmer.

Mineral Lease Regulations.—Schedule 6.—Notice of application and deposit.

Sir,

Newcastle, 14 February, 1887.

We have the honor to inform you that we have this day deposited with the Land Agent, at Newcastle, the sum of £32, being the first year's rent in advance of 320 acres of land at Redhead, for the purpose of mining for coal. The number of our application is 87-8.

We have, &c.,

VICTOR THOMAS SHERBROOKE HOUGHTON.  
SAMUEL PALMER

The Under Secretary for Mines, Sydney.

(By his Agent, V. T. S. HOUGHTON).

### No. 4.

#### Application by Messrs. Houghton & Palmer.

Mineral Lease Regulations.—Schedule 2.—Form of application.

To the Honorable the Secretary for Mines, Sydney,—

Newcastle, 12 February, 1887.

Sir,

We hereby make application for a mineral lease of that piece or parcel of land situated at Redhead, parish of Kahibah, county of Northumberland, containing 320 acres, of which we took possession on the 12th day of February, 1887, at the hour of 6 o'clock in the forenoon, for the purpose of mining thereon and therein for coal for a period of twenty years, by placing 3-foot stakes and 6-foot trenches at each angle thereof. The datum point is the south-east corner of portion 115, parish of Kahibah, county of Northumberland.

Notice of our having made this application will be given in accordance with the regulations in that behalf, and we hand herewith the sum of £32, being the first year's rent in advance of the said land.

We hereby acknowledge that this application is made upon the distinct understanding and condition that if we shall abandon or fail to proceed with it, or if it is refused, the Secretary for Mines for the time being may deduct from the sum of £32 deposited as aforesaid any cost to which in his opinion the Crown may have been put in, or about, or in respect of this application; and this application shall thereupon become and be void, and the possession aforesaid shall cease and determine. And if the lease shall be granted we shall and will commence mining operations upon or in connection with the demised land within six months from and after the granting thereof, and shall and will employ upon such land not less than three men during the first three years of the term thereby created, and not less than six men

men

men during the remainder of such term. And shall and will at any time when called upon in terms of the regulations relating to mineral leases to do so, execute and take delivery of such lease, or failing therein for a period of fourteen days, after being so called upon, we shall and will forfeit the said sum of £32, and all right, title, or interest in and to the said land and the possession thereof, and the said lease shall be forthwith cancelled.

We have, &c.,

VICTOR THOMAS SHERBROOKE HOUGHTON,  
Sydney.  
SAMUEL PALMER,  
Newcastle.

Description.

All lands comprising portion 115, parish of Kabibah, county of Northumberland, being part of water reserve No. 27, noted 23rd November, 1875.

This application was received by me this 14th day of February, 1887, at the hour of 11 o'clock, and is numbered 87-8.

ALEX. LUMSDAINE,  
Crown Lands Agent, Newcastle.

Questions to be answered by applicants for mineral lease 87-8.

WHEN receiving an application to lease land for mining purposes, the Warden, Warden's Clerk, or an agent, as the case may be, shall require the applicant or applicants, or his or their agent, to answer in writing the following questions. The statement, when complete, to be read over to, and signed by, the persons furnishing the answers:—

1. Were you or each of you (applicants) the holder of a miner's right in force at the date of taking possession of the land referred to in application No. ?
2. Do you produce them ?
3. What was the date and hour of the day when you took possession of the land referred to in application No. 87-8? 12th February, 1887, at 6 a.m.
4. Did you take possession by erecting posts and cutting trenches at each angle of the land? Yes.  
If No. 4 be replied to in the affirmative, then 5, 6, and 7.
5. What was the diameter of the posts? 3 inches.
6. How high did they project above the surface when fixed in the ground? 3 feet.
7. What was the length of each arm of each trench, and what was the depth of each trench? 6 feet 9 inches.
8. If a substitute for post or trench was used, describe it
9. At which angle of the land is the datum post fixed? South-east corner.
10. Did you affix a board or metal plate to the datum post? Board.
11. What was written or painted on such board or plate? Mineral lease applied for by V. T. Sherbrooke Houghton, of Sydney.
12. Where did you post the notices, Schedule 1? At Crown Lands Office, Newcastle, and Post Office, Charlestown.
13. When did you post such notices? 14th February, 1887.
14. Did anybody claim or appear to be in possession of the land applied for, or any portion of it? No.
15. Did you serve notice in the form Schedule 1 upon every such person, and when? No.
16. Have you obtained the consent of every such person to the granting of the lease for which you apply? No.

I, V. T. Sherbrooke Houghton, on behalf of myself and Samuel Palmer, declare that the foregoing questions have been answered by me truthfully in every particular, and the answers thereto have been read over to me and are correctly taken down in writing.

VICTOR THOMAS SHERBROOKE HOUGHTON.

Witness to signature—ALEX. LUMSDAINE, Crown Lands Agent, Newcastle, 14/2/87.

Application No. 87-8, at Newcastle, for a mineral lease, under 48 Vic. No. 10. Reserve 320 acres (por. 115), at Redhead, parish Kabibah, county Northumberland.

1. By whom application was received.—Crown Lands Agent.
2. At what place.—Newcastle.
3. Date and hour when received.—14th February, 1887, at 12 noon.
4. Receipt for first year's rent, No. 87-8, date, 14th February, 1887, at 2s. per acre—£32.
5. To whom receipt was issued.—Applicant, Victor Thos. Sherbrooke Houghton, of Sydney, for himself and partner, Samuel Palmer, of Newcastle.
6. Date when notice to survey was sent to surveyor.—Portion already surveyed.
7. Date when report and plan were received from the surveyor.
8. Names of objectors, and dates on which they lodged their objections.—Thos. G. Alcock, of Redhead, Charlestown, on 28th February, 1887, at 3:30 p.m.
9. Dates of inquiry.—Notified for 5th March, 1887, at 12 noon.
10. Are the applicants holders of miners' rights? Land not within a gold-field.
11. Is the land applied for exempted from leasing under the 34th section of the Mining Act, 1874? No.
12. Is the time proposed for commencing work reasonable? Yes.
13. Is the number of men proposed to be employed reasonable? Yes.

ALEX. LUMSDAINE,  
Crown Lands Office, Newcastle, 7th March, 1887. Crown Lands Agent, Newcastle.

This application may go on.—H.W., 29/3/87. Chief Draftsman.—E.F.P., 30/3/87. Mr. J. H. Mayes, 30/3/87. Diagrams in hand.—J.H.M., 18/4/87. Dealt with. Diagrams herewith.—W.S.C., 18/4/87. Will the Examiner of Coal-fields please say whether it is necessary to reserve any of the surface, as the applicants cannot at present fix the best position to open out and work the coal?—S.B., 17/5/87. Appendix E.

Mining district, Hunter and Macleay; applicant's locality, at Redhead.

Application No. 87-8, at Newcastle.

Description.

320 acres, county of Northumberland, parish of Kahibah, portion No. 115: Commencing at the north-east corner of portion No. 116; and bounded thence on part of the east by a line bearing north 27 chains 77 links; thence on a part of the north by part of the south boundary of portion 90a bearing south 89° 14' west 17 chains 44 links, part of the west boundary of that portion bearing north 46' west 3 chains, the south boundaries of portion 91 bearing south 89° 14' west 20 chains; thence again on part of the east by the west boundary of portion 91 bearing north 46' west 20 chains; thence again on part of the south by the north boundary of portion 91 bearing north 89° 14' east 20 chains, part of the east boundary of portion 91 bearing south 46' east 3 chains, and part of the north boundary of portion 90a, bearing north 89° 14' east 17 chains 71 links: thence on the remainder of the east by a line bearing north 3 chains 50 links; thence again on part of the north by the south boundary of portion 114 bearing west 88 chains 81 links; thence on part of the west by part of the east boundary of portion 119 bearing south 2 chains 7 links; thence again on the south by the north boundary of portion 62 bearing east 23 chains 68 links; thence again on part of the west by the east boundary of portion 62 bearing south 24 chains 50 links; thence on the remainder of the north by the south boundary of portion 62 bearing west 23 chains 68 links; thence on the remainder of the west by the east boundary of portion 61 bearing south 24 chains 70 links; and thence on the remainder of the south by the north boundary of portion 116, before mentioned, bearing east 88 chains 81 links, to the point of commencement. Exclusive of reserved roads 1 chain wide passing through this portion.

W.S.C.

J.H.M.—1/4/87.

Coal application, 87-8, at Newcastle. V. T. Sherbrooke Houghton and S. Palmer; 320 acres; being portion No. 115, parish of Kahibah, county of Northumberland. Within water reserve No. 27, notified 23rd November, 1875. Within population boundary, Newcastle. Included in area granted to Palmer & Houghton (under section 28), 9th December, 1886. This portion was subject of application 86-10, at Newcastle. Portion was measured in 1874 as a mineral selection, under C.L. Occ. Act 1861. Submitted as to form of measurement.—J.H.M. W.S.C, Chief Mining Surveyor, 1/4/87.

86-10, Newcastle, refused, 11/2/87.—S.B., 4/3/87.

The portion is already held under the 28th section of the Mining Act by the same persons who now apply for it as a mineral lease. Under the circumstances it is recommended that the dimensions be approved.—E.F.P., 4/4/87.

Submitted for approval.—G.E.H. (for the U.S.), 14/4/87. Approved.—F.A., 15/4/87. Chief Draftsman.—E.F.P., 16/4/87. Dealt with. Diagrams herewith.—W.S.C., M.C., 18/4/87.

Department of Mines.

Hunter and Macleay Mining District.

Applications, No. 87-6, 8, Newcastle, for mineral leases submitted herewith for the consideration of the Honorable the Minister for Mines.

The plans and descriptions have been checked.

No objections appear to have been made.

The number of men proposed to be employed appears reasonable.

The time for commencing work appears to be reasonable.

Applications, No. 87-6, 8, Newcastle Hunter and Macleay Mining District, approved of. Minute for the Executive Council.

No. 5.

Minute for the Governor and Executive Council.

Recommending the approval of certain Applications for Mineral Leases.

Department of Mines, Sydney, 26 April, 1887.

THE applications for Mineral Leases of Crown Lands specified in the annexed Schedule are submitted for the approval of His Excellency the Governor and the Executive Council, in terms of the Mining Act Further Amendment Act of 1884.

FRANCIS ABIGAIL.

Approved.—CARRINGTON, 5/5/87. The Executive Council approve of the course herein recommended, and advise that effect be given thereto.—A. C. BUDGE, Clerk of the Council. Min. 87-29., 5/5/87. Confirmed, 10/5/87. Gazette Notice, 17/5/87. The Examiner of Coal-fields as to reservation of roads.—S.B., 20/5/87. I see no objection to the roads being included in the lease, the coal not to be wrought from under them at a less depth than 500 feet.—J.M., 20/5/87. Under Secretary for Mines, B.C., 20/5/87. The works under the roads to be supported to the satisfaction of the Examiner of Coal-fields and Inspector of Colliceries.—H.W., 20/5/87.

A further sum for increased area is required on the following applications, viz., 87-8, 6s.; 87-6, £2 4s.; 87-7, 18s.; total, £3 8s. Perhaps the applicants might be asked to forward same.

Submitted.—S.B., 21/5/87. E.F., Acting Registrar, 23/5/87. £3 8s. Received.—E.F., 23/5/87. Amount to Treasury, Revenue Account. Receipt acknowledged.—E.F., 16/7/87. Noted.

Schedule

Schedule alluded to.  
HUNTER AND MACLEAY MINING DISTRICT.

No.	Name.	Portion No.	Locality.	Area.	Period.	Date of Application.
Newcastle 87-6	V. T. Sherbrooke Houghton	119 & 120	Parish Kahibah, county Northumberland	Acres. 480	Years. 20	14 Feb., 1887.
" " 8	V. T. S. Houghton and another	115	Parish Kahibah, county Northumberland	320	20	14 " "

No. 6.

Copy of *Government Gazette* Notice.

NOTICE TO APPLICANTS FOR MINERAL LEASES.

Department of Mines, Sydney, 17 May, 1887.

NOTICE is hereby given that the undermentioned applications for Mineral Leases of Crown Lands have been approved by His Excellency the Governor and the Executive Council.

[87-5,931]

FRANCIS ABIGAIL.

HUNTER AND MACLEAY MINING DISTRICT.

Application No.	Name.	Portion No.	Locality.	Area.	Years.	Date of Application.
Newcastle 87-6	V. T. S. Houghton..	119 & 120	County Northumberland, parish Kahibah	a. r. p. 480 0 0	20	14 Feby., 1887.
" " 8	V. T. S. Houghton and another	115	Do do do	320 0 0	20	14 " "

No. 7.

Copy of Lease issued to Mr. V. T. S. Houghton.

THIS indenture, made the 26th day of May, in the year of our Lord 1887, between Her Most Gracious Majesty Queen Victoria of the one part, and Victor Thomas Sherbrooke Houghton, of Sydney, in the Colony of New South Wales (hereinafter called the lessee), of the other part, witnesseth:—That in consideration of the sum of £50 4s., paid by the said lessee on the 14th day of February, 1887, and of the rents and royalties hereinafter reserved, and of the covenants and provisos hereinafter contained, Her Majesty doth by these presents grant and demise unto the lessee, his executors, administrators, and transferees, all that piece or parcel of land, containing by admeasurement 501 acres 2 roods, and more particularly described and delineated in the Schedule hereto or in the plan hereunto annexed\*, and numbered 119 and 120, except the surface of that portion thereof tinted red, containing 21 acres 2 roods, more or less, and all those mines, veins, seams, or deposits of coal in, on, and under the said land (hereinafter called the said mine), together with all and singular the shafts, levels, drifts, works, ways, fixtures, erections, liberties, easements, advantages, and appurtenances which are now or at any time during the term hereby granted may be held, occupied, or enjoyed therewith, for the purpose of mining upon and under the said land for coal, and also with full power for the said lessee, his executors, administrators, and transferees, and his and their agents and workmen (including contractors, tributors, and so forth), to dig, sink, drive, make, and use excavations, pits, shafts, levels, tunnels, watercourses, and other works necessary for winning and raising the coal in, on, or under the said land, and to take and appropriate the same during the term hereby granted, and to make and construct, on that portion of the surface not excepted as aforesaid of the said land, races, drains, dams, reservoirs, roads, and tramways, and also to erect, on that portion of the surface not excepted as aforesaid of the said land, all buildings, engines, furnaces, pumps, machinery, and appliances necessary for the purpose of winning and obtaining the coal in, on, or under the said land, and for effectually carrying on the works of the said mine, and also to erect, on that portion of the surface not excepted as aforesaid of the said land, such offices, cottages, and dwelling-houses, for the use of the agents, workmen, and persons employed in the said mine and works, as the said lessee, his executors, administrators, and transferees shall think proper: To hold the said land, mine, and premises, with the appurtenances (subject, nevertheless, to the reservation or exception of that portion of the surface of the said land shown on the plan aforesaid, tinted red, and to such rights and interests as may be lawfully subsisting therein at the date of these presents), unto the said lessee, his executors, administrators, and transferees, from the date hereof, for the term of twenty years, for the purpose of mining therein or thereon, for working or winning the said coal, and for no other purpose,—yielding and paying therefor unto Her Majesty, her heirs and successors, yearly and every year during the said term, the yearly rent of £50 4s. in advance, or in lieu thereof a royalty equal to 6d. per ton on all coal raised during the year, the first year's rent having been paid as aforesaid on the 14th day of February, 1887, the next payment being the rent of the said land at the rate of 2s. per acre per annum to the 25th day of May, 1889, shall be made to the Colonial Treasurer, in Sydney, on or before the 26th day of May, 1888, and thereafter on or before the 26th day of May, in each and every year; the yearly rent aforesaid shall be paid to the Colonial Treasurer aforesaid, clear of all rates, taxes, and assessments to which the said land, mine, and premises are now, or at any time during the said term may be, subject or liable: Provided that if the royalty upon the coal raised during any year of the said term, computed at the rate aforesaid, shall exceed the rent paid for such year, such royalty, after deducting therefrom the rent paid for such year, shall be paid to the Colonial Treasurer at the expiration of the year, or within one month thereafter; but if such royalty in any year amount to less than the rent paid for such year no royalty shall be demanded in respect of the coal raised during the year: Provided always, and it is hereby agreed, that if the said yearly rent or royalty shall be in arrear for thirty days after the same shall have become payable, whether such

Appendix (c)

such rent or royalty shall have been legally demanded or not, any officer appointed or authorized thereto by the Secretary for Mines may by himself or his agent, enter upon the said land, and seize and distrain all minerals, metals, and ores actually got and raised from the said mine; and all machinery, apparatus, tools, waggons, carts, carriages, engines, plant, and all other goods, chattels, and effects whatsoever, in, upon, and about the said land and premises; and in every distress thus made may take away, sell, and dispose of as in cases of distress for rent reserved in common leases, and out of the moneys arising thereby retain so much as shall be sufficient to satisfy the said arrears, and which shall at the time of such sale be unpaid; and all expenses incurred by him or them in or in respect of such seizure, distraint, removal, and sale; and if there be any surplus such officer shall pay the same to the said lessee, his executors, administrators, or transferees; and the acceptance or receipt of rent or royalty by or on behalf of Her Majesty, after breach of any covenant hereinafter contained, shall not be or be deemed a waiver of the right of Her Majesty, or of the Secretary for Mines, or other officer on behalf of Her Majesty, to enforce observance of such covenant. And if the said lessee, his executors, administrators, or transferees, shall mine for or win from the said land, mine, and premises, any gold, or any earth, rock, stone, quartz, clay, sand, gravel, or soil containing gold, or any mineral or metal with which gold is associated or combined, without the express sanction first had and obtained of the Secretary for Mines for the time being, the Governor, with the advice of the Executive Council, may declare these presents void, and thereupon all the right, title, and interest of the lessee, his executors, administrators, and transferees under these presents shall cease and determine both at law and in equity. And the said lessee doth hereby, for himself, his heirs, executors, administrators, and transferees, covenant with Her Majesty, her heirs and successors, in manner following, that is to say:—

1. That the said lessee, his executors, administrators, and transferees, shall and will during the said term pay unto Her Majesty, her heirs and successors, the rent or royalty hereby reserved, at the times and places hereinbefore appointed for payment thereof, clear of all deductions.

2. And shall and will, after the expiration of six months from the date of delivery hereof, upon and during all lawful working days, except when prevented by inevitable accident or during the execution of repairs, work the said land, mine, and premises, or the land, mine, and premises adjoining thereto and proposed to be worked in connection therewith, in the best and most effectual manner, and to the best advantage, without interruption, and shall and will with reasonable expedition make and construct all necessary works with a view to diligently explore and search for coal in, on, and under the said land, mine, or premises.

3. And shall and will, after the expiration of the said six months, or after the underground works shall have reached the said land, employ in the construction of the works, or in mining operations on or under the said land, during the first three years of the said term, and during the usual hours of labour, four able and competent workmen and miners at the least; and during the remainder of the said term, and during the usual hours of labour, shall and will employ as aforesaid not less than eight such workmen and miners, unless prevented by inevitable accident, or during the execution of repairs: Provided that the lessee, or if there be more than one lessee, each lessee who shall work as aforesaid, shall count as and be deemed for the purposes of these presents to be a workman or miner employed as aforesaid.

4. And shall and will during the said term effectually drain the said mine, and pump all water likely to cause injury thereto or which would prevent or interfere with the working thereof; and if the said mine shall be affected, or be liable to be affected, by the same flow or body of water as any other mine or mines contiguous thereto, shall and will, if and whenever requested so to do, contribute with the lessee or lessees or owner or owners of such other mines, a reasonable proportion of the machinery and labour necessary to free and keep such mine or mines free from water to a workable extent; or if the said mine shall be kept free from water to a workable extent either wholly or partially by means of the machinery and labour of a contiguous mine or mines, or by reason of any works constructed or money expended by the lessee or lessees, owner or owners, of such contiguous mine or mines,—then shall and will pay to such lessee or lessees, owner or owners, as aforesaid, a reasonable proportion of the cost of such machinery, labour, or works, or a reasonable proportion of the money so expended; and the Secretary for Mines for the time being may, if and whenever he shall think fit, depute some efficient person who shall have access to and inspection of all such mines, to determine when the said mine is so freed or kept wholly or partially free from water, and what are the reasonable proportions of such expenses aforesaid, and to whom and when the same are to be paid,—such decision to be final and conclusive on all parties.

5. And shall and will make such provision for the disposal of the detritus, dirt, waste, or refuse of the said mine that the same shall not be an inconvenience, nuisance, or obstruction to any roadway, river, creek, or private or Crown lands, or shall not in any manner occasion any public or private damage or inconvenience.

6. And shall and will erect, and keep erected, during the said term, a post, painted white, at each angle of the said land, and at such points along the boundary-lines as shall be necessary, so as plainly and accurately to define the boundary-lines and angles of the said land; and each such post shall be fixed firmly in the ground, and shall project above the surface thereof not less than three feet.

7. And shall and will keep proper books, or a book, in which shall be entered the quantity of coal raised each day from the land hereby demised, and shall enter therein as soon as known the value of such coal, and permit any officer of the Department of Mines at all times to inspect the same, and as often as required so to do during the term make and deliver to the Secretary for Mines for the time being, or any officer appointed or instructed to collect, obtain, or receive the same, all such true and proper plans, sections, returns, statements, and statistics of the workings and operations of the said mine, made up to the last day of the preceding month (the truth and accuracy of which shall be verified by the statutory declaration of the lessee for the time being, or the manager or other officer having the charge, control, and direction of the works of the said mine), as the Secretary for Mines shall from time to time direct, or as shall be required by any regulation, and shall and will, whenever required by the Secretary for Mines so to do, deliver to any officer appointed or instructed as aforesaid samples of the minerals, metals, and ores, or any of them, found in or upon such mine and lands.

8. And shall and will during the said term make proper and reasonable compensation to the occupier or occupiers, lessee or lessees from the Crown of any adjoining land in respect of any damage which may be sustained by him or them, by reason of the working of the said mine, or the carrying on of the works thereof or connected therewith, such compensation to be determined by the Secretary for Mines, or by some person authorized by him so to do.

9. And shall and will permit any mining surveyor, or other person duly authorized in that behalf, with all proper or necessary assistants, at all reasonable times, during the said term, quietly to enter into and upon the said land, mine, and premises, to survey and examine the state and condition thereof, and, for the purposes aforesaid, to descend all pits and shafts, and to enter into and use all adits, levels, galleries, drives, and excavations, and to use all roads, ways, engines, ropes, machinery, gear, appliances, materials, labour, and other things in or on the said land and mine which shall be by him deemed necessary, without making any compensation for the same, so nevertheless that in so doing no unnecessary interference is caused with the carrying on of the said mining works.

10. And further, shall and will at all times during the said term keep and preserve the said mine and premises from all avoidable injury or damage, and also the levels, drifts, shafts, watercourses, roads, ways, works, erections, and fixtures therein and thereon, in good repair and condition, except such of the matters and things last aforesaid as shall from time to time be considered by a mining surveyor, or other proper officer authorized by the Secretary for Mines to inspect and report upon such matters and things, to be unnecessary for the proper working of the said mine or any contiguous mine, and in such state and condition shall and will at the end or sooner determination of the said term deliver peaceable possession thereof, and of all and singular the premises hereby demised to Her Majesty, her heirs and successors, or to the Warden or other officer authorized to receive possession thereof. Nevertheless the Secretary for Mines may, if he think fit, permit the lessee, his executors, administrators, and transferees, within six months after possession shall have been received as aforesaid, to enter upon the said land, and to remove therefrom such machinery, plant, and apparatus as shall have been erected and fixed upon such land, and such earth, rock, ore, mineral, or metal as shall have been won from and raised to the surface of such mine.

11. And shall not nor will use or occupy, or permit to be used or occupied, the said land, or any part thereof, for other than mining purposes, or for pasturage, or as sites for dwellings, or garden ground for the persons employed in, on, or about the said mine, and will not for any purpose occupy any portion of the surface excepted as aforesaid, or make or construct any excavation, adit, level, gallery, or drive within 500 feet below the surface of the said land, or of the excepted portion thereof, without the sanction in writing of the Secretary for Mines. The works under the roads to be supported to the satisfaction of the Examiner of Coal-fields and Inspector of Collieries.

12. And shall not nor will mine in or upon the said mine, land, and premises, for any mineral, metal, or ore other than coal without the express sanction of the Secretary for Mines.

13. And shall not nor will transfer, underlet, or part with possession of the said land, mine, and premises, or any part thereof, or mortgage, charge, or encumber the same, without the license first had and obtained of the Secretary for Mines for the time being: Provided always that no such license shall be necessary in cases where, by operation of law or otherwise, a sale of the said land, mine, and premises, or any part or parts thereof, is made by any person or persons entitled to sell the same for the benefit of the creditors or a creditor of the lessee or his transferees, or in cases where the lessee or his transferees desire to let the said mine and premises, or any part thereof, to be worked on tribute.

14. And shall not nor will close up or obstruct any adit or adits to or from any contiguous mine or mines whereby fresh air is admitted or ventilation promoted.

15. And shall not nor will plead acceptance of rent or royalty by or on behalf of Her Majesty as a waiver of the right of Her Majesty, or of the Secretary for Mines, or other officer on behalf of Her Majesty, to enforce observance of the covenants herein contained, or of the right of the Governor, with the advice of the Executive Council, to declare these presents void for breach of any such covenant: Provided always, and it is hereby agreed and declared in manner following:—

16. That it shall be lawful for Her Majesty, her heirs, successors, and assigns, to make and use in, on, or under the said land, any levels, drifts, leads, shafts, watercourses, adits, roads, ways, and passages for freeing and keeping free any other lands or mines from water, or for conveying water to any other lands or mines for mining purposes, or for supplying any other mines with fresh air, or for effectually working any other mines, or for any public purpose whatsoever, causing as little damage, obstruction, or interference as possible to or with the said mine and the works thereof. And if, at any time during the term hereby created, any part or parts of the land hereby demised, or any part or parts of the surface thereof, shall be required for the purpose of any township, village, railway, road, canal, watercourse, reservoir, or for any other public purpose, it shall be lawful for the Governor for the time being, with the advice of the Executive Council, on giving three months' notice of his intention so to do, to cause to be set out the part or parts of the said land or of the surface thereof which shall be so required; and as soon as the same shall be so set out, such part or parts of the said land, or of the surface thereof, shall cease to be included in the land hereby demised, and the lessee, his executors, administrators, or transferees shall not be entitled to any abatement of rent or royalty, or any compensation whatever in respect thereof.

17. And if the said lessee, his executors, administrators, or transferees shall prove to the satisfaction of the Secretary for Mines for the time being that the said mine is unworkable, or cannot be profitably worked, from any cause whatsoever, or that the lessee, his executors, administrators, or transferees is or are unable, by reason of sickness or other sufficient cause, to work in such land or mine, or that the supply of water is insufficient to allow the working of the said land, mine, and premises to be profitably carried on, the said Secretary for Mines may grant permission to suspend work therein or thereon, for any period not exceeding six months, without the lessee, his executors, administrators, or transferees incurring in respect thereto any forfeiture or penalty for breach of any covenant herein contained.

18. And, lastly, that if the lessee, his executors, administrators, or transferees shall at any time during the said term fail to use such land *bonâ fide* for the purpose for which it has been demised, or if and whenever the said rent or royalty shall be in arrear for thirty days after the time appointed for payment thereof, whether the same shall have been legally demanded or not, or if and whenever there shall be a breach of or non-compliance with the covenants and provisoes herein contained by the lessee, his executors, administrators, or transferees, and the lessee, his executors, administrators, or transferees shall not have obtained from the Secretary for Mines for the time being permission to suspend work as aforesaid, in case the breach shall have been for non-compliance with the covenants for the employment of workmen or miners, or for the working of the mine, the Governor, with the advice of the Executive Council, who alone and finally shall judge and determine the matter upon the evidence or reports submitted by the Secretary for Mines for the time being, may declare these presents void, and upon publication

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in the *Government Gazette* of notice of such declaration, all the right, title, and interest of the lessee, his executors, administrators, and transferees under these presents shall cease and determine both at law and in equity; and the production of a copy of the *Government Gazette* containing a notice, purporting to be signed by the Secretary for Mines, declaring the lease void, shall be conclusive evidence in all Courts whatsoever in the Colony of New South Wales of a breach of or non-compliance with the covenants and provisoes herein contained sufficient to authorize and sustain such declaration having been lawfully made, and that the interest created hereunder has been lawfully determined; and thereupon it shall be lawful for Her Majesty, her heirs and successors, or her or their agents or officers, or for any bailiff or other person duly authorized thereto, or for any holder of a mineral license who has the permission of the Secretary for Mines for the time being, without any previous demand whatsoever, to enter forthwith into and upon the said land and premises hereby granted, and the same to repossess and enjoy as fully and effectually to all intents and purposes as if these premises had not been made, and the said lessee, his executors, administrators, and transferees to expel and remove, without any legal process, and as effectually as the Sheriff might do in case judgment in ejectment had been obtained and a writ of *habere facias possessionem* had been issued on such judgment; and in case of such entry and any legal proceeding taken in respect thereof, the defendant or defendants in any such proceeding may plead leave and license in bar thereof; and these presents shall be conclusive evidence of such leave and license by the lessee, his executors, administrators, and transferees, or other the person or persons, plaintiff or plaintiffs, in such proceedings, for such entry or other matters complained of in such proceedings.

In witness whereof, His Excellency the Right Honorable Charles Robert, Baron Carrington, a Member of Her Majesty's Most Honorable Privy Council, Knight Grand Cross of the Most Distinguished Order of Saint Michael and Saint George, Governor and Commander-in-Chief of the Colony of New South Wales and its Dependencies, hath, on behalf of Her Majesty the Queen, caused the Seal of the said Colony to be affixed to this grant, and also set his hand, at Government House, Sydney, in the said Colony, the day and year first above written, and the lessee has also set his hand and seal the 26th day of May, 1887.

CARRINGTON.

Signed, sealed, and delivered by the within-  
named Victor Thomas Sherbrooke } VICTOR THOMAS SHERBROOKE HOUGHTON.  
Houghton, in the presence of,—  
EDWARD FARR.

FRANCIS ABIGAIL.

Registered in the Department of Mines, at Sydney, this 26th day of May, A.D. 1887, at the hour of 3 o'clock in the afternoon, and numbered in the Register, 240.

GERARD E. HERRING  
(For the Registrar).

Transfer from V. T. Sherbrooke Houghton of his interest in mineral lease No. 240 to The Scottish Australian Mining Co., Limited. Registered by me, in the Department of Mines, Sydney, this 2nd day of June, 1887, at the hour of 2 o'clock in the afternoon.

### No. 8.

#### Copy of Lease issued to Messrs. Houghton & Palmer.

THIS indenture, made the 26th day of May, in the year of our Lord, 1887, between Her Most Gracious Majesty Queen Victoria, of the one part, and Victor Thomas Sherbrooke Houghton, of Sydney, in the Colony of New South Wales, and Samuel Palmer of Newcastle, in said Colony (hereinafter called the lessees), of the other part, witnesseth:—That in consideration of the sum of £32 Gs., paid by the said lessees on the 14th day of February, 1887, and of the rents and royalties hereinafter reserved, and of the covenants and provisoes hereinafter contained, Her Majesty doth by these presents grant and demise unto the lessees, their executors, administrators, and transferees, all that piece or parcel of land, containing by admeasurement 322 acres 1 rood, and more particularly described and delineated in the Schedule hereto or in the plan herunto annexed, and numbered 115, except the surface of that portion thereof tinted red, containing 2 acres 1 rood, more or less, and all those mines, veins, seams, or deposits of coal, in, on, and under the said land (hereinafter called the said mine), together with all and singular the shafts, levels, drifts, works, ways, fixtures, erections, liberties, easements, advantages, and appurtenances which are now or at any time during the term hereby granted may be held, occupied, or enjoyed therewith, for the purpose of mining upon and under the said land for coal, and also with full power for the said lessees, their executors, administrators, and transferees, and his and their agents and workmen (including contractors, tributors, and so forth), to dig, sink, drive, make and use excavations, pits, shafts, levels, tunnels, watercourses, and other works necessary for winning and raising the coal in, on, or under the said land, and to take and appropriate the same during the term hereby granted, and to make and construct, on that portion of the surface not excepted as aforesaid of the said land, races, drains, dams, reservoir, roads, and tramways, and also to erect, on that portion of the surface not excepted as aforesaid of the said land, all buildings, engines, furnaces, pumps, machinery, and appliances necessary for the purpose of winning and obtaining the coal in, on, or under the said land, and for effectually carrying on the works of the said mine, and also to erect, on that portion of the surface not excepted as aforesaid of the said land, such offices, cottages, and dwelling-houses, for the use of the agents, workmen, and persons employed in the said mine and works, as the said lessees, their executors, administrators, and transferees shall think proper: To hold the said land, mine, and premises, with the appurtenances (subject nevertheless to the reservation or exception of that portion of the surface of the said land shown on the plan aforesaid, tinted red, and to such rights and interests as may be lawfully subsisting therein at the date of these presents), unto the said lessees, their executors, administrators, and transferees, from the date hereof, for the term of twenty years, for the purpose of mining therein or thereon, for working or winning the said coal, and for no other purpose,—Yielding and paying therefore unto Her Majesty, her heirs and successors, yearly and every year during the said term, the yearly rent of £32 Gs. in advance, or in lieu thereof a royalty equal to 6d. per ton on all coal raised during the year, the first year's rent having been paid as aforesaid on the

14th

14th day of February, 1887, the next payment being the rent of the said land at the rate of 2s. per acre per annum to the 25th day of May, 1889, shall be made to the Colonial Treasurer in Sydney, on or before the 26th day of May, 1888, and thereafter on or before the 26th day of May, in each and every year the yearly rent aforesaid shall be paid to the Colonial Treasurer aforesaid, clear of all rates, taxes, and assessments to which the said land, mine, and premises are now, or at any time during the said term may be, subject or liable: Provided that if the royalty upon the coal raised during any year of the said term, computed at the rate aforesaid, shall exceed the rent paid for such year, such royalty, after deducting therefrom the rent paid for such year, shall be paid to the Colonial Treasurer at the expiration of the year or within one month thereafter; but if such royalty in any year amount to less than the rent paid for such year no royalty shall be demanded in respect of the coal raised during that year: Provided always, and it is hereby agreed, that if the said yearly rent or royalty shall be in arrear for thirty days after the same shall have become payable, whether such rent or royalty shall have been legally demanded or not, any officer appointed or authorized thereto by the Secretary for Mines may, by himself or his agent, enter upon the said land, and seize and distrain all minerals, metals, and ores actually got and raised from the said mine; and all machinery, apparatus, tools, waggons, carts, carriages, engines, plant, and all other goods, chattels, and effects whatsoever, in, upon, and about the said land and premises; and in every distress thus made may take away, sell, and dispose of as in cases of distress for rent reserved in common leases, and out of the moneys arising thereby retain so much as shall be sufficient to satisfy the said arrears, and which shall at the time of such sale be unpaid; and all expenses incurred by him or them in or in respect of such seizure, distraint, removal, and sale; and if there be any surplus such officer shall pay the same to the said lessees, their executors, administrators, or transferees; and the acceptance or receipt of rent or royalty by or on behalf of Her Majesty, after breach of any covenant hereinafter contained, shall not be or be deemed a waiver of the right of Her Majesty, or of the Secretary for Mines, or other officer on behalf of Her Majesty, to enforce observance of such covenant. And if the said lessees, their executors, administrators, or transferees, shall mine for or win from the said land, mine, and premises any gold, or any earth, rock, stone, quartz, clay, sand, gravel, or soil containing gold, or any mineral or metal with which gold is associated or combined, without the express sanction first had and obtained of the Secretary for Mines for the time being, the Governor, with the advice of the Executive Council, may declare these presents void, and thereupon all the right, title, and interest of the lessees, their executors, administrators, and transferees under these presents shall cease and determine both at law and in equity. And the said lessees do hereby, for themselves, their heirs, executors, administrators, and transferees, covenant with Her Majesty, her heirs and successors, in manner following, that is to say:—

1. That the said lessees, their executors, administrators, and transferees, shall and will during the said term pay unto Her Majesty, her heirs and successors, the rent or royalty hereby reserved, at the times and places hereinbefore appointed for payment thereof, clear of all deductions.

2. And shall and will, after the expiration of six months from the date of delivery hereof, upon and during all lawful working days, except when prevented by inevitable accident or during the execution of repairs, work the said land, mine, and premises, or the land, mine, and premises adjoining thereto and proposed to be worked in connection therewith, in the best and most effectual manner, and to the best advantage, without interruption, and shall and will with reasonable expedition, make and construct all necessary works with a view to diligently explore and search for coal in, on, and under the said land, mine, or premises.

3. And shall and will, after the expiration of the said six months, or after the underground works shall have reached the said land, employ in the construction of the works, or in mining operations on or under the said land, during the first three years of the said term, and during the usual hours of labour, three able and competent workmen and miners at the least; and during the remainder of the said term, and during the usual hours of labour, shall and will employ as aforesaid not less than six such workmen and miners, unless prevented by inevitable accident, or during the execution of repairs: Provided that the lessee, or if there be more than one lessee, each lessee who shall work as aforesaid, shall count as and be deemed for the purposes of these presents to be a workman or miner employed as aforesaid.

4. And shall and will during the said term effectually drain the said mine, and pump all water likely to cause injury thereto, or which would prevent or interfere with the working thereof; and if the said mine shall be affected, or be liable to be affected, by the same flow or body of water as any other mine or mines contiguous thereto, shall and will, if and whenever requested so to do, contribute with the lessee or lessees or owner or owners of such other mines, a reasonable proportion of the machinery and labour necessary to free and keep such mine or mines free from water to a workable extent; or if the said mine shall be kept free from water to a workable extent either wholly or partially by means of the machinery and labour of a contiguous mine or mines, or by reason of any works constructed or money expended by the lessee or lessees, owner or owners, of such contiguous mine or mines,—then shall and will pay to such lessee or lessees, owner or owners, as aforesaid, a reasonable proportion of the cost of such machinery, labour, or works, or a reasonable proportion of the money so expended; and the Secretary for Mines for the time being may, if and whenever he shall think fit, depute some efficient person who shall have access to and inspection of all such mines, to determine when the said mine is so freed or kept wholly or partially free from water, and what are the reasonable proportions of such expenses aforesaid, and to whom and when the same are to be paid,—such decision to be final and conclusive on all parties.

5. And shall and will make such provision for the disposal of the detritus, dirt, waste, or refuse of the said mine that the same shall not be an inconvenience, nuisance, or obstruction to any roadway, river, creek, or private or Crown lands, or shall not in any manner occasion any public or private damage or inconvenience.

6. And shall and will erect, and keep erected, during the said term, a post, painted white, at each angle of the said land, and at such points along the boundary-lines as shall be necessary, so as plainly and accurately to define the boundary-lines and angles of the said land; and each such post shall be fixed firmly in the ground, and shall project above the surface thereof not less than 3 feet.

7. And shall and will keep proper books, or a book, in which shall be entered the quantity of coal raised each day from the land hereby demised, and shall enter therein as soon as known the value of such coal, and permit any officer of the Department of Mines at all times to inspect the same, and as often as required so to do during the term make and deliver to the Secretary for Mines for the time being, or any officer appointed or instructed to collect, obtain, or receive the same, all such true and proper plans, sections, returns, statements, and statistics of the workings and operations of the said mine, made up to the

the last day of the preceding month (the truth and accuracy of which shall be verified by the statutory declaration of the lessee for the time being, or the manager or other officer having the charge, control, and direction of the works of the said mine), as the Secretary for Mines shall from time to time direct, or as shall be required by any regulation, and shall and will, whenever required by the Secretary for Mines so to do, deliver to any officer appointed or instructed as aforesaid samples of the minerals, metals, and ores, or any of them, found in or upon such mine and lands.

8. And shall and will during the said term make proper and reasonable compensation to the occupier or occupiers, lessee or lessees from the Crown of any adjoining land in respect of any damage which may be sustained by him or them, by reason of the working of the said mine, or the carrying on of the works thereof or connected therewith, such compensation to be determined by the Secretary for Mines, or by some person authorized by him so to do.

9. And shall and will permit any mining surveyor, or other person duly authorized in that behalf, with all proper or necessary assistants, at all reasonable times, during the said term, quietly to enter into and upon the said land, mine, and premises, to survey and examine the state and condition thereof, and for the purposes aforesaid, to descend all pits and shafts, and to enter into and use all adits, levels, galleries, drives, and excavations, and to use all roads, ways, engines, ropes, machinery, gear, appliances, materials, labour, and other things in or on the said land and mine, which shall be by him deemed necessary, without making any compensation for the same, so nevertheless that in so doing no unnecessary interference is caused with the carrying on of the said mining works.

10. And further, shall and will at all times during the said term keep and preserve the said mine and premises from all avoidable injury or damage, and also the levels, drifts, shafts, watercourses, roads, ways, works, erections, and fixtures therein and thereon, in good repair and condition, except such of the matters and things last aforesaid as shall from time to time be considered by a mining surveyor or other proper officer authorized by the Secretary for Mines to inspect and report upon such matters and things to be unnecessary for the proper working of the said mine or any contiguous mine, and in such state and condition shall and will at the end or sooner determination of the said term deliver peaceable possession thereof, and of all and singular the premises hereby demised to Her Majesty, her heirs and successors, or to the Warden or other officer authorized to receive possession thereof. Nevertheless the Secretary for Mines may, if he think fit, permit the lessees, their executors, administrators, and transferees, within six months after possession shall have been received as aforesaid, to enter upon the said land, and to remove therefrom such machinery, plant, and apparatus as shall have been erected and fixed upon such land, and such earth, rock, ore, mineral, or metal as shall have been won from and raised to the surface of such mine.

11. And shall not nor will use or occupy, or permit to be used or occupied, the said land, or any part thereof, for other than mining purposes, or for pasturage, or as sites for dwellings, or garden ground for the persons employed in, on, or about the said mine, and will not for any purpose occupy any portion of the surface excepted as aforesaid, or make or construct any excavation, adit, level, gallery, or drive within 500 feet below the surface of the said land, or of the excepted portion thereof, without the sanction in writing of the Secretary for Mines. The works under the roads to be supported to the satisfaction of the Examiner of Coal-fields and Inspector of Collieries.

12. And shall not nor will mine in or upon the said mine, land, and premises, for any mineral, metal, or ore other than coal, without the express sanction of the Secretary for Mines.

13. And shall not nor will transfer, underlet, or part with possession of the said land, mine, and premises, or any part thereof, or mortgage, charge, or encumber the same, without the license first had and obtained of the Secretary for Mines for the time being: Provided always that no such license shall be necessary in cases where, by operation of law or otherwise, a sale of the said land, mine, and premises, or any part or parts thereof, is made by any person or persons entitled to sell the same for the benefit of the creditors or a creditor of the lessees or their transferees, or in cases where the lessees or their transferees desire to let the said mine and premises, or any part thereof, to be worked on tribute.

14. And shall not nor will close up or obstruct any adit or adits to or from any contiguous mine or mines whereby fresh air is admitted or ventilation promoted.

15. And shall not nor will plead acceptance of rent or royalty by or on behalf of Her Majesty as a waiver of the right of Her Majesty, or of the Secretary for Mines, or other officer on behalf of Her Majesty, to enforce observance of the covenants herein contained, or of the right of the Governor, with the advice of the Executive Council, to declare these presents void for breach of any such covenant: Provided always, and it is hereby agreed and declared in manner following:—

16. That it shall be lawful for Her Majesty, her heirs, successors, and assigns, to make and use in, on, or under the said land, any levels, drifts, leads, shafts, watercourses, adits, roads, ways, and passages for freeing and keeping free any other lands or mines from water, or for conveying water to any other lands or mines for mining purposes, or for supplying any other mines with fresh air, or for effectually working any other mines, or for any public purpose whatsoever, causing as little damage, obstruction, or interference as possible to or with the said mine and the works thereof. And if, at any time during the term hereby created, any part or parts of the land hereby demised, or any part or parts of the surface thereof, shall be required for the purpose of any township, village, railway, road, canal, watercourse, reservoir, or for any other public purpose, it shall be lawful for the Governor for the time being, with the advice of the Executive Council, on giving three months notice of his intention so to do, to cause to be set out the part or parts of the said land or of the surface thereof which shall be so required; and as soon as the same shall be so set out, such part or parts of the said land, or of the surface thereof, shall cease to be included in the land hereby demised, and the lessees, their executors, administrators, or transferees shall not be entitled to any abatement of rent or royalty, or any compensation whatever in respect thereof.

17. And if the said lessees, their executors, administrators, or transferees shall prove to the satisfaction of the Secretary for Mines for the time being that the said mine is unworkable, or cannot be profitably worked, from any cause whatsoever, or that the lessees, their executors, administrators, or transferees is or are unable, by reason of sickness or other sufficient cause, to work in such land or mine, or that the supply of water is insufficient to allow the working of the said land, mine, and premises to be profitably carried on, the said Secretary for Mines may grant permission to suspend work therein or thereon, for any period not exceeding six months, without the lessees, their executors, administrators, or transferees incurring in respect thereto any forfeiture or penalty for breach of any covenant herein contained

18. And, lastly, that if the lessees, their executors, administrators, or transferees shall at any time during the said term fail to use such land *bona fide* for the purpose for which it has been demised, or if and whenever the said rent or royalty shall be in arrear for thirty days after the time appointed for payment thereof, whether the same shall have been legally demanded or not, or if and whenever there shall be a breach of or non-compliance with the covenants and provisoes herein contained by the lessees, their executors, administrators, or transferees, and the lessees, their executors, administrators, or transferees shall not have obtained from the Secretary for Mines for the time being permission to suspend work as aforesaid, in case the breach shall have been for non-compliance with the covenants for the employment of workmen or miners, or for the working of the mine, the Governor, with the advice of the Executive Council, who alone and finally shall judge and determine the matter upon the evidence or reports submitted by the Secretary for Mines for the time being, may declare these presents void, and upon publication in the *Government Gazette* of notice of such declaration, all the right, title, and interest of the lessees, their executors, administrators, and transferees under these presents shall cease and determine both at law and in equity; and the production of a copy of the *Government Gazette* containing a notice, purporting to be signed by the Secretary for Mines, declaring the lease void, shall be conclusive evidence in all Courts whatsoever in the Colony of New South Wales of a breach of or non-compliance with the covenants and provisoes herein contained sufficient to authorize and sustain such declaration having been lawfully made, and that the interest created hereunder has been lawfully determined; and thereupon it shall be lawful for Her Majesty, her heirs and successors, or her or their agents or officers, or for any bailiff or other person duly authorized thereto, or for any holder of a mineral license who has the permission of the Secretary for Mines for the time being, without any previous demand whatsoever, to enter forthwith into and upon the said land and premises hereby granted, and the same to repossess and enjoy as fully and effectually to all intents and purposes as if these premises had not been made, and the said lessees, their executors, administrators, and transferees to expel and remove, without any legal process, and as effectually as the Sheriff might do in case judgment in ejectment had been obtained and a writ of *habere facias possessionem* had been issued on such judgment; and in case of such entry and any legal proceeding taken in respect thereof, the defendant or defendants in any such proceeding may plead leave and license in bar thereof; and these presents shall be conclusive evidence of such leave and license by the lessees, their executors, administrators, and transferees, or other the person or persons, plaintiff or plaintiffs in such proceedings, for such entry or other matters complained of in such proceedings.

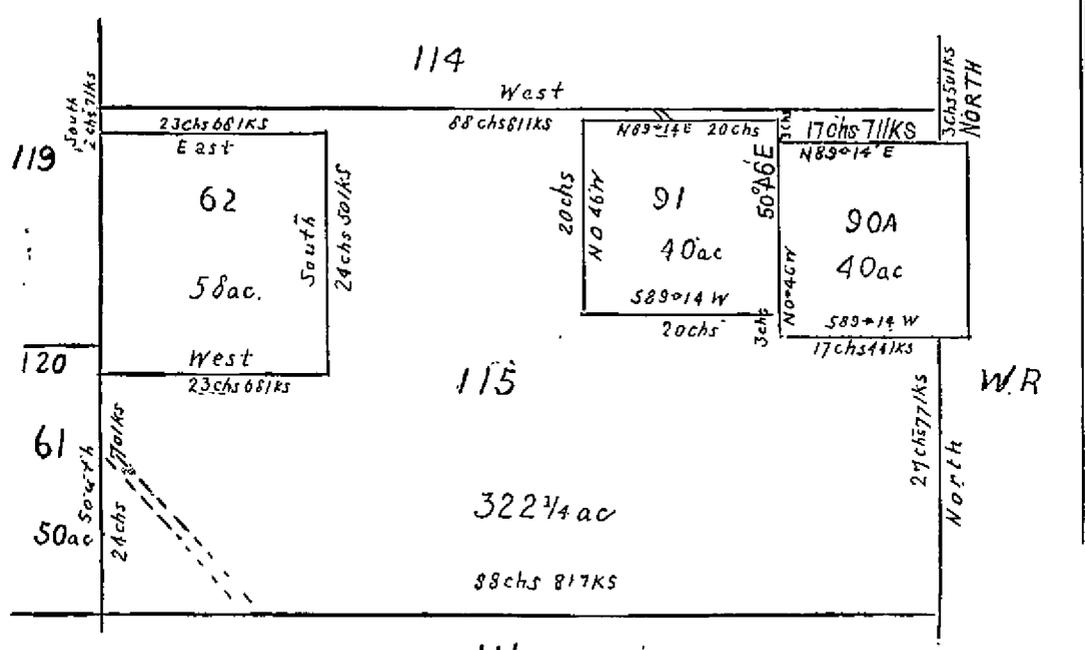
In witness whereof, His Excellency the Right Honorable Charles Robert Baron Carrington, a Member of Her Majesty's Most Honorable Privy Council, Knight Grand Cross of the Most Distinguished Order of Saint Michael and Saint George, Governor and Commander-in-Chief of the Colony of New South Wales and its Dependencies, hath, on behalf of Her Majesty the Queen, caused the seal of the said Colony to be affixed to this grant, and also set his hand, at Government House, Sydney, in the said Colony, the day and year first above written, and the lessees have also set their hands and seals, the 26th day of May, 1887.

CARRINGTON.

Signed, sealed, and delivered by the within-named Victor Thomas Sherbrooke Houghton and Samuel Palmer, in the presence of,—  
EDWARD FARR.

VICTOR THOMAS SHERBROOKE HOUGHTON.  
SAMUEL PALMER.

FRANCIS ABIGAIL.



Registered in the Department of Mines, at Sydney, this 26th day of May, A.D. 1887, at the hour of 3 o'clock in the afternoon, and numbered in the Register 242.

GERARD E. HERRING  
(For the Registrar).

Transfer from V. T. Sherbrooke Houghton and Samuel Palmer of their interests in mineral lease No. 246, to the Scottish Australian Mining Company, Limited. Registered by me, in Department of Mines, Sydney, this 2nd day of June, 1887, at the hour of 2 o'clock in the afternoon.

EDWARD FARR,  
Registrar.

## No. 5.

SCHEDULE in connection with Mineral Lease Application No. 87-7.

### SCHEDULE.

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### No. 1.

#### Application by Messrs. Houghton & Palmer.

Mineral Lease Regulations.—Schedule G.—Notice of Application and Deposit.

Sir, Newcastle, 14 February, 1887.  
We have the honor to inform you that we have this day deposited with the Crown Lands Agent at Newcastle the sum of £25, being the first year's rent in advance of 250 acres of land at Redhead, for the purpose of mining for coal. The number of our application is 87-7.

We have, &c.,  
VICTOR THOMAS SHERBROOKE HOUGHTON.  
SAMUEL PALMER

The Under Secretary for Mines, Sydney.

(By his Agent, V. T. S. HOUGHTON).

### No. 2.

#### Application by Messrs. Houghton & Palmer.

Mineral Lease Regulations.—Schedule 2.—Form of Application.—No. 87-7.

To the Honorable the Secretary for Mines, Sydney,— Newcastle, 12 February, 1887.  
Sir,

We hereby make application for a mineral lease of that piece or parcel of land situated at Redhead, parish of Kahibah, county of Northumberland, containing about 250 acres, of which we took possession on the 12th day of February, 1887, at the hour of one minute past 12 o'clock in the forenoon, for the purpose of mining thereon and therein for coal for a period of twenty years, by placing 3-foot stakes and 6-foot trenches at each angle thereof. The datum point is the north-west corner of portion 114, parish of Kahibah, county of Northumberland.

Notice of our having made this application will be given in accordance with the Regulations in that behalf, and we hand herewith the sum of £25 sterling, being the first year's rent in advance of the said land.

We hereby acknowledge that this application is made upon the distinct understanding and condition that if we shall abandon or fail to proceed with it, or if it is refused, the Secretary for Mines for the time being may deduct from the sum of £25 deposited as aforesaid any cost to which in his opinion the Crown may have been put in or about or in respect of this application; and this application shall thereupon become and be void, and the possession aforesaid shall cease and determine. And if the lease shall be granted we shall and will commence mining operations upon or in connection with the demised land within six months from and after the granting thereof, and shall and will employ upon such land not less than three men during the first three years of the term thereby created, and not less than six men during the remainder of such term. And shall and will, at any time when called upon in terms of the regulations relating to mineral leases to do so, execute and take delivery of such lease, or failing therein for a period of fourteen days, after being so called upon, we shall and will forfeit the said sum of £25 and all right, title, or interest in and to the said land and the possession thereof, and the said lease shall be forthwith cancelled.

We have, &c.,  
VICTOR THOMAS SHERBROOKE HOUGHTON,  
Sydney.  
SAMUEL PALMER,  
Newcastle.

Description

## Description.

All that part of portion No. 114, parish of Kahibah, county of Northumberland, coming within W.R. No. 27, notified 23rd November, 1875.

This application was received by me this 14th day of February, 1887, at the hour of 12 o'clock noon, and is numbered 87-7.

ALEX. LUMSDAINE,  
Crown Lands Agent, Newcastle.

## Questions to be answered by applicants for mineral lease No. 87-7.

When receiving an application to lease land for mining purposes, the Warden, Warden's Clerk, or Land Agent, as the case may be, shall require the applicant or applicants, or his or their agent, to answer the following questions, and shall take down such answers in writing. The statement, when complete, to be read over to and signed by the person furnishing the answers:—

- 1.\* Were you or each of you (applicants) the holder of a miner's right in force at the date of taking possession of the land referred to in application No. ? \* In regard to all applications for a gold lease.
- 2.\* Do you produce them?
3. What was the date and hour of the day when you took possession of the land referred to in application No. 87-7? 14th February, 1887, at 12.1 p.m.
4. Did you take possession by erecting posts and cutting trenches at each angle of the land? Yes.  
If No. 4 be replied to in the affirmative, then 5, 6, and 7.
5. What was the diameter of the posts? 3 inches.
6. How high did they project above the surface when fixed in the ground? 3 feet.
7. What was the length of each arm of each trench; and what was the depth of each trench? 6 feet; 9 inches.
8. If a substitute for post or trench was used, describe it?
9. At which angle of the land is the datum post fixed? At north-west corner.
10. Did you affix a board or metal plate to the datum post? Board.
11. What was written or painted on such board or plate? Mineral lease, applied for by V. T. Sherbrooke Houghton, of Sydney, and Samuel Palmer, of Newcastle.
12. Where did you post the notices, Schedule 1? At Crown Lands Office, Newcastle, and Post Office, Charlestown.
13. When did you post such notices? 14th February, 1887.
14. Did anybody claim or appear to be in possession of the land applied for, or any portion of it? No.
15. Did you serve notice in the form Schedule 1 upon every such person, and when? No.
16. Have you obtained the consent of every such person to the granting of the lease for which you apply? No.

I, V. T. Sherbrooke Houghton, on behalf of Samuel Palmer and myself, declare that the foregoing questions have been answered by me truthfully in every particular, and the answers thereto have been read over to me and are correctly taken down in writing.

VICTOR THOMAS SHERBROOKE HOUGHTON.

Witness to signature,—

ALEX. LUMSDAINE, C.L.A., Newcastle.

14/2/87.

Application No. 87-7, at Newcastle, for a mineral lease under 48 Vic. No. 10, reserve 250 acres (portion 114), at Redhead, parish of Kahibah, county of Northumberland.

1. By whom application was received.—Crown Lands Agent.
2. At what place.—Newcastle.
3. Date and hour when received.—14th February, 1887, at 12 noon.
4. Receipt for first year's rent, No. 87-7, at 2s. per acre.—Date, 14th February, 1887; £25.
5. To whom receipt was issued.—Applicant, Victor T. Sherbrooke Houghton, of Sydney, for himself and Samuel Palmer, of Newcastle.
6. Date when notice to survey was sent to surveyor.—Portions already surveyed.
7. Date when report and plan were received from the surveyor.
8. Names of objectors, and dates on which they lodged their objections.—Thos. G. Alcock, of Redhead, Charlestown, on 28th February, 1887, at 3.30 p.m.
9. Dates of inquiry.—Notified, *pro sub.*, 5th March, 1887, at 12.1 noon.
10. Are the applicants holders of miners' rights? Land not within a gold-field.
11. Is the land applied for exempted from leasing under the 34th section of the Mining Act, 1874? No.
12. Is the time proposed for commencing work reasonable? Yes.
13. Is the number of men proposed to be employed reasonable? Yes.

ALEX. LUMSDAINE,  
C.L.A., Newcastle.

Crown Lands Office, Newcastle, 7th March, 1887.

Coal application, 87-7, at Newcastle. V. T. Sherbrooke Houghton and S. Palmer, about 250 acres, being all that part of portion No. 114, parish of Kahibah, county of Northumberland, within water reserve No. 27, notified 23rd November, 1875. Included in area granted to Houghton & Palmer (under section 28), 9th December, 1886, within water reserve 27, notified 23rd November, 1875, and population boundary, Newcastle. The whole of this portion was included in application 86-9 at Newcastle, but applicant (T. G. Alcock) consented to take the 70 acres available outside reserve boundary in 87-2,729. Portion No. 114 was measured in 1874 as a mineral selection under the Crown Lands Occupation Act, 1861.

Submitted

Submitted as to form of measurement.—W.C.C., 1 April, 1887. Chief Mining Surveyor.

In view of the fact that Houghton & Palmer already have a title to this land under the 28th section of the Mining Act, and as the prior applicant has consented to take the 70 acres available in satisfaction of application 86-9, it is now recommended that Houghton & Palmer's application (No. 87-7) be granted for the area shown by pink edging—about 250 acres.—E.F.P., 13/4/87.

Submitted for approval.—H.W., 3/5/87. Approved.—F.A., 5/5/87.

Department of Mines.

Hunter and Macleay Mining District.

Application No. 87-7, Newcastle, for gold-mining leases submitted herewith for the consideration of the Honorable the Minister for Mines.

The plans and descriptions have been checked.

No objections appear to have been made.

The Warden reports that the land does not belong to either of the classes exempted from the power of leasing.

The applicants are holders of miners' rights.

The number of men proposed to be employed appears reasonable.

The time for commencing work appears to be reasonable.

Application No. 87-7, Newcastle, Hunter and Macleay Mining District approved of.

Minute for the Executive Council.

F.A.

No. 3.

Mr. J. G. Alcock to The Land Agent, Newcastle.

Sir,

Charlestown, Newcastle, 28 February, 1887.

A notice being posted outside the Court-house, Newcastle, signed by Mr. V. T. Sherbrooke Houghton and Samuel Palmer, setting forth that they had made an application for a mineral lease of lots 114 and 115, as per plan\* of the parish of Kahibah, I beg respectfully to protest against the leases being granted, as I have complied with the conditions of the Act, and made an application for these blocks in November and December last.

I have, &c.,

J. G. ALCOCK.

\* Appendix F.

No. 4.

Report of Inquiry.

INQUIRY holden at the Crown Lands Office, in Newcastle, on Saturday, 8th March, 1887, at 12 o'clock noon, by the Crown Lands Agent at Newcastle, into objections duly lodged by Thomas G. Alcock, against the issue to the applicants of applications Nos. 87-7 and 8\* (Victor Thos. Sherbrooke Houghton and Samuel Palmer), of mineral leases of portions and measurement of Crown Lands No. 114 and 115, consisting respectively of 250 and 320 acres, in parish of Kahibah, county of Northumberland, within the district of Newcastle.

Thomas Gerouse Alcock, being duly sworn, on oath, states:—On the 20th November last, I applied for the mineral lease (for the purpose of mining for coal) of portion 114, 320 acres, at Redhead, in the parish of Kahibah, county of Northumberland, and with reference to same. I complied with the conditions of the Act bearing upon the matter.

Applicants have no questions to ask.

T. G. ALCOCK.

Sworn at Newcastle aforesaid, this 5th day of }

March, 1887, before me,—

ALEX. LUMSDAINE, Crown Land Agent, Newcastle.

\* Inquiry not gone into re application No. 87-8, for portion 115.—A.L., Crown Lands Agent, Newcastle.

Victor Thomas Sherbrooke Houghton, on oath, states:—We (myself and partner, Samuel Palmer) have been in possession of 250 acres (about) since the 3rd of August, 1886, by virtue of our mineral licenses of the 12th July, 1886, for myself, and of the 31st of July, 1886, for Mr. Palmer. The said 250 acres form part of reserve (water) No. 27, which also forms part of portion 114, in parish Kahibah, county of Northumberland.

Examined by objector:—

1. Did you comply with the regulations under the Mining Act with respect to your mineral license?

Yes.

2. How were you in prior possession of this portion No. 114? By virtue of our application of 3rd August, 1886, published in the *Government Gazette* of 13th August, 1886.

VICTOR THOMAS SHERBROOKE HOUGHTON.

Sworn at Newcastle, upon the 5th day of }

March, 1887, before me,—

ALEX. LUMSDAINE, Crown Lands Agent, Newcastle.

No. 5.

Minute for The Governor and Executive Council.

Recommending the approval of a certain Application for a Mineral Lease.

Department of Mines, Sydney, May, 1887.

THE application for mineral lease of Crown Lands specified in the annexed schedule is submitted for the approval of His Excellency the Governor and the Executive Council, in terms of the Mining Act of 1874.

FRANCIS ABIGAIL.

SCHEDULE

SCHEDULE alluded to:—  
HUNTER AND MACLEAY MINING DISTRICT.

No.	Name.	Portion No.	Locality.	Area.	Period.	Date of Application.
Newcastle 87-7	V. T. S. Houghton and another.	Part of 114	Redhead, parish Kahibah .....	acres. 250	20	1887. 14 February.

The Executive Council advise that the recommendation herein set forth be approved, and the necessary notices issued.—A. C. BUDGE, Clerk of the Council. Min. 87-30, 10/5/87. Confirmed, 17/5/87. Approved.—CARRINGTON. *Gazette* notice, 25/5/87.

The Examiner of Coal-fields as to reservation of roads.—S.B., 20/5/87. I see no objection to the roads being included in the lease, the coal not to be wrought under them at a less depth than 500 feet.—J.M., 20/5/87.

Under Secretary for Mines, B.C., 20/5/87. The works under the roads to be supported to the satisfaction of the Examiner of Coal-fields or Inspector of Collieries.—H.W., 20/5/87.

No. 6.

Government Gazette Notice.

Department of Mines, Sydney, 25 May, 1887.

NOTICE TO APPLICANTS FOR MINERAL LEASE.

NOTICE is hereby given that the undermentioned application for mineral lease of Crown Lands has been approved by His Excellency the Governor and the Executive Council.  
[87-6,227 ; 6,316]

FRANCIS ABIGAIL.

HUNTER AND MACLEAY MINING DISTRICT.

No.	Name.	Portion No.	Locality.	Area.	Years.	Date of Application.
Newcastle 87-7	V. T. S. Houghton and another.	Part of 114	County Northumberland, parish of Kahibah.	a. r. p. 250 0 0	20	14 Feb., 1887.

No. 7.

Copy of Lease issued to Messrs. Houghton and another.

This indenture, made the 26th day of May, in the year of our Lord 1887, between Her Most Gracious Majesty Queen Victoria, of the one part, and Victor Thomas Sherbrooke Houghton, of Sydney, in the Colony of New South Wales, and Samuel Palmer, of Newcastle, in said Colony (hereinafter called the lessees), of the other part, witnesseth:—That in consideration of the sum of £25 18s., paid by the said lessees on the 14th day of February, 1887, and of the rents and royalties hereinafter reserved, and of the covenants and provisos hereinafter contained, Her Majesty doth by these presents grant and demise unto the lessees, their executors, administrators, and transferees, all that piece or parcel of land, containing by admeasurement 258 acres 3 roods 10 perches, and more particularly described and delineated in the Schedule hereto or in the plan hereunto annexed,\* and numbered 114, except the surface of that portion thereof tinted red, containing 5 acres 1 rood 24 perches more or less, and all those mines, veins, seams or deposits of coal, in, on, and under the said land (hereinafter called the said mine), together with all and singular the shafts, levels, drifts, works, ways, fixtures, erections, liberties, easements, advantages, and appurtenances which are now or at any time during the term hereby granted may be held, occupied, or enjoyed therewith, for the purpose of mining upon and under the said land for coal, and also with full power for the said lessees, their executors, administrators, and transferees, and his and their agents and workmen (including contractors, tributors, and so forth), to dig, sink, drive, make, and use excavations, pits, shafts, levels, tunnels, watercourses, and other works necessary for winning and raising the coal in, on, or under the said land, and to take and appropriate the same during the term hereby granted, and to make and construct, on that portion of the surface not excepted as aforesaid of the said land, races, drains, dams, reservoirs, roads, and tramways, and also to erect, on that portion of the surface not excepted as aforesaid of the said land, all buildings, engines, furnaces, pumps, machinery, and appliances necessary for the purpose of winning and obtaining the coal in, on, or under the said land, and for effectually carrying on the works of the said mine, and also to erect, on that portion of the surface not excepted as aforesaid of the said land, such offices, cottages, and dwelling-houses, for the use of the agents, workmen, and persons employed in the said mine and works, as the said lessees, their executors, administrators, and transferees shall think proper: To hold the said land, mine, and premises, with the appurtenances (subject nevertheless to the reservation or exception of that portion of the surface of the said land shown on the plan aforesaid, tinted red, and to such rights and interests as may be lawfully subsisting therein at the date of these presents), unto the said lessees, their executors, administrators, and transferees, from the date hereof, for the term of twenty years, for the purpose of mining therein or thereon, for working or winning the said coal, and for no other purpose,—Yielding and paying therefor unto Her Majesty, her heirs and successors, yearly and every year during the said term, the yearly rent of £25 18s., in advance, or in lieu thereof a royalty equal to 6d. per ton on all coal raised during the year, the first year's rent having been paid as aforesaid on the 14th day of February, 1887, the next payment being the rent of the said land at the rate of 2s. per acre per annum to the 25th day of May, 1889, shall be made to the Colonial Treasurer in Sydney, on or before the 26th day of May, 1888, and thereafter on or before the 26th day of May in each and every year the yearly rent aforesaid shall be paid to the Colonial Treasurer

\*Appendix (g).

Treasurer aforesaid, clear of all rates, taxes, and assessments to which the said land, mine, and premises are now, or at any time during the said term may be, subject or liable: Provided that if the royalty upon the coal raised during any year of the said term, computed at the rate aforesaid, shall exceed the rent paid for such year, such royalty, after deducting therefrom the rent paid for such year, shall be paid to the Colonial Treasurer at the expiration of the year or within one month thereafter; but if such royalty in any year amount to less than the rent paid for such year no royalty shall be demanded in respect of the coal raised during that year: Provided always, and it is hereby agreed, that if the said yearly rent or royalty shall be in arrear for thirty days after the same shall have become payable, whether such rent or royalty shall have been legally demanded or not, any officer appointed or authorized thereto by the Secretary for Mines may, by himself or his agent, enter upon the said land, and seize and distrain all minerals, metals, and ores actually got and raised from the said mine; and all machinery, apparatus, tools, waggons, carts, carriages, engines, plant, and all other goods, chattels, and effects whatsoever, in, upon, and about the said land and premises; and in every distress thus made may take away, sell, and dispose of as in cases of distress for rent reserved in common leases, and out of the moneys arising thereby retain so much as shall be sufficient to satisfy the said arrears, and which shall at the time of such sale be unpaid; and all expenses incurred by him or them in or in respect of such seizure, distraint, removal, and sale; and if there be any surplus such officer shall pay the same to the said lessees, their executors, administrators, or transferees; and the acceptance or receipt of rent or royalty by or on behalf of Her Majesty, after breach of any covenant hereinafter contained, shall not be or be deemed a waiver of the right of Her Majesty, or of the Secretary for Mines, or other officer on behalf of Her Majesty, to enforce observance of such covenant. And if the said lessees, their executors, administrators, or transferees, shall mine for or win from the said land, mine, and premises any gold, or any earth, rock, stone, quartz, clay, sand, gravel, or soil containing gold, or any mineral or metal with which gold is associated or combined, without the express sanction first had and obtained of the Secretary for Mines for the time being, the Governor, with the advice of the Executive Council, may declare these presents void, and thereupon all the right, title, and interest of the lessees, their executors, administrators, and transferees under these presents shall cease and determine both at law and in equity. And the said lessees do hereby, for themselves, their heirs, executors, administrators, and transferees, covenant with Her Majesty, her heirs and successors, in manner following, that is to say:—

1. That the said lessees, their executors, administrators, and transferees, shall and will during the said term pay unto Her Majesty, her heirs and successors, the rent or royalty hereby reserved at the times and places hereinbefore appointed for payment thereof, clear of all deductions.

2. And shall and will, after the expiration of six months, from the date of delivery hereof, upon and during all lawful working days, except when prevented by inevitable accident or during the execution of repairs, work the said land, mine, and premises, or the land, mine, and premises adjoining thereto and proposed to be worked in connection therewith, in the best and most effectual manner, and to the best advantage, without interruption, and shall and will with reasonable expedition make and construct all necessary works with a view to diligently explore and search for coal in, on, and under the said land, mine, or premises.

3. And shall and will, after the expiration of the said six months, or after the underground works shall have reached the said land, employ in the construction of the works, or in mining operations on or under the said land, during the first three years of the said term, and during the usual hours of labour, three able and competent workmen and miners at the least; and during the remainder of the said term, and during the usual hours of labour, shall and will employ as aforesaid not less than six such workmen and miners, unless prevented by inevitable accident, or during the execution of repairs. Provided that the lessee, or if there be more than one lessee, each lessee who shall work as aforesaid, shall count as and be deemed for the purposes of these presents to be a workman or miner employed as aforesaid.

4. And shall and will during the said term effectually drain the said mine, and pump all water likely to cause injury thereto, or which would prevent or interfere with the working thereof; and if the said mine shall be affected, or be liable to be affected, by the same flow or body of water as any other mine or mines contiguous thereto, shall and will, if and whenever requested so to do, contribute with the lessee or lessees or owner or owners of such other mines, a reasonable proportion of the machinery and labour necessary to free and keep such mine or mines free from water to a workable extent; or if the said mine shall be kept free from water to a workable extent either wholly or partially by means of the machinery and labour of a contiguous mine or mines, or by reason of any works constructed or money expended by the lessee or lessees, owner or owners, of such contiguous mine or mines,—then shall and will pay to such lessee or lessees, owner or owners, as aforesaid, a reasonable proportion of the cost of such machinery, labour, or works, or a reasonable proportion of the money so expended; and the Secretary for Mines for the time being may, if and whenever he shall think fit, depute some efficient person who shall have access to and inspection of all such mines, to determine when the said mine is so freed or kept wholly or partially free from water, and what are the reasonable proportions of such expenses aforesaid, and to whom and when the same are to be paid,—such decision to be final and conclusive on all parties.

5. And shall and will make such provision for the disposal of the detritus, dirt, waste, or refuse of the said mine, that the same shall not be an inconvenience, nuisance, or obstruction to any roadway, river, creek, or private or Crown lands, or shall not in any manner occasion any public or private damage or inconvenience.

6. And shall and will erect, and keep erected, during the said term, a post, painted white, at each angle of the said land, and at such points along the boundary-lines as shall be necessary, so as plainly and accurately to define the boundary-lines and angles of the said land; and each such post shall be fixed firmly in the ground, and shall project above the surface thereof not less than 3 feet.

7. And shall and will keep proper books, or a book, in which shall be entered the quantity of coal raised each day from the land hereby demised, and shall enter therein as soon as known the value of such coal, and permit any officer of the Department of Mines at all times to inspect the same, and as often as required so to do during the term, make and deliver to the Secretary for Mines for the time being, or any officer appointed or instructed to collect, obtain, or receive the same, all such true and proper plans, sections, returns, statements, and statistics of the workings and operations of the said mine, made up to the last day of the preceding month (the truth and accuracy of which shall be verified by the statutory declaration of the lessee for the time being, or the manager or other officer having the charge, control, and

and direction of the works of the said mine), as the Secretary for Mines shall from time to time direct, or as shall be required by any regulation, and shall and will whenever required by the Secretary for Mines so to do, deliver to any officer appointed or instructed as aforesaid samples of the minerals, metals, and ores, or any of them, found in or upon such mine and lands.

8. And shall and will during the said term make proper and reasonable compensation to the occupier or occupiers, lessee or lessees from the Crown, of any adjoining land in respect of any damage which may be sustained by him or them, by reason of the working of the said mine, or the carrying on of the works thereof or connected therewith, such compensation to be determined by the Secretary for Mines, or by some person authorized by him so to do.

9. And shall and will permit any mining surveyor, or other person duly authorized in that behalf, with all proper or necessary assistants, at all reasonable times, during the said term, quietly to enter into and upon the said land, mine, and premises, to survey and examine the state and condition thereof, and, for the purposes aforesaid, to descend all pits and shafts, and to enter into and use all adits, levels, galleries, drives, and excavations, and to use all roads, ways, engines, ropes, machinery, gear, appliances, materials, labour, and other things in or on the said land and mine which shall be by him deemed necessary, without making any compensation for the same, so nevertheless that in so doing no unnecessary interference is caused with the carrying on of the said mining works.

10. And further, shall and will at all times during the said term keep and preserve the said mine and premises from all avoidable injury or damage, and also the levels, drifts, shafts, watercourses, roads, ways, works, erections, and fixtures therein and thereon in good repair and condition, except such of the matters and things last aforesaid as shall from time to time be considered by a mining surveyor or other proper officer authorized by the Secretary for Mines to inspect and report upon such matters and things to be unnecessary for the proper working of the said mine or any contiguous mine, and in such state and condition shall and will at the end or sooner determination of the said term deliver peaceable possession thereof, and of all and singular the premises hereby demised to Her Majesty, her heirs and successors, or to the Warden or other officer authorized to receive possession thereof. Nevertheless the Secretary for Mines may, if he think fit, permit the lessees, their executors, administrators, and transferees, within six months after possession shall have been received as aforesaid, to enter upon the said land, and to remove therefrom such machinery, plant, and apparatus as shall have been erected and fixed upon such land, and such earth, rock, ore, mineral, or metal as shall have been won from and raised to the surface of such mine.

11. And shall not nor will use or occupy, or permit to be used or occupied, the said land or any part thereof, for other than mining purposes, or for pasturage, or as sites for dwellings, or garden ground for the persons employed in, on, or about the said mine, and will not for any purpose occupy any portion of the surface excepted as aforesaid, or make or construct any excavation, adit, level, gallery, or drive within 500 feet below the surface of the said land, or of the excepted portion thereof, without the sanction in writing of the Secretary for Mines. The works under the roads to be supported to the satisfaction of the Examiner of Coal-fields and Inspector of Collieries.

12. And shall not nor will mine in or upon the said mine, land, and premises, for any mineral, metal, or ore other than coal without the express sanction of the Secretary for Mines.

13. And shall not nor will transfer, underlet, or part with possession of the said land, mine, and premises, or any part thereof, or mortgage, charge, or encumber the same, without the license first had and obtained of the Secretary for Mines for the time being: Provided always that no such license shall be necessary in cases where, by operation of law or otherwise, a sale of the said land, mine, and premises, or any part or parts thereof, is made by any person or persons entitled to sell the same for the benefit of the creditors or a creditor of the lessee or his transferees, or in cases where the lessee or his transferees desire to let the said mine and premises, or any part thereof, to be worked on tribute.

14. And shall not nor will close up or obstruct any adit or adits to or from any contiguous mine or mines whereby fresh air is admitted or ventilation promoted.

15. And shall not nor will plead acceptance of rent or royalty by or on behalf of Her Majesty as a waiver of the right of Her Majesty, or of the Secretary for Mines, or other officer on behalf of Her Majesty, to enforce observance of the covenants herein contained, or of the right of the Governor, with the advice of the Executive Council, to declare these presents void for breach of any such covenant: Provided always, and it is hereby agreed and declared in manner following:—

16. That it shall be lawful for Her Majesty, her heirs, successors, and assigns to make and use in, on, or under the said land, any levels, drifts, leads, shafts, watercourses, adits, roads, ways, and passages for freeing and keeping free any other lands or mines from water, or for conveying water to any other lands or mines for mining purposes, or for supplying any other mines with fresh air, or for effectually working any other mines, or for any public purpose whatsoever, causing as little damage, obstruction, or interference as possible to or with the said mine and the works thereof. And if, at any time during the term hereby created, any part or parts of the land hereby demised, or any part or parts of the surface thereof, shall be required for the purpose of any township, village, railway, road, canal, watercourse, reservoir, or for any other public purpose, it shall be lawful for the Governor for the time being, with the advice of the Executive Council, on giving three months' notice of his intention so to do, to cause to be set out the part or parts of the said land or of the surface thereof which shall be so required; and as soon as the same shall be so set out, such part or parts of the said land, or of the surface thereof, shall cease to be included in the land hereby demised, and the lessee, his executors, administrators, or transferees shall not be entitled to any abatement of rent or royalty, or any compensation whatever in respect thereof.

17. And if the said lessee, his executors, administrators, or transferees shall prove to the satisfaction of the Secretary for Mines for the time being that the said mine is unworkable, or cannot be profitably worked, from any cause whatsoever, or that the lessee, his executors, administrators, or transferees is or are unable, by reason of sickness or other sufficient cause, to work in such land or mine, or that the supply of water is insufficient to allow the working of the said land, mine, and premises to be profitably carried on, the said Secretary for Mines may grant permission to suspend work therein or thereon, for any period not exceeding six months, without the lessee, his executors, administrators, or transferees incurring in respect thereto any forfeiture or penalty for breach of any covenant herein contained.

18. And, lastly, that if the lessee, his executors, administrators, or transferees shall at any time during the said term fail to use such land *bonâ fide* for the purpose for which it has been demised, or if and whenever the said rent or royalty shall be in arrear for thirty days after the time appointed for payment thereof, whether the same shall have been legally demanded or not, or if and whenever there shall be a breach of or non-compliance with the covenants and provisoes herein contained by the lessee, his executors, administrators, or transferees, and the lessee, his executors, administrators, or transferees shall not have obtained from the Secretary for Mines for the time being permission to suspend work as aforesaid, in case the breach shall have been for non-compliance with the covenants for the employment of workmen or miners, or for the working of the mine, the Governor, with the advice of the Executive Council, who alone and finally shall judge and determine the matter upon the evidence or reports submitted by the Secretary for Mines for the time being, may declare these presents void, and upon publication in the *Government Gazette* of notice of such declaration, all the right, title, and interest of the lessees, their executors, administrators, and transferees under these presents shall cease and determine both at law and in equity; and the production of a copy of the *Government Gazette* containing a notice, purporting to be signed by the Secretary for Mines, declaring the lease void, shall be conclusive evidence in all Courts whatsoever in the Colony of New South Wales of a breach of or non-compliance with the covenants and provisoes herein contained sufficient to authorize and sustain such declaration having been lawfully made, and that the interest created hereunder has been lawfully determined; and thereupon it shall be lawful for Her Majesty, her heirs and successors, or her or their agents or officers, or for any bailiff or other person duly authorized thereto, or for any holder of a mineral license who has the permission of the Secretary for Mines for the time being, without any previous demand whatsoever, to enter forthwith into and upon the said land and premises hereby granted, and the same to repossess and enjoy as fully and effectually to all intents and purposes as if these premises had not been made, and the said lessees, their executors, administrators, and transferees to expel and remove, without any legal process, and as effectually as the Sheriff might do in case judgment in ejectment had been obtained and a writ of *habere facias possessionem* had been issued on such judgment; and in case of such entry, and any legal proceeding taken in respect thereof, the defendant or defendants in any such proceeding may plead leave and license in bar thereof; and these presents shall be conclusive evidence of such leave and license by the lessees, their executors, administrators, and transferees, or other the person or persons, plaintiff or plaintiffs in such proceedings, for such entry or other matters complained of in such proceedings.

In witness whereof, His Excellency the Right Honorable Charles Robert Baron Carrington, a Member of Her Majesty's Most Honorable Privy Council, Knight Grand Cross of the Most Distinguished Order of Saint Michael and Saint George, Governor and Commander-in-Chief of the Colony of New South Wales and its Dependencies, hath, on behalf of Her Majesty the Queen, caused the seal of the said Colony to be affixed to this grant, and also set his hand, at Government House, Sydney, in the said Colony, the day and year first above written, and the lessees have also set their hands and seals the 26th day of May, 1887.

CARRINGTON.

Signed, sealed, and delivered by the within-  
named Victor Thomas Sherbrooke }  
Houghton and Samuel Palmer, in the } VICTOR THOMAS SHERBROOKE HOUGHTON.  
presence of,— SAMUEL PALMER.  
EDWARD FARR.

Registered in the Department of Mines, at Sydney, this 26th day of May, A.D. 1887, at the hour of 3 o'clock in the afternoon, and numbered in the Register 241.

GERARD E. HERRING  
(For the Registrar).

Transfer from V. T. Sherbrooke Houghton and Samuel Palmer of their interests in mineral lease No. 241, to the Scottish Australian Mining Company (Limited). Registered by me, in the Department of Mines, Sydney, the 2nd day of June, 1887, at the hour of 2 o'clock in the afternoon.

EDWARD FARR.

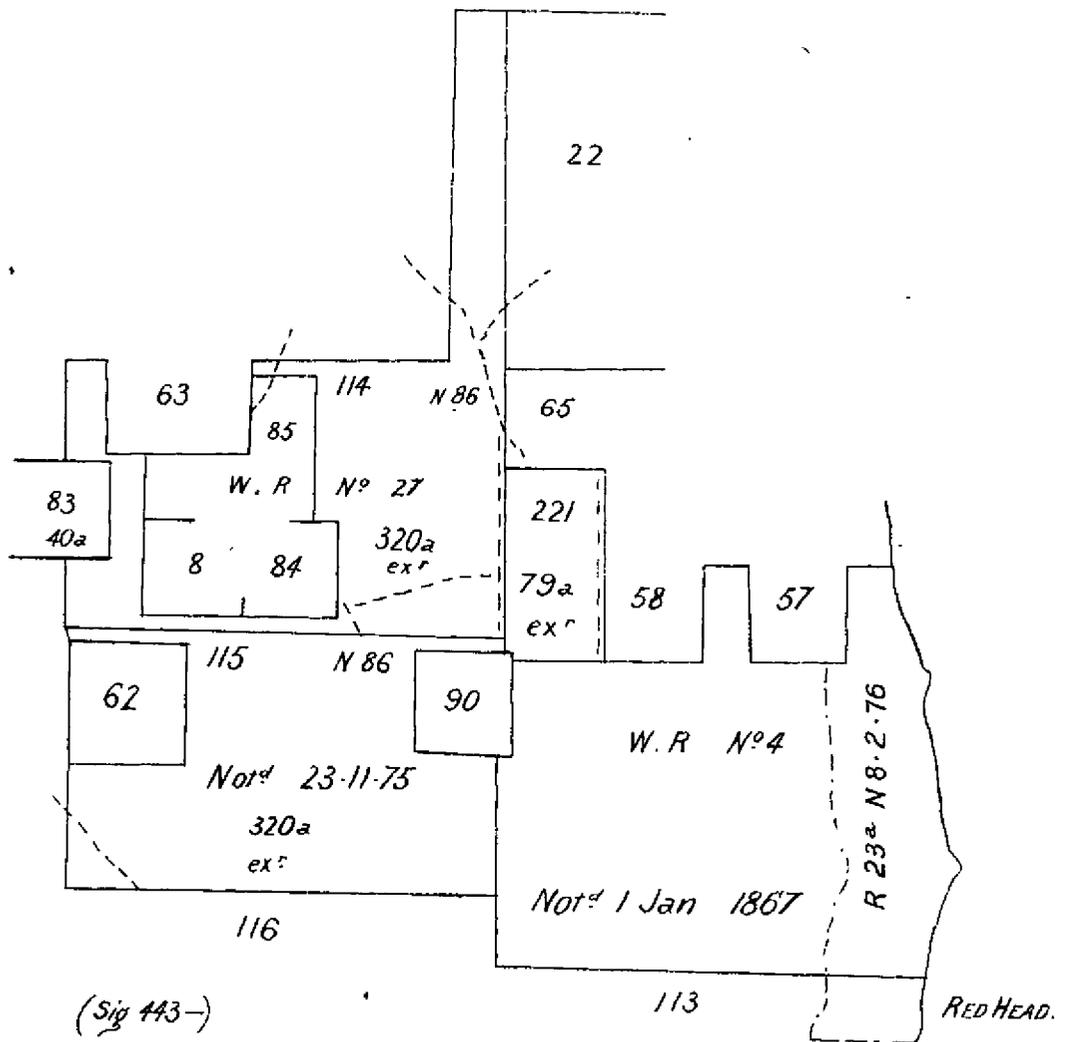
[Ten Plans.]

Enclosure to N<sup>o</sup> 1  
Schedule 1.

APPENDIX A

PLAN

PARISH OF KAHIBAH, COUNTY OF NORTHUMBERLAND

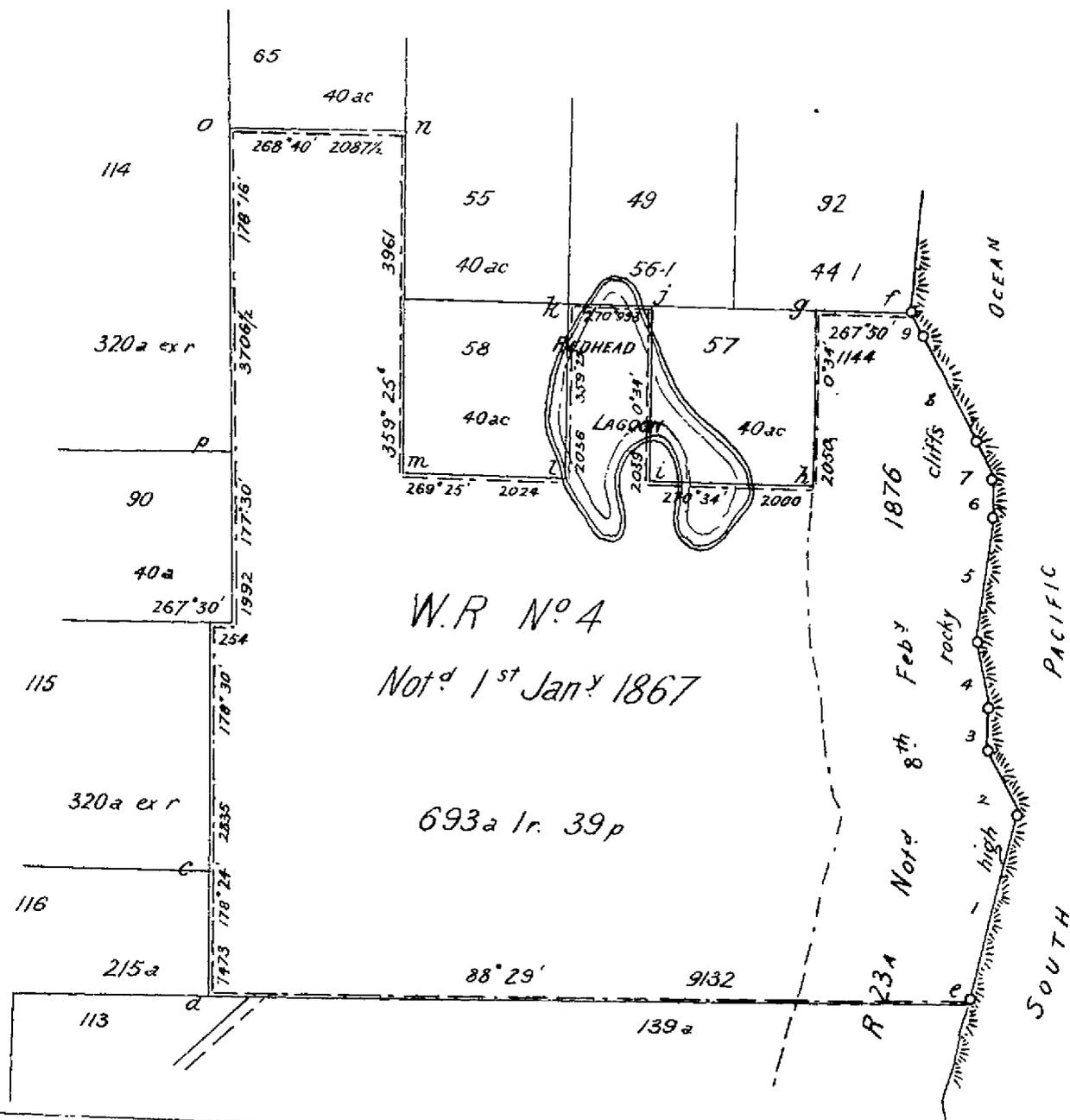


PLAN

PARISH OF KAHIBAH, COUNTY OF NORTHUMBERLAND.

Applied for by Houghton and Palmer.

Scale 20 ch<sup>s</sup> to 1 inch

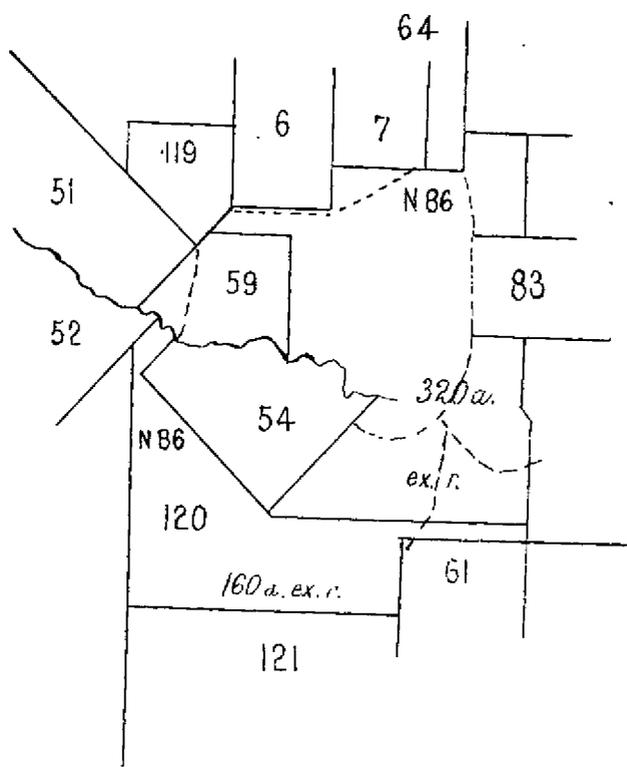


Reference to Corners				Reference to Transverse		
Corner	Bearing	From	Links	N <sup>o</sup>	Bearing	Links
a	Post 245° 13'	Bloodwood	115	1	13° 20'	2213
b	285° 30'	Blackbutt	20	2	532° 37'	821
c	Peg			3	0° 33'	456
d	"			4	349° 48'	797
e	Post			5	5° 45'	1466
f	Mark on rock			6	355° 04'	441
g	Post			7	338° 14'	487
h	"			8	327° 53'	1386
i	185° 02'	Gum	50.7	9	340° 13'	322
j	317° 03'	"	88			
k	Post					
l	"					
m	40° 35'	Honeysuckle	15 1/2			
n	Peg					
o	Fence post					
p	58° 19'	Stringybark	17			

(Signed) James T. Gray  
3/12/86  
Licensed Surveyor.

Enclosure to N<sup>o</sup>. 1. Schedule 2.

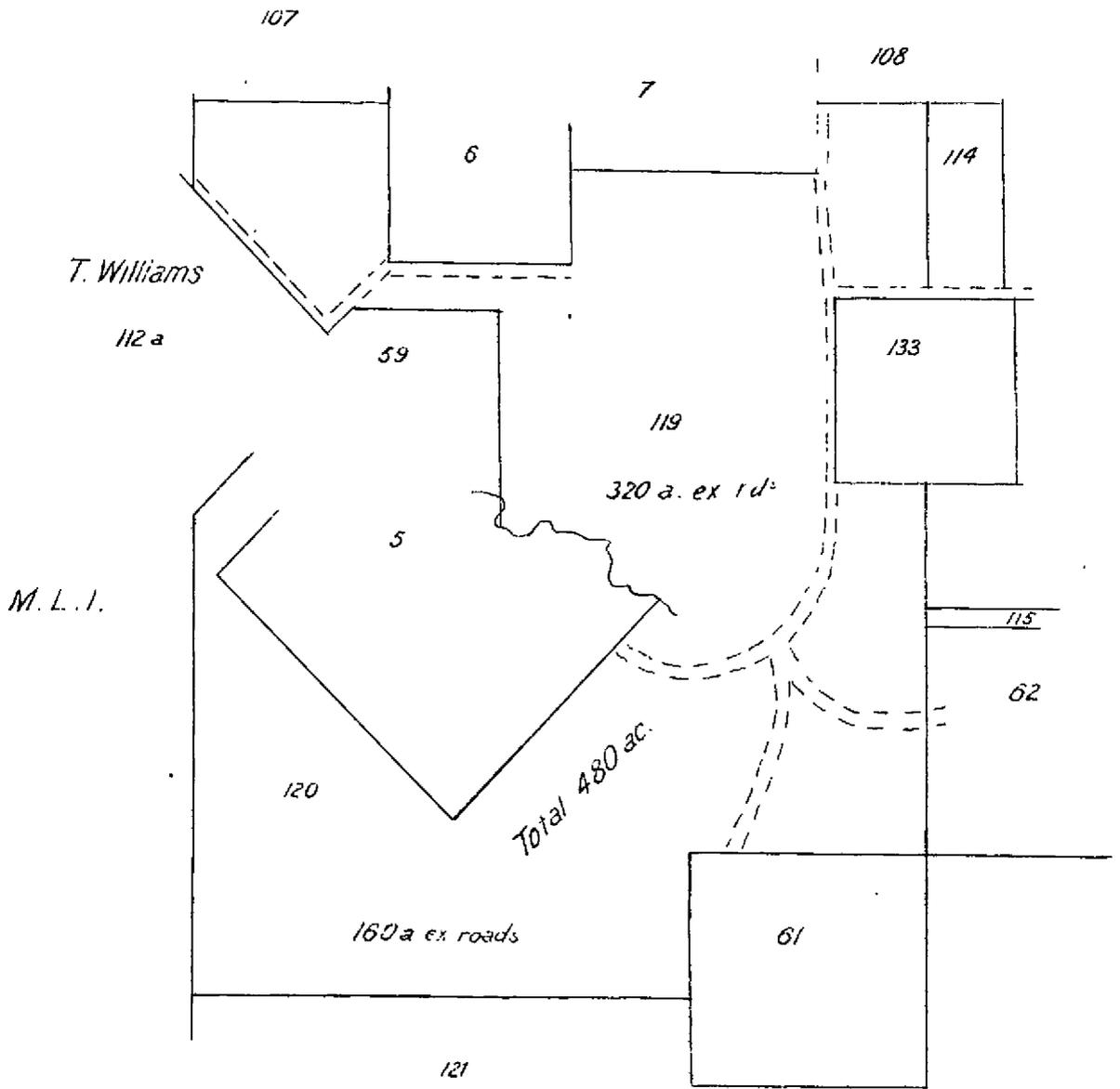
PLAN  
in the  
*Parish of Kahibah, County of Northumberland.*



(Sig 443)

APPENDIX D  
Enclosure to N° 2  
SCHEDULE 4.

PLAN  
of portions 119 & 120 in the  
PARISH OF KAHIBAH, COUNTY OF NORTHUMBERLAND  
Applied for by V.T. Sherbrooke-Haughton under the Mining Act of 1874  
Within W.R. 27.  
Scale 20 ch<sup>s</sup> to 1 inch



(Sig 443-)

APPENDIX E.

PLAN

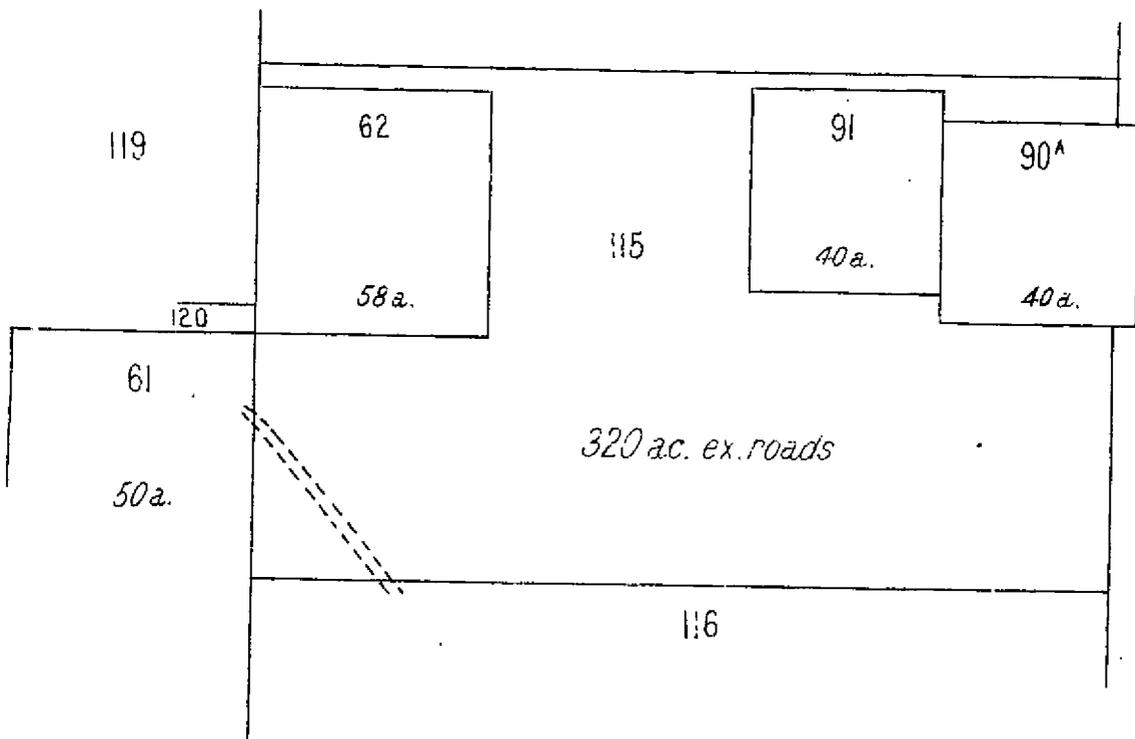
of portion 115 in the

*Parish of Kahibah, County of Northumberland.*

*Applied for by Sherbrooke Haughton and Palmer, under  
the Mining Act of 1874*

Within W.R. 27.

Scale, 20 chains to an inch



(Sig. 443)

PLAN

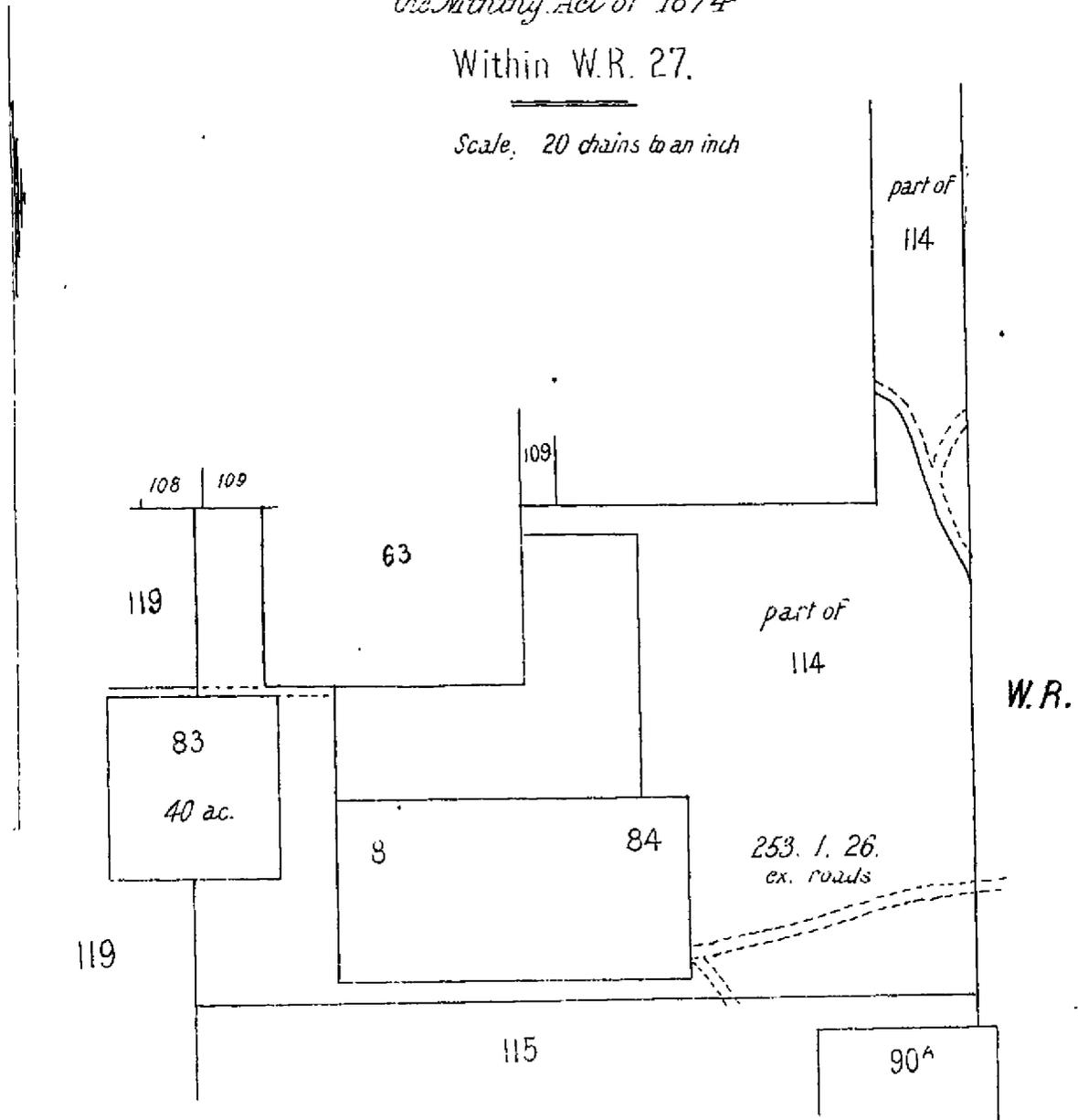
of portion N<sup>o</sup> 114 part of

*Parish of Khibah, County of Northumberland*

*Applied for by Sherbrooke Haughton and Palmer under  
the Mining Act of 1874*

Within W.R. 27.

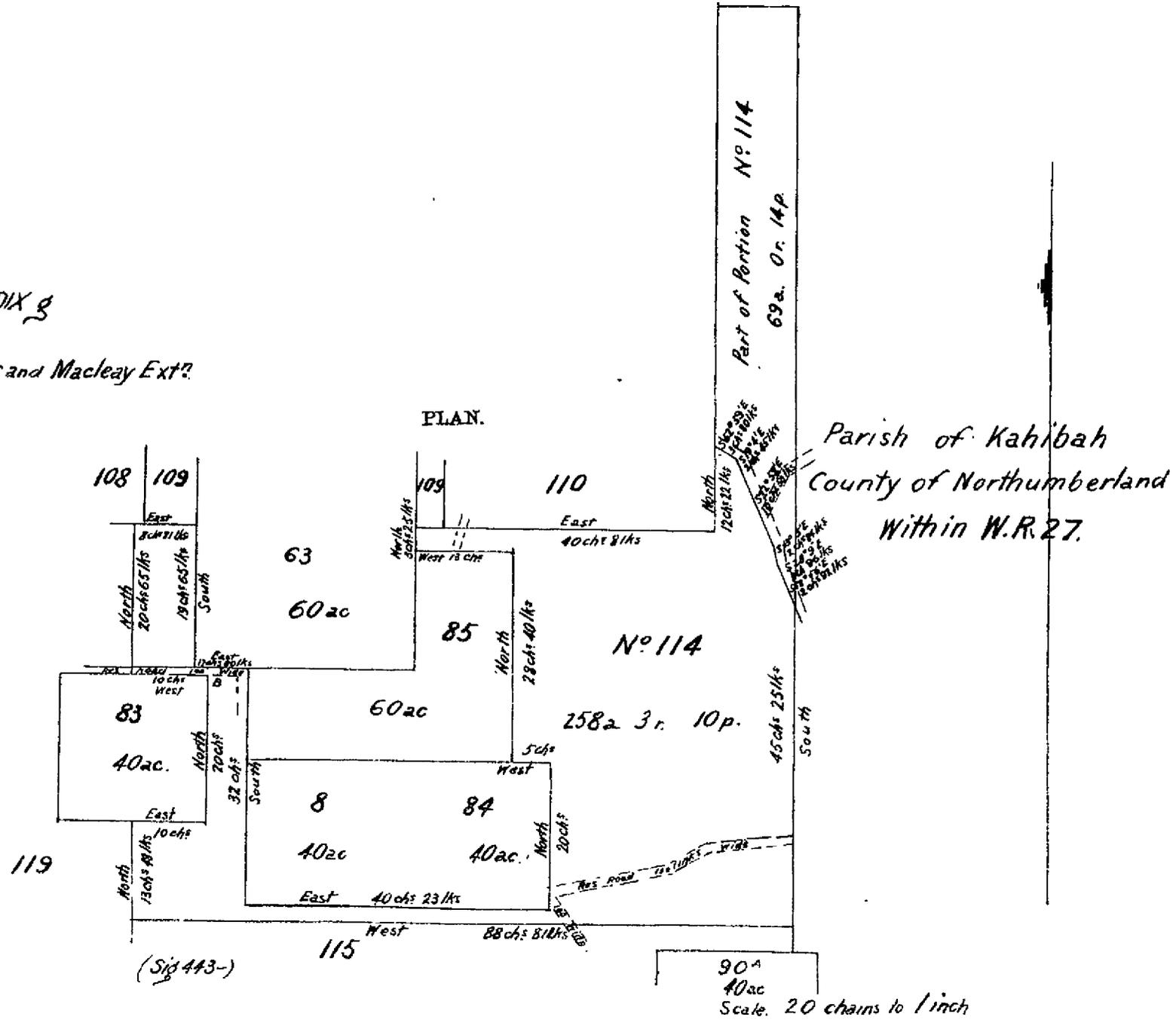
Scale, 20 chains to an inch



(Sig. 443)

APPENDIX g

M<sup>o</sup> Dist Hunter and Macleay Ext<sup>d</sup>.

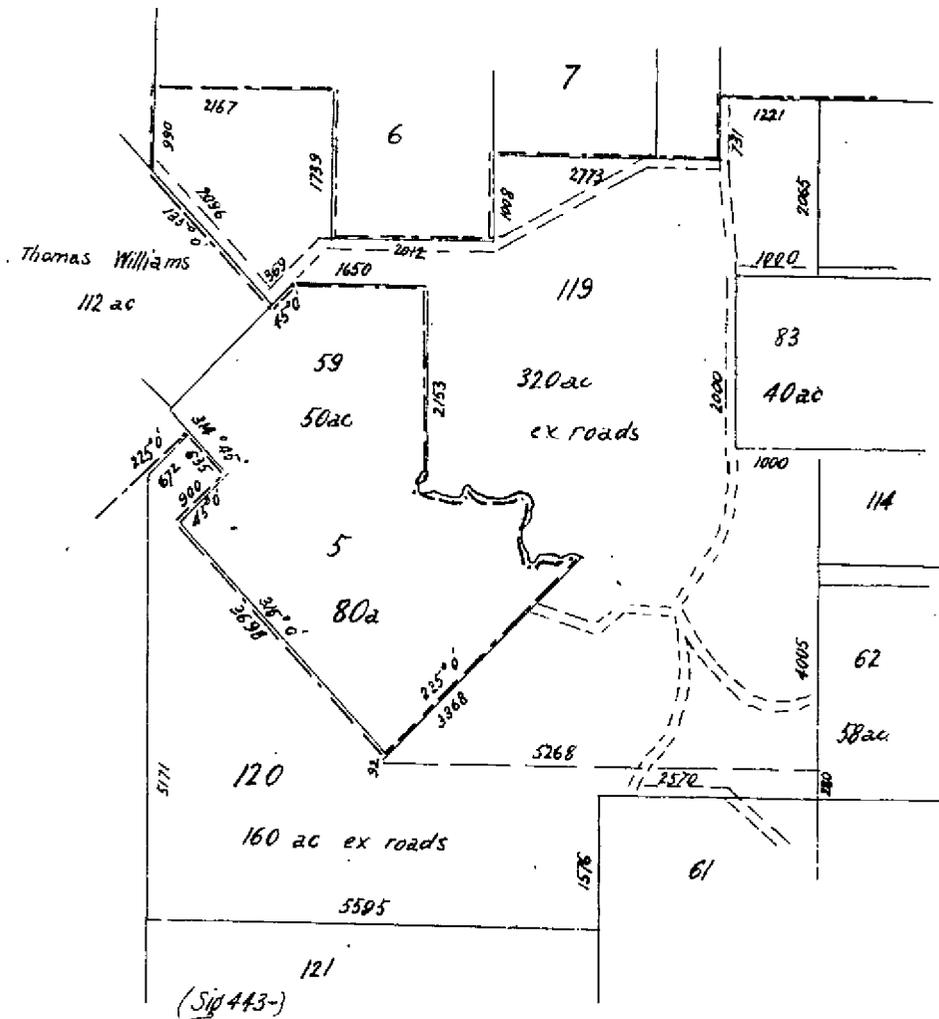




APPENDIX (b)

County of Northumberland, Parish of Kahibah  
Within WR.27. Notified 23<sup>rd</sup> Nov. 1878.

Population Boundary of Newcastle  
Total Area 480 ac. ex. Roads  
Scale 20 chains to 1 inch

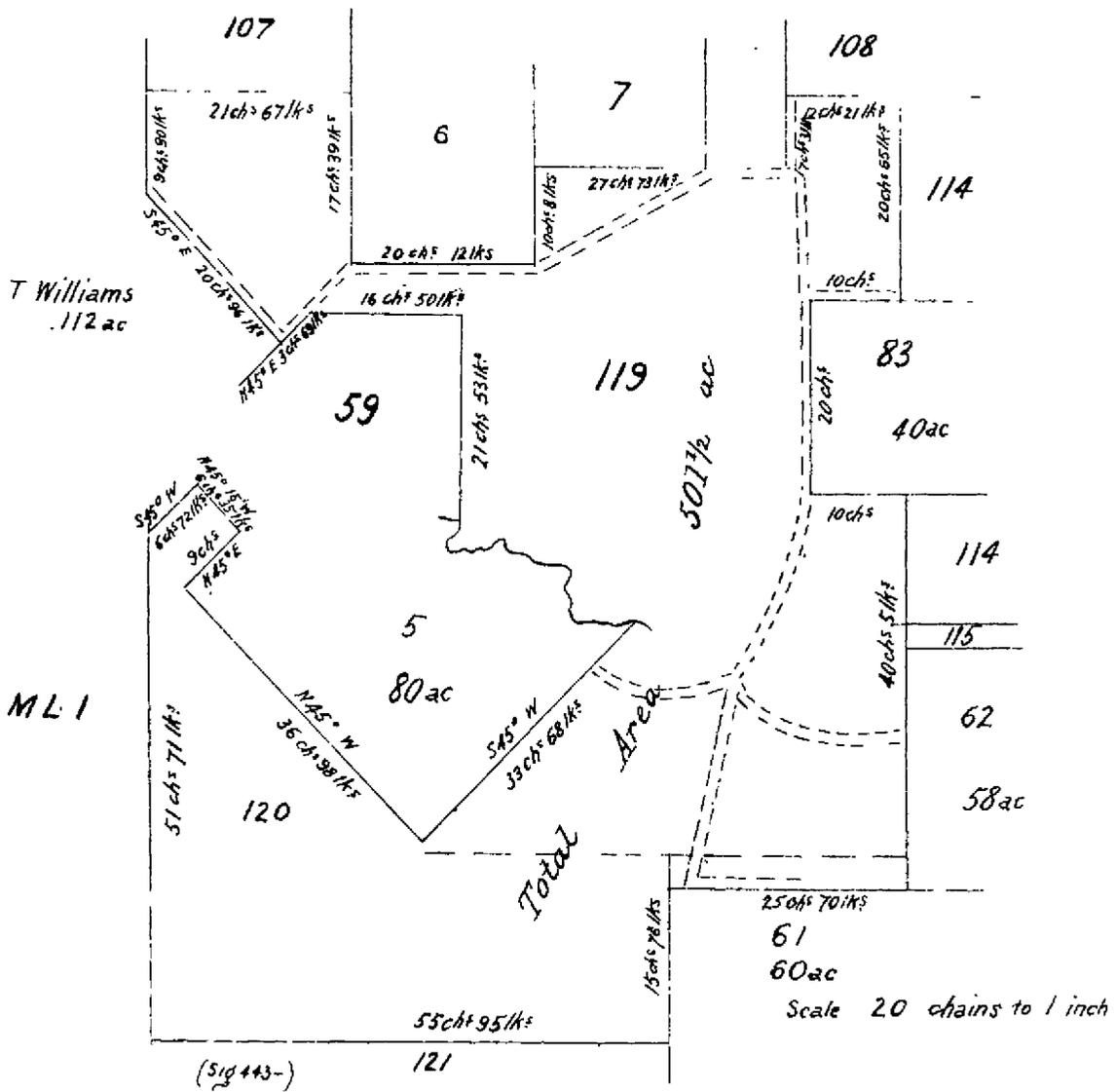


APPENDIX (e)

PLAN

M<sup>r</sup> Dis<sup>r</sup> Hunter and Macleay Ext<sup>n</sup>

County of Northumberland  
Parish of Kahibah



1887-8.

LEGISLATIVE ASSEMBLY.

NEW SOUTH WALES.

## MINING LEASES, BINGERA DISTRICT.

(APPLIED FOR BETWEEN 31ST DECEMBER, 1880, TO 31ST DECEMBER, 1885.)

*Ordered by the Legislative Assembly to be printed, 27 March, 1888.*

RETURN to an Order of the Honorable the Legislative Assembly, dated 3rd August, 1886, That there be laid upon the Table of this House, a Return showing,—

- “(1.) The number of mining leases applied for in the Bingera District from the 31st December, 1880, to the 31st December, 1885, with date of applications and names of applicants.
- “(2.) The number of leases dealt with and the number still under consideration.
- “(3.) The amount of moneys paid on the same, and the amount now due, with names and dates.
- “(4.) The number of leases refused; also, the number of leases where the labour conditions have been carried out.
- “(5.) The number of official visits paid by the Warden to the various mining centres, the number of Wardens' Courts held, and the number of mining cases dealt with during the present Warden's term of office.”

*(Mr. Hassall.)*

RETURN of Mining Leases in the Bingera District between 31st December, 1880, and 31st December, 1885.

Date of Applications.	Names of Applicants.	Amount of Moneys paid on same.		Date of Applications.	Names of Applicants.	Amount of Moneys paid on same.	
		Rent.	Survey.			Rent.	Survey.
1881.		£ s. d.	£ s. d.	1883.		£ s. d.	£ s. d.
30 April	D. M'Manus and others ...	5 0 0	4 0 0	3 Oct.	R. Quickenden and others...	10 0 0	5 0 0
5 May	J. Plunkett and another ...	5 0 0	4 0 0	3 "	C. Rogers .....	10 0 0	5 0 0
7 "	J. Corrigan and others .....	5 0 0	4 0 0	11 "	H. W. Powell and another	10 0 0	.....
4 Aug. 1882.	J. Plunkett and another ...	.....	.....	11 "	H. W. Powell .....	5 0 0	.....
8 July	D. J. Allen and another ...	10 0 0	.....	11 "	C. Rogers .....	10 0 0	5 0 0
8 "	do .....	10 0 0	.....	18 "	H. W. Powell .....	10 0 0	.....
8 "	do .....	5 0 0	.....	18 "	P. Falk and another .....	5 0 0	4 0 0
19 Aug.	J. L. Nicholls .....	10 0 0	4 0 0	29 "	H. W. Powell .....	5 0 0	3 0 0
30 Sept. 1883.	C. Miller and others .....	5 0 0	.....	1 Nov.	P. Falk .....	5 0 0	4 0 0
14 Aug.	C. Rogers .....	10 0 0	5 0 0	6 "	do .....	10 0 0	5 0 0
7 Sept.	H. Miller and another .....	5 0 0	.....	6 "	H. W. Powell and another	10 0 0	.....
8 "	W. Morris and others .....	10 0 0	5 0 0	10 "	P. Falk .....	5 0 0	4 0 0
10 "	H. Miller and another .....	10 0 0	.....	15 "	W. Bates and another .....	5 0 0	.....
14 "	P. Falk .....	10 0 0	5 0 0	20 "	W. M. Brookes and others	5 0 0	.....
19 "	E. Quickenden and others...	10 0 0	5 0 0	27 "	T. O'Brien and others .....	5 0 0	4 0 0
3 Oct.	P. Falk and another .....	10 0 0	5 0 0	27 "	E. Quickenden .....	10 0 0	5 0 0
				28 "	R. Billsborough and others	10 0 0	.....
				4 Dec.	W. Harvey and others .....	5 0 0	.....

Date of Applications.	Names of Applicants.	Amount of Moneys paid on same.		Date of Applications.	Names of Applicants.	Amount of Moneys paid on same.	
		Rent.	Survey.			Rent.	Survey.
1883.		£ s. d.	£ s. d.	1884.		£ s. d.	£ s. d.
6 Dec.	R. Billsborough and others	5 0 0		23 Aug.	W. L. Eddy	10 0 0	5 0 0
10 "	P. Falk	5 0 0	4 0 0	25 "	H. Urquhart and another	5 0 0	4 0 0
22 "	W. S. Dowell and another	5 0 0	4 0 0	28 "	M. O'Doud and others	20 0 0	5 0 0
22 "	E. G. Lewis	20 0 0		10 Sept.	P. Falk	10 0 0	5 0 0
1884.				10 "	do	10 0 0	5 0 0
14 Jan.	H. W. Powell	5 0 0		15 "	do	Paid on application 84-18.	
14 "	do	5 0 0	3 0 0	22 "	E. F. Sullivan	12 10 0	5 0 0
11 Mar.	P. Falk	5 0 0	4 0 0	26 "	A. Grosberud	10 0 0	5 0 0
11 "	do	10 0 0	5 0 0	26 "	T. O'Keefe and others	Paid on application 84-20.	
11 "	do	10 0 0	5 0 0	26 "	G. C. Purvis	do	do 84-21.
11 "	do	10 0 0	5 0 0	1 Oct.	J. M. Jones and another	5 0 0	4 0 0
2 Apl.	J. H. Boag and another	10 0 0		27 "	C. Rogers	5 0 0	4 0 0
17 "	J. H. Boag	10 0 0	5 0 0	1 Nov.	P. Falk	5 0 0	4 0 0
17 "	do	10 0 0	5 0 0	7 "	C. J. Barnes	Paid on application 84-32.	
26 "	G. C. Tarnes	20 0 0	4 10 0	7 "	J. H. Boag and another	do	do 84-32.
28 "	E. G. Lewis and others	5 0 0	4 0 0	8 "	T. Mercer	5 0 0	
3 May	E. G. Lewis	5 0 0		18 "	J. M. Jones	Paid on application 84-37.	
5 "	do	5 0 0		11 Dec.	C. J. Barnes	do	do 84-34.
6 "	M. O'Doud and another	5 0 0	4 0 0	11 "	do	do	do 84-33.
6 "	do	5 0 0	4 0 0	11 "	do	do	do 84-35.
23 "	H. T. Coonan and others	10 0 0	4 10 0	11 "	do	5 0 0	4 0 0
23 "	W. L. Eddy	5 0 0		1885.			
7 June	P. Falk	10 0 0	5 0 0	20 Jan.	W. L. Eddy	Paid on application 84-44.	
26 "	W. Williamson and another	10 0 0	5 0 0	20 "	do	do	do 84-44.
11 July	T. O'Keefe and others	5 0 0	4 0 0	26 Feb.	J. C. MacDonald	5 0 0	4 0 0
11 "	H. L. Cousens	10 0 0	5 0 0	2 Mar.	H. Urquhart and another	Paid on application 84-47.	
17 "	P. Falk	10 0 0		9 "	W. Nicholls and others	10 0 0	5 0 0
17 "	do	5 0 0		9 "	E. G. Lewis	Paid on application 84-38.	
17 "	do	5 0 0		23 "	P. Falk	5 0 0	
17 "	do	10 0 0		20 "	do	Paid on application 84-51.	
17 "	do	5 0 0		20 "	do	do	do 84-55.
17 "	do	10 0 0		30 "	H. E. Meyers	5 0 0	4 0 0
17 "	do	10 0 0		2 April	M. O'Doud and others	Paid on application 84-54.	
17 "	J. H. Boag and another	10 0 0		14 May	J. M. Jones and another	do	do 84-62.
24 "	H. L. Cousens and others	10 0 0	5 0 0	1 June	J. Juleff and others	10 0 0	5 0 0
24 "	do	10 0 0	5 0 0	1 "	G. Lander	10 0 0	5 0 0
8 Aug.	C. J. Barnes	10 0 0		1 "	G. Keats	10 0 0	5 0 0
8 "	do	10 0 0	5 0 0	8 "	W. Wyeth	10 0 0	5 0 0
14 "	do	5 0 0	4 0 0	9 "	R. Holdsworth and another	10 0 0	5 0 0
14 "	do	5 0 0	4 0 0	9 "	do	10 0 0	5 0 0
14 "	J. H. Boag	Paid on application.		9 "	J. Collins and another	10 0 0	5 0 0
15 "	W. Higgins and another	5 0 0	4 0 0	9 "	do	10 0 0	5 0 0
15 "	E. G. Lewis	Paid on application 83-29		9 "	J. Urquhart	10 0 0	5 0 0
15 "	W. L. Eddy	do	do 84-17.	15 "	C. J. Healy and others	10 0 0	5 0 0
18 "	C. J. Barnes	10 0 0	5 0 0	15 "	do	10 0 0	5 0 0
19 "	C. J. Barnes and another	10 0 0	5 0 0	22 "	C. Rogers	10 0 0	
23 "	do	10 0 0	5 0 0	29 "	P. Falk	Paid on application 84-51.	
23 "	do	15 0 0	5 0 0	21 Oct.	A. S. Louo	5 0 0	4 0 0
23 "	W. L. Eddy	10 0 0	5 0 0	10 Nov.	P. Falk	Paid on application 84-18.	
23 "	do	10 0 0	5 0 0				

Number of Applications applied for :—131.

Number of Leases dealt with :—131.

Number of Leases still under consideration :—Nil.

Amount of Moneys now due :—Nil.

Number of Leases refused :—55.

Number of Leases where the labour conditions have been carried out :—No leases (applied for between 31st December, 1880, and 31st December, 1885) are now in force.

Number of official visits paid by the Warden, &c. :—To Burraba and mines, 35.

Number of Wardens' Courts held :—69.

Number of mining cases dealt with during present Warden's term of office :—70.

1887-8.

LEGISLATIVE ASSEMBLY.  
NEW SOUTH WALES.

**GOVERNMENT DIAMOND DRILL, No. A.**  
(INFORMATION RESPECTING APPLICATION FOR USE OF.)

*Ordered by the Legislative Assembly to be printed, 7 February, 1888.*

RETURN to an *Order* made by the Honorable the Legislative Assembly of New South Wales, dated 16th December, 1887, That there be laid upon the Table of this House,—

“Copies of all correspondence and agreements between Mr. John Henry Mulholland, the Honorable the Secretary for Mines, the Under Secretary for Mines, and Mr. W. B. Henderson, Superintendent of Drills, and any other persons having reference to an application for the use of a Government Diamond Drill, No. A, dispatched to Clarence Siding some time between 1st and 8th April, 1885.”

(*Mr. Frank Smith, for Mr. Hurley.*)

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[330 copies—Approximate Cost of Printing (labour and material), £18 7s. 10d.]

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GOVERNMENT DIAMOND DRILL, No. A.

No. 1.

J. H. Mulholland, Esq., to The Under Secretary for Mines.

Brookdale Coal, Shale, and Iron Mining Company, Dargan's Creek.

Waterloo Chambers, 458, George-street,

Sydney, 23rd July, 1884.

Dear Sir,

On behalf of the proprietors of the abovenamed Company I write to ask you if we can have the use of the diamond drill to bore for coal and shale at Dargan's Creek, about 1 mile from Clarence Siding, Great Western Railway line. The site selected is about 50 yards from the rail line, and is perfectly level. We estimate to cut the first seam at about 230 feet, and the lower seam at about 700 from the surface. Plenty of water and coal for fuel is easily obtainable by rail from Lithgow. The country is of sandstone formation, and easily worked.

I enclose my cheque for £2 2s., the inspection fee, and if the Superintendent would let me know a day or two before he is prepared to inspect, I would arrange that one of the proprietors would meet him at Clarence Siding, and point out the proposed site where we wish to bore.

Trusting to be favoured with an early answer.

I am, &c.,

JOHN HY. MULHOLLAND,

(For Proprietors).

Applicant might be asked to supply a plan of the land, indicating thereon proposed site of bore.—W.B.H., B.C., 25/7/84. The Under Secretary for Mines. Approved.—H.W., 26/7/84.

No. 2.

The Under Secretary for Mines to J. H. Mulholland, Esq.

Sir,

Department of Mines, Sydney, 29 July, 1884.

With reference to your letter of the 23rd instant, in which you apply for the use of a diamond drill to bore for coal and shale at Dargan's Creek, I have the honor to request you to be good enough to furnish a plan showing the site of the proposed bore.

I have, &c.,

HARRY WOOD,

Under Secretary.

No. 3.

J. H. Mulholland, Esq., to The Under Secretary for Mines.

Sir,

458, George-street, Sydney, 30 July, 1884.

In reply to your favour of yesterday, I now beg to hand you herewith \* plan showing approximate site of bore marked with a red cross. The exact spot will be pointed out by the Company's representative at Dargan's Creek as soon as the Government Engineer visits the place; but please let me know a day or two before he leaves, so that I may make the necessary arrangements.

Appendix.

I remain, &c.,

JOHN HY. MULHOLLAND,

(For the Brookdale Company).

I recommend applicant be asked to name the depth it is intended to bore.—W.B.H., B.C., 2/1/85. The Under Secretary for Mines. Approved.—H.W., U.S., 2/1/85.

No. 4.

The Under Secretary for Mines to J. H. Mulholland, Esq.

Sir,

2 January, 1885.

Referring to your letter of 30th July, 1884, in reference to putting down bore on the Brookdale Company's land at Dargan's Creek, I have the honor to request that you will be good enough to inform me the depth it is intended to bore.

I have, &c.,

GERARD E. HERRING,

(For the Under Secretary).

No. 5.

J. H. Mulholland, Esq., to The Under Secretary for Mines.

The Brookdale Coal and Iron Company (Limited).

Waterloo Chambers, 458, George-street,

Sydney, 6 January, 1885.

Sir,

In reply to yours of the 2nd instant, re boring at Dargan's Creek, I am making such inquiries as will, I trust, enable me to supply the information you ask for in the course of a few days.

Yours, &c.,

JOHN HY. MULHOLLAND,

Manager.

I recommend the writer may be informed that a drill is now available to carry out the work, and request that an early date may be named to inspect site.—W.B.H., B.C., 7/2/85. The Under Secretary for Mines.

I recommend that Mr. Mulholland be informed that I am ready to go on with inspection of site on the 4th instant, and that his answer is requested to this to say what arrangements he will make for some one to accompany.—W.B.H., B.C., 2/3/85. The Under Secretary for Mines.

## No. 6.

The Under Secretary for Mines to J. H. Mulholland, Esq.

Sir,

Department of Mines, Sydney, 14 February, 1885.

Referring to your letter of the 6th ultimo and previous correspondence respecting boring at Dargan's Creek, I have the honor to inform you that a drill is now available for the work, and to ask you to name an early day for inspection of the site.

I have, &amp;c.,

GERARD E. HERRING,  
(For the Under Secretary).

## No. 7.

The Under Secretary for Mines to J. H. Mulholland, Esq.

Sir,

2 March, 1885.

With reference to my letter of the 14th ultimo (to which I have not received any reply), requesting you, on behalf of the Brookdale Coal and Iron Company (Limited), to appoint a day on which you could meet the Superintendent of Drills, in order that he might inspect the site at which your Company desire to bore for coal at Dargan's Creek, I have now the honor to inform you that the Superintendent of Drills will be prepared to visit the proposed site on Wednesday next, the 4th instant, and I have to request that you will be so good as to inform me whether you can make arrangements for a representative of your Company to accompany the Superintendent on that day.

I have, &amp;c.,

HARRIE WOOD,  
Under Secretary.

## No. 8.

J. H. Mulholland, Esq., to The Under Secretary for Mines.

The Brookdale Coal and Iron Mining Company (Limited):

Waterloo Chambers, 458, George-street, Sydney,

Sir,

10 March, 1885.

In reply to your favour of 2nd March, I will be prepared, on Thursday or Friday next (which ever day suits the Inspector best), with a guide at Clarence Tunnel, Great Western Railway, to point out the proposed site for boring for coal. Mount Clarence Platform is about a mile from Dargan's Creek, where we propose to begin operations. As it will be necessary for me to get some one up from Lithgow to meet the Superintendent at the platform, will you please give me early intimation after you decide the day.

I am, &amp;c.,

JOHN HY. MULHOLLAND,

Manager and Trustee of the above Company.

Inform that a man will be sent to-morrow in the absence of the Superintendent. The man will leave Sydney by the morning train.—H.W., 12/3/85. The site having been inspected I recommend that the drill be sent on and work undertaken at once.—W.B.H., B.C., 24/3/85. The Under Secretary for Mines. At what rate and on what terms?—H.W., 24/3/85. I presume the application is made on the published weekly terms of charges, as there is no mention made to payment by the foot in the papers.—W.B.H., 24/3/85.

On the assumption that the recommendation is made that the drill be worked at the weekly rate under the regulations, and subject to the conditions therein, it is approved.—H.W. (in the absence of the Minister), 24/3/85.

Storeman has orders to send on drill to-morrow morning; weight and list of all sent to be obtained. For storeman's proof of carrying out the work. Engineer-in-charge to sign for all handed him. Boiler from No. 13 drill to be sent on after and as soon as repaired. Charge carriage and all wages from this date on to finish of work; railway carriage to be included.—W.B.H., 24/3/85. Mr. M'Neil. Seen.—J.M., 24/3/85. Seen, T.C., 24/3/85. Seen, W.B.H.

## No. 9.

The Under Secretary for Mines to J. H. Mulholland, Esq.

Sir,

Department of Mines, Sydney, 12 March, 1885.

Referring to your letter of the 10th instant stating that you are prepared to point out the site on which your Company desires to bore for coal at Dargan's Creek, I have the honor to inform you that, in the absence of the Superintendent of Drills, a man will be sent by to-morrow morning's train to see the proposed site.

I have, &amp;c.,

GERARD E. HERRING,  
(For the Under Secretary).

No. 10.

No. 10.  
J. H. Mulholland, Esq., to The Superintendent of Drills.  
Brookdale Coal and Iron Mining Company (Limited).

Waterloo Chambers, 458, George-street, Sydney,

Dear Sir,

8 April, 1885.

Begging reference to our conversation of this morning *re* the drill for Dargan's Creek, I may say that on Saturday last I was on the ground, and your man in charge wished me to arrange for the carriage of the machinery from Clarence Siding to the spot selected. This I declined to do, as I told him that arrangements had not yet been completed. I am under the impression that I wrote to the Department asking them to name a price per foot for the work after inspection, but if I have not done so would you now kindly name a price per foot, so that I may lay the matter before the owners, &c. Of course we are anxious for the drill to start work as soon as possible, and must conform to the regulations I presume, but still you might give the Company the option of drilling at per foot or by the week.

I hope to be on the ground on Saturday, and should feel obliged if you will notify the rate the Company will be expected to pay.

Yours, &c.,

JOHN HY. MULHOLLAND,  
(For Brookdale Company).

After the drill had been sent to Clarence Siding the engineer reported that Mr. Mulholland had informed him that no terms had been arrived at between his Company and the Department. On receipt of this report I at once waited upon Mr. Mulholland and explained the position. The letter herewith is the result, so that work was not stopped. I inspected the site on the 11th instant and estimate cost of work as follows:—15s. 9d. from the surface down to a depth not exceeding 500 feet, with an additional 3s. per foot on each 100 feet below 500, the Department finding everything. Payment to be made fortnightly as the work proceeds. The applicant to name his local agent, whose certificate will be proof of work executed.—W.B.H., B.C., 14/4/85. The Under Secretary for Mines.

The Company might be asked to hand the core over to the Department. A section from this plan would, I think, be of public benefit.—W.B.H. State price, and ask the Company to say at once if they prefer paying by the foot, as the drill has been sent up by the week, and request core.—H. W., 20/4/85. Very urgent.

No. 11.

The Under Secretary for Mines to J. H. Mulholland, Esq.

Sir,

Department of Mines, Sydney, 21 April, 1885.

With reference to your letter of the 8th instant, asking the price per foot for the use of a diamond drill for boring at Dargan's Creek, I have the honor to inform you that from the surface down to a depth not exceeding 500 ft., the price will be 15s. 9d. per foot, with an additional 3s. per foot on each 100 ft. below 500; and I am to request you to be good enough to state at once whether the Company prefer paying by the foot, as the drill has been sent up to the site on the understanding that it was to be paid for by the week.

2. Payments for the work are to be made fortnightly, the Department finding fuel, water, &c.
3. I am also to ask the Company to hand the core over to this Department.

I have, &c.,

HARRIE WOOD,  
Under Secretary.

No. 12.

J. H. Mulholland, Esq., to The Under Secretary for Mines.

The Brookdale Coal and Iron Mining Company.

Waterloo Chambers, 458 George-street, Sydney,

Sir,

22 April, 1885.

In reply to your favour of yesterday's date *re* the cost of diamond drill boring at Dargan's Creek per foot, I haste to intimate that your letter will be laid before the proprietors on Friday next, and be then fully replied to, and election made of the modes of payment either per foot or by the week.

This, I presume, will not interfere with the drill starting at first possible moment. But it seems to me that the extra 3s. per foot for every foot below 500 is rather an excessive increase on the rate to 500 ft.; but you may, in view of the opening up of a new industry, assist the Company by some reduction in the cost. I will do my best to have the matter settled on Friday. The water and timber close to the drill, and the property of the Company, could be used by the Department without charge, and thus reduce the cost a little.

The core will be handed over, except such small pieces as may be required for specimens.

Yours, &c.,

JOHN HY. MULHOLLAND,  
Managing Trustee.

No. 13.

J. H. Mulholland, Esq., to The Under Secretary for Mines.

Waterloo Chambers, 458, George-st., City,

Sir,

6 May, 1885.

In reply to your letter of the 21st April, *re* the diamond drill for boring at Dargan's Creek, I am instructed to say that the Company (the Brookdale Coal and Iron Mining Company) have resolved that they will pay for the drill by the week and not by the foot. If you will render me the accounts fortnightly the payments will be made as you intimate. I intend leaving for Dargan's Creek, on Friday next, to inspect work done, and render any assistance I can, *re* fuel, water, &c.

The core will be handed to the Department as requested.

I have, &c.,

JOHN HY. MULHOLLAND,  
Managing Trustee, Brookdale Coal Company.

## No. 14.

## The Superintendent of Drills to The Under Secretary for Mines.

Sir,

Clarence Siding, 14 January, 1886.

I have the honor to inform you that I arrived here on the 11th instant for the purpose of personally supervising the recovery of the core-barrel and rods, which were stuck in No. A drill bore at this place.

The men have worked since Monday morning, the 11th instant, from daylight till dark, to recover the core-barrel, but so far we have not met with much success. No less than three steel rods were torn asunder through the great power of the hydraulic jacks, but yesterday and to-day we lifted the core-barrel about 5 feet from the bottom.

I cannot get the clamps to hold the great strain, although I have two on at the one time. I have instructed the storekeeper to forward another clamp belonging to No. 2 drill, and I have great hopes that the engineer-in-charge will be able to carry on the work of recovering the core-barrel without my personal supervision, and without any more extra tools or expense.

It seems to me that something has been dropped down the bore-hole which is stuck between the sides of the hole and the core-barrel.

I will leave here to-morrow and be at head office on Saturday morning.

I have, &amp;c.,

W. H. J. SLEE,

Superintendent of Drills.

## No. 15.

## The Superintendent of Drills to The Under Secretary for Mines.

Sir,

Sydney, 17 February, 1886.

I have the honor respectfully to direct attention to the fact that the Brookdale Coal-mining Company owe this Department to December 31st, 1885, the sum of £443 3s. 1d. The depth bored to the date given is 338 feet. The small depth bored arises from several accidents which occurred; the core-barrel being lost on two occasions. Everything is now in good working order, and I would suggest that the Company be informed that unless the amount be paid forthwith, the drill will be removed, and proceedings taken for the recovery of the amount due.

I have, &amp;c.,

W. H. J. SLEE,

Superintendent of Drills.

Approved.—H.W., 17/2/86. Account to 13 February, 1886, forwarded, and Company informed, 25 February, 1886.

## No. 16.

## The Under Secretary for Mines to J. H. Mulholland, Esq.

Sir,

Department of Mines, Sydney, 25 February, 1886.

I have the honor to forward herewith the account due to the Department by the Brookdale Coal-mining Company, amounting to £490 10s. 5d., for work done with Diamond Drill, at Clarence Siding, and I am to inform you that unless the amount be paid forthwith the drill will be removed, and proceedings taken for the recovery of the amount due.

I have, &amp;c.,

HARRIE WOOD,

Under Secretary.

## No. 17.

## J. H. Mulholland, Esq., to The Under Secretary for Mines.

Sir,

458, George-street, City, 2 March, 1886.

In reply to your letter marked D *re* the Brookdale Coal-mining Company, and dated February 25th (received to-day), I have the honor to intimate that I have convened a special board meeting of the present shareholders and trustees to make arrangements to pay whatever may be due to your Department for the work of boring at Dargan's Creek.

I remain, &amp;c.,

JOHN HY. MULHOLLAND.

As the Company has failed to pay the amount due the work may be stopped and proceedings taken to recover the amount owing.—H.W., 23/3/86. Submitted. I have seen the manager, Mr. Mulholland, who promised that account should be settled during next week.—W. H. J. SLEE, 27/3/86. Seen.—H.W., 27/3/86.

## No. 18.

## J. H. Mulholland, Esq., to The Superintendent of Drills.

*Re* The Brookdale Coal Company's Account at Clarence.

Sir,

458, George-street, 31 March, 1886.

Begging reference to our conversation this morning, I have consulted with my co-trustee, Mr. Garsed, and we have requested the directors to meet on Friday, for the purpose of signing a cheque to meet the greater part of the amount due. We shall then submit a statement asking for some reduction in cost on account of the matters explained to you, but the Department may rest assured that whatever is found to be due will be honorably paid by the Company. As some two of the directors reside at Newcastle and one at Lithgow, it is impossible to make any payment to-day, as I have no power to sign cheques unless passed at a board meeting duly convened.

I regret that there should be any delay, but it will only be for a few days, when I trust to have the matter definitely settled, which is now my pressing business.

I am, &c.,

JOHN HY. MULHOLLAND,

Trustee.

I leave to-morrow by 9 a.m. train for Sunny Corner, Mitchell. Should the Brookdale Company pay up in the meantime please let me be informed, and I will at once leave for Clarence Siding to set the engineer to work to bore through the coal. The Brookdale Company could also be informed at the same time.—W. H. J. SLEE, 31/3/86. The Under Secretary for Mines.

Seen.—I understand this work has been stopped till the money be paid.—H.W., 1/4/86.

No. 19.

Memo. from The Superintendent of Drills to The Under Secretary for Mines.

Mitchell, 2 April, 1886.

I AM likely to be here, at Mitchell, until the 6th or 7th instant, but will advise by telegram should I leave earlier.

If Brookdale Company (Clarence Siding) have settled their account, please send me a telegram to that effect, and I will stay at Clarence Siding to see Goodare bore through the coal.

W. H. J. SLEE.

See the Company at once, and inform that unless the money due be paid at once the drill will be removed.—H.W., 3/4/86.

Account made out for 3rd instant, £624 11s. 3d., and letter informing the Company as directed above. I also informed Mr. Mulholland verbally to the same effect. He stated he could not give a definite decision till Wednesday, and was powerless before the shareholders meet, but will communicate with the Department to-morrow (Tuesday), and intends waiting personally on the Under Secretary with reference to the matter.—J. M. (*pro* Superintendent), 5/4/86.

No. 20.

The Superintendent of Drills to The Under Secretary for Mines.

Sir,

Mitchell, 3 April, 1886.

I have the honor to inform you that I will complete my work here on Tuesday evening, 6th instant. Early on the following morning I will leave here for Clarence Siding, to inspect No. A drill, and hope to be at head office at 9 a.m. on Friday morning, the 9th instant.

No letters will reach me here which are posted in Sydney after Monday, the 5th instant, and no telegrams will reach me here after Tuesday, 6th instant.

Please inform me by telegram, on Tuesday afternoon, if Mr. Mulholland has arranged with you about the Clarence Siding bore.

I have, &c.,

W. H. J. SLEE,

Superintendent of Drills.

No. 21.

The Under Secretary for Mines to J. H. Mulholland, Esq.

Sir,

Department of Mines, Sydney, 5 April, 1886.

I have the honor to hand you the attached statement of this Department's claim upon you for boring at Clarence Siding with No. A diamond drill, and have to request that you will be good enough to forward the amount owing to this office at once, or the drill will be removed. See enclosure £624 11s. 3d.

I have, &c.,

HARRIE WOOD,

Under Secretary.

No. 22.

Minute of The Superintendent of Drills to The Under Secretary for Mines.

*Re* Payment of the Brookdale Company's account for boring at Clarence Siding.

6 April, 1886.

I CALLED at Mr. Mulholland's office again to-day, with the view of urging a settlement. Did not see Mr. Mulholland, but saw a gentleman who represented himself as one of the shareholders of the Company.

He informed me that the meeting of shareholders convened for last Friday, 2nd instant, did not take place, as some of them could not attend on that day; but it has been definitely arranged since that the meeting will be held on Saturday first, 10th instant, and promised that, without fail, the matter would then be satisfactorily settled.

I stated that as Mr. Mulholland's promise had failed to be carried out last week the matter demanded their immediate attention.

They are to communicate with the Department to-night, and give explanation.

J. S. M'NEIL,

(*Pro* Superintendent of Drills).

I handed a letter to the Under Secretary this morning *re* the above subject, giving the Company time up till Wednesday, the 14th instant. If no payment made by that time, the drill is to be taken away. This will be submitted to the Minister, and likely to be approved of.—W. H. J. SLEE, 9/4/86.

## No. 23.

## The Superintendent of Drills to The Under Secretary for Mines.

Sir, Diamond Drill Branch, Sydney, 9 April, 1886.

I have the honor to again draw your attention to the non-payment of the Brookdale Coal-mining Company for boring done for them by No. A drill at Clarence Siding. They are now indebted to this Department £624 11s. 3d. I have seen Mr. Mulholland (the Company's Secretary) on two different occasions. Mr. McNeil has also interviewed Mr. Mulholland, but without any practical results.

I beg to recommend that, unless the amount due be paid by the Brookdale Company on or before Wednesday, the 14th instant, No. A drill be taken from Clarence Siding, and placed in the store, Sydney.

I have, &c.,

W. H. J. SLEE,

Superintendent of Drills.

Submitted for approval; and the Crown Solicitor may be instructed to take proceedings to recover the amount due.—H.W., 9/4/86. Approved.—J.F., 12/4/86.

## No. 24.

## The Under Secretary for Mines to J. H. Mulholland, Esq.

Sir, Department of Mines, Sydney, 12 April, 1886.

I have again the honor to direct your attention to the amount which is owing by your Company to the Government for the use of No. A diamond drill at Clarence Siding, amounting on the 9th instant to the sum of £624 11s. 3d.

Application has been frequently made to you, as representing such Company, both personally by officers of this Department and by letter, without having any effect.

I have now the honor, by direction of the Secretary for Mines, to inform you that, unless the amount due is paid on or before Wednesday next, the 14th instant, the matter will be placed in the hands of the Crown Law Officers for recovery, and the machinery removed from the land.

I have, &c.,

HARRIE WOOD,

Under Secretary.

## No. 25.

## Minute of The Superintendent of Drills to The Under Secretary for Mines.

19 April, 1886.

No arrangements have been made by the Brookdale Coal Company up to date, although ample time has been allowed them. I beg to be instructed whether or not I should have No. A drill removed at once and put in store.

W. H. J. SLEE.

The Crown Solicitor may be instructed to take proceedings for the recovery of the amount due.—H.W., 19/4/86. Submitted. Approved.—J.F., 20/4/86.

Inform Messrs. Turnbull, Christy, Russell, and Mulholland that unless the money be paid on Friday next, the drill will be removed, and the Crown Solicitor will commence proceedings to recover the amount due.—H.W., 12/5/86.

## No. 26.

## Mr. W. Christy to The Secretary for Mines.

Dear Sir, 20 April, 1886.

Kindly extend time for two days for drawing the rods, &c., of Brookdale Mining Company, as I am waiting to see Mr. Turnbull, senior, and Mr. Russell, who are both shareholders, and who will settle the matter, and enable me, in the absence of Mr. J. H. Mulholland, who, through severe illness, is unable to give the matter his attention.

Your kind consideration of the above will much oblige the shareholders.

I have, &c.,

WALTER CHRISTY.

## No. 27.

## Minute of The Under Secretary for Mines.

29 April, 1886.

DRILL, Clarence Siding, to be allowed one week from to-day, if money not then paid drill to be removed, and proceedings taken to recover amount due.

H.W.

Seen.—W. H. J. SLEE, 3/5/86. The drill may now be removed, and proceedings taken to recover the amount due.—H.W., 6/5/86. Approved.—J.F., 12/5/86.

## No. 28.

## The Superintendent of Drills to The Under Secretary for Mines.

Re No. A Drill, Clarence Siding.

Sir, 11 May, 1886.

I do myself the honor to again draw your attention to the fact, that the Brookdale Coal-mining Company have not complied with the decision of the Honorable the Minister for Mines, as no money whatever has been received from said Company up to date for boring done for them by No. A drill at Clarence Siding.

This

This Company has been requested for months past to pay up.

They have received several concessions from the Honorable the Minister for Mines, the last being that they should pay at least half of the money due up to the 6th instant, or the drill would be withdrawn. This decision they have also ignored.

In the mean time the wages of the men and other expenditure is going on, and at the end of the year this enforced delay and idleness of No. A drill at Clarence Siding will be a blotch in returns of my management.

I beg respectfully to suggest that the Honorable the Minister's decision may now be carried out, and that I may be instructed to remove the drill.

Apologising for again drawn attention to this matter so soon after my letter of the 7th instant, to which I have not as yet received a reply.

I have, &c.,

W. H. J. SLEE,

Superintendent of Drills.

Submitted for approval.—H.W., 11/5/86. Approved.—J.F., 14/5/86. Seen.—W. H. J. SLEE, 14/5/86.

No. 29.

The Under Secretary for Mines to J. B. Turnbull, Esq., J.P.

Sir,

Department of Mines, Sydney, 12 May, 1886.

With reference to the payment of the amount due by the Brookdale Coal and Iron Mining Company to this Department for boring at Clarence Siding with No. A diamond drill, amounting to £624 11s. 3d., I have the honor to inform you that unless the amount be paid on or before Friday next, the 14th instant, the drill will be removed, and the Crown Solicitor will commence proceedings to recover the amount due.

I have, &c.,

HARRIE WOOD,

Under Secretary.

[A similar communication to the above was forwarded to W. Turnbull, Esq., W. Christy, Esq., James Russell, Esq., and J. H. Mulholland, Esq., on the same date.]

No. 30.

Telegram from J. Russell, Esq., to J. H. Mulholland, Esq.

Newcastle, 13 May, 1886.

It is impossible for Mr. Turnbull and I to leave before the 21st. Let the Minister for Mines see this.

JAS. RUSSELL.

How long has the drill been idle? How much has the delay cost the Department?—H.W., 14/5/86. From 9 April, 1886.—W. H. J. SLEE, 14/5/86.

The work has already been delayed five weeks to please these gentlemen, and they complain of the cost. There can be no reason why they should not have paid the amount due long since.—H.W., 14/5/86. Submitted.

Approved.—J.F., 14/5/86.  
Seen.—W. H. J. SLEE, 15/5/86.

Telegram to Mr. Jas. Russell, and letter to Mr. W. Christy, 14/5/86.  
Have instructed the drill to be removed.—W. H. J. SLEE, 15/5/86.

No. 31.

Telegram from The Under Secretary for Mines to J. Russell, Esq.

Sydney, 14 May, 1886.

The money for use of drill should have been paid long since, the drill will now be removed, and Crown Solicitor proceed for recovery of amount due.

HARRIE WOOD,

Under Secretary.

No. 32.

The Under Secretary for Mines to W. Christy, Esq.

Sir,

Department of Mines, Sydney, 14 May, 1886.

As your Company have not complied with the conditions notified to you by letter on the 12th instant, relative to the payment of the amount due to this Department by them for boring at Clarence Siding with No. A diamond drill, I have the honor to inform you that the machinery will be at once removed, and the Crown Solicitor instructed to proceed to recover the amount due.

I have, &c.,

HARRIE WOOD,

Under Secretary.

No. 33.

Memo. by The Superintendent of Drills.

15 May, 1886.

INFORM Engineer Goodare that he is to draw the tubes and dismantle No. A drill ready for removal to Sydney. If he requires another man in place of Rodgers he can wire and another man will be forwarded in Rodgers' place. Also to make inquiries as to the price of carriage to bring the drill from present site to Clarence Siding (Station). and let me know as soon as possible.

W. H. J. SLEE.

10

No. 34.

The Superintendent of Drills to Mr. Engineer Goodare.

Department of Mines, Diamond Drill Branch,

Sydney, 15 May, 1886.

Sir, I have to request that you will draw the tubes and dismantle No. A drill ready for removal to Sydney. Should you require another man in place of Rodgers telegraph to that effect and one will be sent to you.

I have also to request that you will make inquiries as to the price of carriage of drill from present site to Clarence Siding, and let me know as soon as possible.

I am, &c.,  
W. H. J. SLEE,  
Superintendent of Drills.

No. 35.

Telegram from Mr. Engineer Goodare to The Superintendent of Drills.

Mount Victoria, 17 May, 1886.

Yours to hand; please forward me a man; will send price of carriage to-night's mail; important.

ALF. GOODARE.

Please inform me what further extension of time has been given by the Honorable the Minister for Mines for the Brookdale Coal-mining Company to pay up at least half of the amount due. On verbal instructions given me this morning, I have countermanded the removal of the drill from Clarence Siding.—W. H. J. SLEE, 17/5/86.

The removal of drill has been countermanded by the Minister.—W. H. J. SLEE, 17/5/86. The Superintendent of Drills has instructed the engineer not to remove the drill till further instructed. H.W., U.S., 17/5/86. Secn.—J.F., 18/5/86. Seen.—W. H. J. SLEE, 18/5/86. The Brookdale Coal-mining Company have not kept their promise with the Honorable the Minister for Mines; no money has been paid.—W. H. J. SLEE, 26/5/86.

No. 36.

Telegram from The Superintendent of Drills to Mr. Engineer Goodare.

17 May, 1886.

Do not draw tubing or remove drill till you receive further instructions.

W. H. J. SLEE,  
Superintendent of Drills.

No. 37.

The Superintendent of Drills to Mr. Engineer Goodare.

Department of Mines, Diamond Drill Branch,

Sydney, 17 May, 1886.

Sir,

I am in receipt of your telegram of to-day's date.

I had telegraphed a little earlier in the day, which you probably did not receive until after yours was dispatched.

The contents thereof were to the effect, that you were not to draw tubing or remove drill, but to wait further instructions, which will be sent you when definitely determined upon.

W. H. J. SLEE,  
Superintendent of Drills.

No. 38.

J. H. Mulholland, Esq., to The Under Secretary for Mines.

The Brookdale Coal, Shale, and Iron Company.

Office, 458, George-street, Sydney, 26 May, 1886.

Sir,

I have the honor to intimate that the trustees of the abovenamed Company have this day paid into the Department the sum of £300 (per their cheque), on account of the work performed by the Department, in boring with the diamond drill at Dargan's Creek, near Clarence Siding (as per agreement). I have now to request that you will permit the work of boring to be resumed without delay, in order to reach the lower seam of coal; and with a desire to expedite the work of boring, I have to suggest that the size of the bore be reduced to 2 inches, if possible (with the present appliances). Regretting that such delay occurred in making this payment.

I have, &c.,  
JOHN HY. MULHOLLAND.

The Superintendent of Drills.—H.W., U.S., 26/6/86. Amount to Treasury; receipt acknowledged, 27/5/86.

If the Honorable the Minister for Mines decides that boring operations on Clarence Siding shall be resumed, then there can be no objections that the bore may be reduced in size from 2½ to 2 inches.—W. H. J. SLEE, 26/5/86.

Submitted—the half of sum due would be £345 7s. 1d. Cheque now received for £300.—H.W., U.S., 26/5/86. Work may be again resumed at once, and the bore reduced as asked for.—J.F., 27/5/86. Mr. Mulholland informed, 27/5/86. Seen.—W. H. J. SLEE, 9/6/86.

No. 39.

## No. 39.

## Memo. by The Superintendent of Drills.

26 May, 1886.

In case the Minister should decide that boring operations at Clarence Siding should be resumed, Engineer Goodare may be informed that, after he bores through the present seam of coal, he should reduce his bore from  $2\frac{1}{2}$  to 2 inches, and 2-inch rods should be forwarded to him to complete the bore, which is likely to be about 800 feet.

Goodare may be asked if he can make use of the  $2\frac{1}{2}$ -inch rods in top part of bore.

W. H. J. SLEE.

## No. 40.

## The Superintendent of Drills to Mr. Engineer Goodare.

Department of Mines, Diamond Drill Branch,

Sydney, 27 May, 1886.

Sir,

I am directed to inform you that you are to resume boring operations again at Clarence Siding on account of the Brookdale Company.

After you have bored through the present seam of coal you are requested to reduce the bore from  $2\frac{1}{2}$  inches to 2 inches, and about 800 feet or so of 2-inch rods will be forwarded to you, along with a coupling, in order that you may be enabled to use the rods you have, viz.,  $2\frac{1}{2}$ -inch, for the upper part of the bore.

Be careful to obtain a good core.

I have, &amp;c.,

J. S. McNEIL,

(Pro Superintendent of Drills).

## No. 41.

## The Under Secretary for Mines to J. H. Mulholland, Esq.

Department of Mines, Sydney, 27 May, 1886.

Sir,

I have the honor to acknowledge the receipt of cheque for £300 in part payment of the amount due by your Company for the use of No. A diamond drill at Clarence Siding.

I am further to inform you, by direction of the Secretary for Mines, that work will be at once resumed, and the bore reduced as requested by you.

I have, &amp;c.,

HARRIE WOOD,

Under Secretary.

## No. 42.

## J. H. Mulholland, Esq., to The Under Secretary for Mines.

The Brookdale Coal Company, Waterloo Chambers,

458, George-street, Sydney, 20 July, 1886.

Sir,

I have to acknowledge the receipt of the Department's claim against the above Company to the amount of £428 17s. 4d., as per an account furnished.

It seems to me that there is considerable overcharge in the account, but as the directors are to meet on the 24th instant, the matter will be brought before them, when doubtless some steps will be taken to have the account adjusted.

I would like to call your attention to the fact that up to the present date we have not received any report as to the work performed by the drill or what results have been obtained, and whether more than one seam of coal had been met with and at what depth. I have personally inquired of Mr. Goodare, who is on the ground in charge of the drill, but was informed that his instructions were such as precluded him from giving any information. I have therefore to request that you will furnish me with such official information as may enable the Company to estimate the value of the coal measure or measures passed through by the drill, and the various depths at which same were reached. To ascertain this was the principal object the Company had in view in obtaining the services of the drill, but up to the present date all information has been withheld, much to our detriment.

If you could furnish the information asked for on or before Saturday next, you would confer a favour upon the Company.

I am, &amp;c.,

JOHN HY. MULHOLLAND,

Managing Director.

By Ministerial authority any person or Company for whom boring operations are carried on by Government, diamond drills are entitled to one section of their bore, free of cost, provided they have paid the full amount due which this Company has not done. Engineers of diamond drills have instructions from me not to give any information about their boring operations only to the person or authorised person of the Company for which we bore. The Company should have had a person to watch boring operations at least once a fortnight, but they have throughout been very careless in the matter. They now try to blame this Department for their own folly and neglect.—W. H. J. SLEE, 22/7/86.

Information concerning the strata passed through may be supplied, but the Company should be compelled to pay up at once the amount due.—H.W., 22/7/86. Submitted. Approved.—J.F., 23/7/86. Particulars of strata herewith, as directed.—J.M., 24/7/86. Statement of strata passed through forwarded July 27, 1886. Seen.—W. H. J. SLEE, 29/7/86. Called on the 27th re account, and found the office shut.—D.M.C., 29/7/86. Called again to-day and found office shut.—J.M., 29/7/86. Called on Mr. Mulholland to-day and informed him that unless payment was made soon the Department would employ other means.—J.M., 30/7/86. I am afraid that it is very little good to call on Mr. Mulholland, and very little, if any, money will be obtained from the Company unless action is taken.—W. H. J. SLEE, 4/8/86.

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No. 43.

The Under Secretary for Mines to J. H. Mulholland, Esq.

Sir, Department of Mines, Sydney, 27 July, 1886.  
 Referring to that portion of your letter of the 20th instant, in which you ask, on behalf of your Company, for particulars of the work done by No. A diamond drill at Clarence Siding, I have the honor to forward herewith a statement of the strata passed through to the 17th instant.

I have, &c.,  
 HARRIE WOOD,  
 Under Secretary.

No. 44.

Mr. Engineer Goodare to The Superintendent of Drills.

Sir, No. A Diamond Drill, Clarence Siding,  
 8 September, 1886.  
 Please forward me return another boiler. I have to press the one I have here to 90 lb. before I can start boring, and will not retain that pressure for more than half an hour, when I have to stop machine, and run her up again. I have worked her as long as I possibly can to be safe. 90 lb. pressure is too much for this boiler.

The small boiler that was at Dempsey Island will suit. Please send with her stop-valves, fittings, and mountings complete. Let me have it at once, or I shall have to stop boring. It would be advisable for you to come and inspect boiler and machinery in motion, it being in a critical condition.

I have, &c.,  
 ALF. GOODARE.

As it is the intention of the Superintendent to visit this work within the next few days, this matter had better wait his instructions.—J.M., 9/9/86. Submitted. The Under Secretary. Yes; inform.—H.W., 9/9/86. Informed, 9/9/86. Mr. Storeman Leigh will please forward the small boiler and fittings used with No. 7 drill at Dempsey Island at once to No. A drill, Clarence Siding.—W. H. J. SLEE, 14/9/86. Employed Peterson to assist in getting this boiler away. No. 4 boiler has to be shifted as well as another before the one wanted can be moved.—J.S.L., 15/9/86. Seen.—W. H. J. SLEE, 18/9/86.

No. 45.

The Superintendent of Drills to Mr. Engineer Goodare.

Sir, Department of Mines, Diamond Drill Branch,  
 Sydney, 9 September, 1886.  
 In answer to your letter of the 8th instant, I have to inform you that the Superintendent, Mr. Slee, is presently in the country districts, and intends visiting your work on his way back to town.

I am, &c.,  
 J. S. M'NEILL,  
 (Pro Superintendent of Drills).

No 46.

The Superintendent of Drills to The Under Secretary for Mines.

Sir, Clarence Siding, 14 September, 1886.  
 I have the honor to inform you of my arrival here for the purpose of inspecting No. A drill, and everything in connection therewith. The depth of bore is now 840 feet, and probably another 60 feet will have to be bored before coal is pierced. I find that the boiler, which is only 6-h.p., is not powerful enough to supply sufficient steam to bore below the present depth.

The boiler has to be worked up to from 95 to 100 lb. steam, whereas with safety it should not be worked with higher pressure than 75 lb. To prevent an accident to the machinery, or perhaps a calamity, I have instructed Storeman Leigh to forward at once the small 3-h.p. vertical boiler formerly in use at Dempsey Island with No. 7 drill.

I hope the above will meet approval, as it is of very urgent necessity. While waiting for the boiler I have instructed the engineer to do certain necessary repairs.

Will be at head office, Thursday, 16th instant.

I have, &c.,  
 W. H. J. SLEE,  
 Superintendent of Drills.

The action of the Superintendent may be approved.—H.W., 15/9/86. Approved.—J.F., 16/9/86. Seen.—W. H. J. SLEE, 18/9/86.

No. 47.

The Superintendent of Drills to The Under Secretary for Mines.

Department of Mines, Diamond Drill Branch,  
 Sydney, 16 September, 1886.  
 HAVING only yesterday inspected No. A drill at Clarence Siding, which is now down 840 feet, and being of opinion that coal is likely to be pierced within the next 50 or 60 feet, I beg to recommend that the Brookdale Coal-mining Company be informed that unless they pay the money due for boring on their land

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land, near Clarence Siding, with No. A drill, within eight days from date, boring operations will be stopped as soon as coal is struck, but without boring through the coal; the drill will be taken away to save expenditure, and proceedings may be commenced to recover all moneys due.

W. H. J. SLEE.

Submitted for approval.—H.W., 17/9/86. The Company may be informed that no more work will be done until the money is paid.—J.F., 18/9/86. Seen.—W. H. J. SLEE, 20/9/86. Informed, 25/9/86.

No. 48.

J. H. Mulholland, Esq., to The Under Secretary for Mines.

Sir,

458, George-street, Sydney, 21 September, 1886.

Your account against the Brookdale Coal Company, No. 513, amounting to £557 15s. 9d., will be brought before a meeting of the proprietors during next week, when I have no doubt that prompt steps will be taken to reduce the amount considerably.

May I ask for a further report as to the progress of the drill, and results to date of last report from Clarence Siding.

I have, &amp;c.,

JOHN HY. MULHOLLAND,

Secretary.

The writer has made similar promises before and has not kept them; he should be warned that unless the money be paid forthwith proceedings will be taken.—H.W., 24/9/86. Mr. Mulholland informed, 28/9/86.

No. 49.

The Under Secretary for Mines to J. H. Mulholland, Esq.

Sir,

Department of Mines, Sydney, 25 September, 1886.

I have the honor, by direction of the Secretary for Mines, to inform you that until the account due to this Department (enclosed herewith) is paid, the diamond drill now at work for the Brookdale Coal Company, at Clarence Siding, will be stopped in its working.

I have, &amp;c.,

HARRIE WOOD,

Under Secretary.

No. 50.

The Under Secretary for Mines to J. H. Mulholland, Esq.

Sir,

Department of Mines, Sydney, 28 September, 1886.

Referring to your letter of the 21st instant, in respect to the account due to the Department for work done with the diamond drill, for the Brookdale Coal Company, and in which you state that prompt steps will be taken to reduce the amount, I have the honor to invite your attention to the fact that similar promises have been made before, which have not been kept, and I am to inform you that if the money due to the Department is not paid, proceedings will be taken.

I have, &amp;c.,

HARRIE WOOD,

Under Secretary.

No. 51.

Memo. by The Superintendent of Drills to The Under Secretary for Mines.

INFORM Under Secretary that diamond drill at Clarence Siding has hardly sufficient power to bore to the depth of a thousand feet. To bore deeper with said drill would be dangerous.

W. H. J. SLEE.

Submitted, 12/11/86. The Under Secretary. I do not think another drill should be sent until the persons for whom the bore is being sunk pay what is due.—H.W., 12/11/86. Submitted. Approved.—J.F., 13/11/86. Account herewith to 6 November, 1886, £749 0s. 2d. Mr. Mulholland informed, 16/11/86. Seen.—W. H. J. SLEE, 31/12/86.

No. 52.

Mr. Engineer Goodare to The Superintendent of Drills.

Sir,

No. A Diamond Drill, Clarence Siding, 15 November, 1886.

You will find by my report that for week ending, 31/11/86, that I am 1,005 feet from the surface.

I shall not be able to bore more than another 20 feet with the steam-power I have. At present I am working boiler at 85 lb. which is not a very safe pressure to carry.

With a little repairs I could bore 250 feet more with this machine, providing I have the large boiler that is in the store, and the steam-winch that is at Holt-Sutherland for hauling.

ALF. GOODARE.

Submitted.—J.M., 16/11/86. The Under Secretary. Inform that it is not proposed to send any additional machinery till the Company has paid for the boring done, and he may proceed as far as he can with safety.—H.W., 16/11/86.

No. 53.

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No. 53.

The Superintendent of Drills to Mr. Engineer Goodare.

Department of Mines, Diamond Drill Branch,  
Sydney, 16 November, 1886.

Sir,

In reply to your letter of the 15th instant, and *re* forwarding another boiler to the drill under your charge, I have to inform you that owing to the non-payment of the boring account by the Company no more machinery will be sent you until such is paid, and you must proceed as far as you safely can with the present appliances at your disposal.

J. S. McNEIL,  
(*Pro* Superintendent of Drills).

No. 54.

The Under Secretary for Mines to J. H. Mulholland, Esq.

Department of Mines, Sydney, 19 November, 1886.

Sir,

I have the honor, by direction of the Secretary for Mines, to inform you that it has been reported that the diamond drill at Clarence Siding has hardly sufficient power to bore the depth required, and that to continue operations with the drill would be dangerous, but I am to state that another drill can be sent to complete the boring on payment by your Company of the amount due to the Department, which is herewith enclosed (£749 Os. 2d.).

I have, &c.,  
HARRIE WOOD,  
Under Secretary.

No. 55.

Mr. Engineer Goodare to The Superintendent of Drills.

No. A Diamond Drill, Clarence Siding, 19 November, 1886.

Sir,

I have worked these boilers and steam-winch as long as it is safe, having reached a depth of 1,020 feet from surface.

There are good indications of coal. On Wednesday last I bored through a 2-inch band of very bright coal.

Should this work be continued, I should recommend No. 7 drill being sent here, with the large boiler and steam-winch requisitioned for.

I have got the levels between Lithgow and Clarence Siding, also dip of the coal. From my calculations I find that I shall have to go 1,350 feet before I touch coal, and which is too much for No. A plant.

It is my opinion that the Brookdale Company did not calculate upon the dip.

While I am waiting your instructions it would be advisable to disconnect the present machinery under my charge, then it would be all ready and packed, in case of removal, and be out of the way should any other be sent in its place.

Should you require to have this done, will you please issue the necessary instructions.

You need not send the stores requisitioned for unless more machinery is to be sent here.

I stopped boring last night (Thursday).

I have, &c.,  
ALF. GOODARE,  
Engineer.

By direction of the Under Secretary and Minister's approval, no other machinery is to be sent till the Company have paid the amount due for boring.—J.M., 20/11/86. Submitted. The Under Secretary. Inform Company boring stopped, and request prompt reply.—H.W., 22/11/86. Informed, 24/11/86. Let a stronger drill be sent at once.—J.F., 29/11/86. No. 7 drill and No. 12 boiler forwarded, and Engineer Goodare instructed accordingly.—J.M., 30/11/86.

No. 56.

The Under Secretary for Mines to J. H. Mulholland, Esq.

Department of Mines, Sydney, 24 November, 1886.

Sir,

I have the honor to inform you that boring at Clarence Siding has been stopped, and I am to request an immediate reply to my letter of the 19th instant, in which the terms upon which another drill would be supplied to the Company were definitely stated.

I have, &c.,  
HARRIE WOOD,  
Under Secretary.

No. 57.

J. H. Mulholland, Esq., to The Under Secretary for Mines.

Waterloo Chambers, 458, George-street,  
Sydney, 24 November, 1886.

Sir,

In reply to your favour of the same date herewith, I beg to intimate that a full meeting of proprietors of the above Company has been convened, and will be held on Saturday next, when some decision must be come to. As several of the shareholders reside at Newcastle and Lithgow, I cannot arrange a meeting earlier. I will advise you promptly *re* the future working of the drill as requested.

Yours, &c.,  
JOHN HY. MULHOLLAND,  
Secretary.

Inform

Inform that the Company will be charged for the time lost by reason of such delay.—H.W., 27/11/86. Informed, 29/11/86.

By direction of the Honorable the Minister for Mines, another drill is being sent to continue the bore. The Company is to arrange with the Minister *re* payment to the Department of the amount due for boring at Clarence Siding, as per account rendered, viz., £749 0s. 2d.—J.M., 29/11/86. Submitted. The Under Secretary.

There is a very large sum, £749 0s. 2d., due by this Company. Only one payment has been made, and that under extreme pressure. The bore has nearly reached coal, and unless payment be enforced before coal is found, I fear there will be difficulty in getting it.—H.W., 1/12/86.

I concur that some settlement should be made, and that speedily; but I am satisfied that the cost of putting down the bore has been very much greater than it should have been. The strata is anything but unfavourable for boring operations, and had there been anything like intelligence and industry practiced among the men the bore should have been done at little more than half what it is now said to have cost. Altogether, according to Mr. McNeil's statement to me, the work has been eighteen months in hand, and it must be apparent to any one with the most superficial knowledge of boring that it should not have taken that length of time to put down 1,000 feet if anything like attention had been paid to the work by the men in charge of it. Perhaps the better plan would be to call upon the Company to pay, and unless they pay the claim without delay, steps should be taken to enforce payment. If, however, the charges are proved to be excessive and unreasonable, then some compromise must be arrived at.—J.F., 2/12/86.

Let payment be demanded at once, and inform if not paid. Proceedings will be taken.—H.W., 3/12/86.

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No. 58.

The Superintendent of Drills to Mr. Engineer Goodare.

Department of Mines, Diamond Drill Branch,  
Sydney, 29 November, 1886.

Sir,

You are hereby instructed to disconnect the present machine and prepare to erect No. 7 drill, which, along with the boiler, will be sent you to-morrow.

Send word if it will be necessary to forward you the steam-winch, seeing you have got this strong drill. Do not arrange about the forwarding of any machinery to Sydney until you are further instructed, but arrange with Richards at as low a rate as possible for the conveying of No. 7 drill and boiler to site.

I am, &c.,

J. S. McNEILL,  
(*Pro* Superintendent of Drills).

P.S.—Wire Richards' price to take drill and boiler to site, and you will thereupon receive definite reply from office.—J.M., 29/11/87.

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No. 59.

The Under Secretary for Mines to J. H. Mulholland, Esq.

Sir,

Department of Mines, Sydney, 29 November, 1886.

Referring to your letter of the 24th instant, to the effect that a full meeting of your Company is convened, when some decision will be arrived at in the matter of continuing the work with diamond drill at Clarence Siding, of which the Department will be duly advised, I have the honor to inform you that your Company will be charged for time lost by reason of such delays.

I have, &c.,

HARRIE WOOD,  
Under Secretary.

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No. 60.

Mr. Engineer Goodare to The Superintendent of Drills.

Sir,

No. A Diamond Drill, Clarence Siding, 30 November, 1886.

I shall require the large steam-winch, it is much quicker, and will save about fourteen hours per week in lifting and lowering rods, and will also be a saving in wear and tear of No. 7 machine.

I also require a large Tange pump for hydraulics,—should you not have one in stock, one from No. 8 would be suitable. A small pump would be of no use.

The pump I have I want it for the bore.

When I receive No. 7 machine I will send a requisition for stores I require. I cancel the requisition of a fortnight ago.

Shall I accept Richards' offer of £5 to convey the machinery, boiler, &c., from station to the site?

I am, &c.,

ALF. GOODARE.

The stores formerly asked for were forwarded along with the drill and boiler yesterday. It is considered that the drill and boiler sent yesterday should be capable of boring to depth of about 1,500 feet without steam-winch, and the storekeeper informs me that there is already on the site one of the best pumps we have. Will the winch and another pump be sent as asked for? The weight of machinery, boiler, stores, and connections just sent is about 3½ tons; will Richards' offer of £5, to convey same to site, be accepted?—J.M., 1/12/86.

Submitted. The Under Secretary.

The foreman may be asked why he cannot make the pump on the ground serve the purpose, and why he should require the steam-winch. Richards' offer for carriage, £5, should be accepted.—H.W., 1/12/86.

Submitted. Approved.—J.F., 2/12/86. Engineer Goodare instructed, 3/12/86.

## Mr. J. B. Turnbull to The Secretary for Mines.

Dear Sir,

Lithgow, 2 December, 1886.

I am sorry to draw your attention to the most unjust way which the Mining Department, now under your charge, are billing my Company, viz., (Brookdale Coal-mining Company).

On or about the 1st May, 1885, your Department consented to put down a bore at Dargan's Creek, near Clarence Siding, on the Great Western Railway, to a depth of about 1,200 feet, to intersect, if possible, the seam known in that locality as the Vale of Clwydd Company's main seam, and I am given to understand that such arrangements were made between Mr. Mulholland, one of our shareholders at that time, and Mr. Henderson, then the Government Superintendent of Drills.

Well, sir, my Company think, that as this drill has now been more than eighteen months on the property, and having only obtained a depth of 1,020 feet, they are of an opinion that a greater depth and a better core ought to have been obtained, had better management and good machinery been put on their estate at the commencement.

I may further inform you that the stratified rocks passed through up to the present depth are not at all of such a nature as would throw any light on the subject to prevent your Department from not seeing their way very clear to allow my Company a large reduction on the present amount charged by them. It is no use my dwelling on the point *re* the first plant sent to our estate by your Department, and which has been removed during the past week to allow more suitable machinery being erected.

I am quite sure that when the new plant has commenced work, your present engineer-in-charge will give you every reason to believe that had this plant been put on our estate in the first instance, and under Mr. Goodare's charge, the depth, viz., 1,200 feet, would have been reached within eight months from the commencement.

Now, sir, seeing that other bores under your Department have been put down to a greater depth than 1,200 feet, and in a much less time than eight months, my Company are of an opinion that their demands are a most true and just one.

In conclusion, sir, I beg to inform you that the charges made by your Department from the commencement and up to the present date, are £1,049 0s. 2d. for a period of eighteen months boring, but had this bore been conducted under good management, and better machinery sent on our estate at the commencement, it would not have cost us more than £466 4s. 6d.

I may further inform you that we paid your Department the sum of £300 on account some time ago, but are still indebted to them up to date in the sum of £749 0s. 2d.

I trust you will take our claim into your account, and give us a favourable reply thereto.

J. P. TURNBULL,  
Resident Director.

As regards the time occupied in performing this work, I regret to say the speed has not been such as could be desired, but so far as I can see, that fault is mainly due to the man placed in charge by the late Superintendent, who lost the core-barrel in the bore, and to the failure of the Company to make payment at the proper times. As regards the cost, I find that the delay in recovering the core-barrel cost £258 5s. 2d., and the cost of delay through failure on the part of the Company to pay for boring cost £65 11s. 8d., equal together to £323 16s. 10d., leaving £772 3s. 2d. as the cost of boring 1,020 feet, equal to 15s. 1d. per foot, which, considering the conglomerate bored through, is a reasonably low price. So far as I know the loss of the core-barrel was purely accidental, and a contingency which may occur in any bore, but there can, I think, be no excuse for the want of punctuality in paying for the work done.—H.W., 15/12/86.

Submitted.

The time occupied in boring 1,020 feet appears to disclose a state of indolence or ignorance on the part of those in charge of the drill, which is lamentable. The measures in the Clarence Siding district are well known, and it must be admitted by those who have any knowledge of the rocks to be passed through, and their sequence, that they are not difficult to bore into. I venture to think that, with ordinary diligence, the bore should have been put down in six months. The price (21s. 5½d.) per foot is very excessive. Had the Department done the work at per foot, I am convinced that the bore would have cost considerably less than it has. It appears that the drill sent was not fit for that work. It, therefore, becomes a question, whether the Department, having supplied an unsuitable drill, the owners should be held responsible and made to pay for it. But, admitting the drill to be suitable, if the delay arose either from carelessness or ignorance on the part of those in charge of the drill, should the parties for whom the bore was being put down be held responsible. The fairest way, both to the Department and to the Company, would be to have the work valued by two competent persons, one to be appointed by the Company, and one to be appointed by the Department. Failing to agree, they might choose a third to act as umpire, and whatever sum per foot was fixed upon, the Company should be compelled to pay; of course the Company is responsible for any stoppage of work that occurred through their failing to pay their account, but it must be evident that 15s. 1d. per foot named in the Under Secretary's minute, is very excessive. The best proof to me that the drill first sent was unsuitable, is in the fact that another drill has had to be sent.—J.F., 21/12/86.

The Superintendent of Drills.—H.W., 21/12/86.

Through my absence from Sydney in the Silverton district, I have not seen Mr. Turnbull's letter before to-day; but in his letter he states that Engineer Goodare is very competent, and Goodare was put on by me in charge of Clarence Siding drill, in November, 1885; therefore, by Mr. Turnbull's own writing, the work has not been delayed through ignorance of those in charge. The fact is, the bore has been an exceptionally difficult one, as it required 3-inch tubing for 340 feet, and 575 feet of 2½-inch. There were no less than four difficult drifts and conglomerate to go through, of this Mr. Turnbull is well aware. Please note my letter herewith.—W. H. J. SLÉE, 21/12/86.

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No. 62.

Memo. from The Superintendent of Drills to Mr. Engineer Goodare.

Department of Mines, Diamond Drill Branch,  
Sydney, 3 December, 1886.

REFERRING to your letter of the 30th ultimo, requesting that another pump and a steam-winch be sent you, I have the directions of the Under Secretary for Mines to request you to explain why the pump you have on the ground will not serve the purpose, and the necessity you have for a steam-winch.

J. S. M'NEIL,  
(Pro Superintendent of Drills).

Telegram from The Superintendent of Drills to Mr. Engineer Goodare.

3 December, 1886.

ACCEPT Richards' offer of £5 to remove machinery to site, also offer of 30s. to provide second team.

J. S. M'NEIL,  
(Pro Superintendent of Drills).

Memo. from The Superintendent of Drills to Mr. Engineer Goodare.

Department of Mines, Diamond Drill Branch,  
Sydney, 3 December, 1886.

You have been wired to to-day to accept Richards' offer of £5 to remove No. 7 drill and boiler to present site of operations; also his offer of 30s. to provide second team of bullocks to assist with boiler.

J. S. M'NEIL,  
(Pro Superintendent of Drills).

Memo. from The Superintendent of Drills to Mr. Engineer Goodare.

Drill Branch, Sydney, 7 December, 1887.

ENGINEER Goodare is informed that a pump will be sent him as soon as possible, and the steam-winch (which is now at No. 11 drill, Sutherland) the moment it is available.

J. S. M'NEIL,  
(Pro Superintendent of Drills).

No. 63.

The Under Secretary for Mines to J. H. Mulholland, Esq.

Sir,

Department of Mines, Sydney, 4 December, 1886.

I have the honor, by direction of the Secretary for Mines, to inform you that if the account due to the Department for work done with the diamond drill at Clarence Siding, amounting to £749 0s. 2d., be not paid at once, proceedings will be taken against your Company for the amount due.

I have, &c.,  
GERARD E. HERRING,  
(For the Under Secretary).

No. 64.

Mr. Engineer Goodare to The Superintendent of Drills.

No. A Diamond Drill, Clarence Siding,  
4 December, 1886.

Sir,

In answer to yours of the 3rd instant, re pump and steam-winch, I beg to state that I require another pump to feed hydraulics.

The pump I have is a 3 x 4, and is too small to feed hydraulics and wash the silt out of bore.

My reason for having a steam-winch is that I have to lift the rods very often 18 inches, caused by core-splitting and jamming in the core-barrel, which takes up a great deal of time if lifted by machine, besides knocking it to pieces in a very short time.

A steam-winch is as quick again, and will be a great saving in the end. Hoping you will let me have them as soon as possible.

I am, &c.,  
ALF. GOODARE.

Submitted.—J.M., 6/12/86. The Under Secretary. Forward pump and inform that winch will be sent when available, though it is thought he ought to be able to manage without one.—H.W., 7/12/86. Informed, 7/12/86. Winch need not be sent until after I have been able to inspect Clarence Siding boring operations.—W. H. J. SLEE, 31/12/86. No. 5 Blake's pump brought from Redhead, and forwarded to Clarence Siding with piping, 13/12/86.

No. 65.

The Superintendent of Drills to The Under Secretary for Mines.

Department of Mines, Diamond Drill Branch, Sydney,  
4 December, 1886.

Re boring at Clarence Siding for the Brookdale Coal, Shale, and Iron Company, with No. A drill:—

Total depth bored, 1,020 feet.  
Cost to Company to date about £1,000.  
Cost per foot, 21s. 6½d.

442—C

Sir,

Sir,

The following facts are most respectfully pointed out, viz. :—

That the work was visited on various occasions by the Superintendent.

There is nothing that can be found on record showing that 1,200 feet was the depth which was anticipated that might have to be bored. When application was made by the Company, they stated that it was estimated the first seam would be about 230 feet, and the lower one about 700 feet from surface. They were subsequently asked to mention depth again, which question they do not appear to have answered.

Before No. A drill was forwarded, to begin the work, it was thoroughly overhauled at Messrs. Mort & Co's. works, which repairs cost about £50, and everything was added to the plant, in order to make the drill complete and to ensure its capability to perform the work for which it was intended.

When the Superintendent visited the work in September last, the depth then obtained was 840 feet, and as the lower seam had not been met a second boiler was forwarded to enable the drill to bore to a greater depth. At that time it was thought that the lower seam would be reached at about a depth of 900 feet.

Considerable delay to the boring has taken place, owing to non-payment of accounts due and promises made by the Company, but without the result promised, except in one instance, when the drill was kept idle for about two months, and, after considerable correspondence, the sum of £300 was paid on 26th May of present year. The Company at this time promised to pay the sum of £345.

Other delays took place which at times cannot be obviated, but the Superintendent adopted what he considered the best and most expeditious means to overcome such, and during which the Superintendent employed the men at the drill by performing other work of importance, i.e., finding and cutting fuel or performing repairs to the machinery, &c., in order that when boring was resumed the operations should not be retarded, thereby saving the Company considerable cost for fuel, and, by doing such repairs, prevented stoppages which might otherwise have taken place.

I have, &c.,

J. S. M'NEIL,

(Pro Superintendent of Drills).

Mr. Slec took charge about latter part of September, 1885.

Discharged Engineer Durning and appointed Engineer Goodare about middle of November, 1885.

Report of inspections by Superintendent, dated 14 January, 1886, and 14 September, 1886.

Re payment of accounts see dates—17 February, 1886; 11 May, 1886; 15 May, 1886; 17 May, 1886 (telegram); 11 November, 1886; and 19 November, 1886.

Strata from week ending on 13 February, 1886, to 3 April, 1886—102 feet of conglomerate (some of it mixed with sandstone) was bored through. The other strata consisted of sandstone, chirtz, chocolate clay, shale, and such like.

Concession whereby the Company speak of such before the boring was started :—

	ft.	in.
Depth bored prior to Mr. Slec taking charge...	283	6
Depth bored since taking charge ... ..	736	6
	1,020	0

Extracting rods and core-band, reaming, and recovering diamonds—

	£	s.	d.
Wages, 15 June to 31 December, 1885 ... ..	227	12	8
Wages, 1 January to 4 February, 1886 ... ..	41	10	0
	£269	2	8

Less boring 9 days—

Week ending 3 October, 1 day; 31 October, 4 days; 7 November, 4 days ... ..	10	17	6
	£258	5	2

Loss of time through non-payment of accounts—

	£	s.	d.
Wages, 9 April, 1886, to 27 May, 1886 ... ..	52	16	8
Wages, November 19 to 29... ..	12	15	0
	£65	11	8

According to time estimated by Mr. Turnbull—34½ weeks=8 months.

	Estimated.	£	s.	d.
8 months wages, averaged at £33 ... ..	...	264	0	0
34½ weeks, at £10 ... ..	...	346	13	4

Exclusive of carriage, fuel, &c. ... .. £610 13 4

	Actual.	£	s.	d.
Amount due by Company about ... ..	...	1,096	0	0
Amount paid for loss of time ... ..	£258 5 2			
	65 11 8			
		323	16	10

Amount for actual boring ... .. £772 3 2

J.M., 4/12/86.

No. 66.

## No. 66.

## The Superintendent of Drills to The Under Secretary for Mines.

Complaint of Mr. J. B. Turnbull to The Honorable the Minister for Mines, *re* boring with Diamond Drill near Clarence Siding.

Sir,

Department of Mines, Diamond Drill Branch,  
Sydney, 21 December, 1886.

*Re* Clarence Siding boring operations, and complaint of Mr. Turnbull, I have the honor to inform you that in September, 1885, I took charge as Superintendent of Drills, and in November dismissed the then engineer-in-charge of No. A drill, Clarence Siding, and placed the present Engineer Goodare (who is considered as very competent by Mr. Turnbull) in charge. (See Mr. Turnbull's letter).

When the application for a diamond drill was made, the recognised Secretary of the Brookdale Company stated in his letter that they expected to strike two seams of coal—the first at 230 feet, and the second at 700 feet, from surface.

I have no doubt that, in accordance with this statement, the late Superintendent (Mr. Henderson), to save expenditure of carriage to the Company, forwarded a smaller drill than he otherwise would have done, but still a drill powerful enough to bore at least 300 feet deeper than the Company informed the Mines Department they intended to go. The bore put down by No. A. drill before No. 7 drill was forwarded, is 1,020 feet. Since the first application was made Mr. Mulholland informed me personally that the Company expected to bore from 700 to 800 feet, but now the Company finds that the seams of coal have dipped considerably more than they expected. They blame the Mines Department for not forwarding a drill at first, which was powerful enough to bore over 1,200 feet.

The late Superintendent of Drills estimated the cost of boring at Clarence Siding at 15s. 9d. per foot for the first 500 feet, and 3s. per foot extra for every additional 100 feet. Had the Company accepted these terms, they would have had to pay a greater sum than at present charged to them.

Whatever the strata may be near Lithgow, at Clarence Siding several layers of loose sand and conglomerate have been bored through, which have had to be tubed off, and the bore at the lowest depth is continually silting up, requiring the pump whether the drill works or not.

On three different occasions I have been instructed by the Honorable the Minister for Mines to stop boring operations until the Company had paid a certain sum, by which over two months of time was lost.

On the 11th May I wrote to you that some action may be taken, either to make the Brookdale Coal Company respect the decision of the Honorable the Minister for Mines by paying some money, or to have the drill withdrawn, and I added that in the meantime the wages of the men and other expenditure was going on, and, at the end of the year, this enforced delay and idleness of No. A drill at Clarence Siding would be a blotch in the returns of my management. This also received the approval of (Mr. Fletcher) the Honorable the Minister for Mines.

I beg respectfully to submit that, when all the circumstances of the case are considered, it will be found that the Company is more to blame than the Mines Department:—

1st.—In causing a small drill to be sent, by stating the depth of boring to be only 700 feet.

2nd.—By causing stoppage of work, extra expenditure, and loss of time in not paying up when the decision of the Honorable the Minister for Mines was made known to them.

The average cost of boring, exclusive of office expenditure, during the year 1885, was a fraction under 17s. per foot.

Mr. Coghlan, of the Australian Diamond Drill Company, informed me some time ago that he reckoned his cost of diamond drill boring at £1 per foot.

I have, &c.,

W. H. J. SLEE,

Superintendent of Drills.

This explanation shows the action of the Department is not deserving of the censure. The broken character of the country, and the fact that the bore has passed through conglomerate, and also through drifts, is evidence that more than ordinary difficulties have had to be contended with. For example, the bore, 2½ inches diameter, was sunk 454 feet when, in consequence of a running drift, it had to be tubed. In order not to reduce the size of the bore too much, it had to be increased to 3¼ inches diameter by reaming, which occupied considerable time, and the conglomerate added to the difficulty of inserting tubes. At a lower level another running drift was struck, necessitating other tubing, whereby the diameter is now reduced to 2 inches. In view of all these circumstances, I do not think a reduction should be made, and the Company should be required to pay the amount due in terms of the contract.—H.W., 22/12/86. Submitted.

Approved.—C.K.M., 17/1/87.

## No. 67.

## The Under Secretary for Mines to J. B. Turnbull, Esq.

Sir,

Department of Mines, Sydney, 19 January, 1887.

Referring to your letter of the 4th ultimo, in respect to the work done for your Company with the diamond drill at Clarence Siding, and to your statement that your Company consider that the Department should make some reduction on the charge, as the boring operations have been so protracted, I have the honor to inform you that the Secretary for Mines does not see his way to make any reduction on the charge; and I am to request that the Company pay the amount due, in terms of the contract, an account of which has been already rendered.

I have, &c.,

HARRIE WOOD,

Under Secretary.

## No. 68.

## The Local Land Board to The Under Secretary for Mines.

Sir,

Local Land Board Office, Sydney, 28 January, 1887.

I have the honor to request that you will be good enough to furnish me with the amounts and dates of expenditure in mining operations in connection with the mineral conditional purchase noted below.

I have, &amp;c.,

CHAS. W. THOMAS,

(For the Chairman).

Lithgow M.C.P., 81/67, John M. Gardner; por. 164, parish Clwydd, county Cook.

This information can only be supplied with certainty from the application at Lands; it is suggested that reference be made to that Department, or that Mr. S. P. Mayes be directed to obtain it from there.—P.D. (*pro* C.H. D.), 4/2/87. The C.M.S. Mr. Mayes may obtain it.—E.J.P., 7/2/87. On reference to Lands Department I find this matter is in connection with diamond drill operations upon the Brookdale Coal, Shale, and Iron Mining Company's property at Clarence Tunnel, Great Western Railway. It is submitted that this paper be referred to the Diamond Drill Branch.—P.D. (*pro* C.D.), 9/2/87. The C.M.S. Submitted.—C.S.W. (*pro* C.M.S.), 11/2/87. The Under Secretary. The Superintendent of Drills, B.C., 11 February, 1887. The diamond drill bored near Clarence Siding 1,020 feet, at a cost of £1,176 2s., of which sum only £300 has been paid, and £876 2s. is still due.—W. H. J. SLEE, 14/2/87. The Land Board may be informed that £300 has been paid for boring with diamond drill at Clarence Siding for the Brookdale Coal Company. W. H. J. SLEE, 14/4/87. Approved.—H.W., U.S., 14/4/87.

## No. 69.

## The Superintendent of Drills to The Under Secretary for Mines.

The partial caving in and silting up of the Clarence Siding bore, recommending that the Brookdale Coal-mining Company should make some payment before further reaming is carried on.

Department of Mines, Diamond Drill Branch,

Sydney, 23 March, 1887.

Sir,

I have the honor to inform you that Engineer Goodare is down from Clarence Siding this morning to personally report on the partial caving in and silting up of the Clarence Siding bore, thereby jamming the rods in the bore. This bore has been a very difficult one, owing to the several layers of conglomerate and sand-drifts. At times the sides of the bore have fallen in, and at other times it has silted up. To prevent this 338 feet were tubed with 3-inch, and again 2½-inch tubes had to be put to the depth of 570 feet. The lowest depth reached is 1,040 feet, where the bore has again caved in.

This necessitates reaming with 3½-inch from the 338 feet, to enable 3-inch tubes to be lowered to the whole depth of 1,040 feet. This reaming must be done before any further boring can be proceeded with. I have instructed Engineer Goodare to recover the rods as soon as possible.

2nd. I beg to recommend that before any further reaming is commenced the Brookdale Coal-mining Company may be requested to make payment for the work already performed, or else that the drill machinery had better be withdrawn, more especially as the Company now seem to think that the second seam of coal will not be tapped under 1,200 feet from surface; although at one time they stated, through their Secretary, it would be obtained about 700 feet.

Herewith see paper setting forth the amount the Company are liable to pay, and the amount they would have had to pay had they accepted Mr. Henderson's terms at per foot. Had they accepted the late Superintendent's terms they would have gained; they took it as a speculation, and have slightly more to pay.

W. H. J. SLEE,

Superintendent of Drills.

The Company should be required to pay the balance due, namely, £978 1s. 9d., before any further tubing is put in, otherwise the recommendation of the Superintendent may be approved.—H.W., 23/3/87. Submitted. Approved.—F.A., 24/3/87. Balance of account asked for, 29/3/87. Seen.—W. H. J. SLEE, 31/3/87.

## No. 70.

## The Under Secretary for Mines to The Secretary, Brookdale Coal-mining Company.

Sir,

Department of Mines, Sydney, 29 March, 1887.

I have the honor, by direction of the Secretary for Mines, to inform you that the Superintendent reports that owing to the character of the country it is necessary to tube the bore to the bottom, and this cannot, in view of the present size of the bore, be done without reaming the bore to 3½ inches from a depth of 338 feet, and that the balance of account amounting to £978 1s. 9d., due by your Company for work done with the diamond drill at Clarence Siding, must be paid before further tubing is put down or boring operations proceeded with.

I have, &amp;c.,

HARRIE WOOD,

Under Secretary.

## No. 71.

## Office Memo.

14 April, 1887.

The shareholders of the Brookdale Coal Company are as follows, viz. :—

William Turnbull, Manager, A. A. Co., Newcastle.

J. B. Turnbull, Resident Director, Lithgow.

John Garsed, Helsarmel, Leichhardt, Sydney.

Walter

Walter Christy, care of J. H. Mulholland, George-street.  
 James Russell, Newcastle.  
 J. H. Mulholland, Secretary, George-street, Sydney.  
 A copy of account may be forwarded to each of the shareholders of the Brookdale Coal Company.  
 W. H. J. SLEE,  
 14/4/87.

Copies forwarded, 14/4/87.

No. 72.

The Under Secretary for Mines to The Chairman of the Local Land Board Office.

Sir, Department of Mines, Sydney, 16 April, 1887.  
 Referring to your letter of the 28th January last in which you ask to be furnished with the amount of expenditure in mining operations in connection with the mineral conditional purchase noted below, I have the honor to inform you that the sum of £300 has been paid for boring with the diamond drill on land held at Clarence Siding by the Brookdale Coal Company.

I have, &c.,  
 HARRIE WOOD,  
 Under Secretary.

Lithgow, mineral conditional purchase 81-67, John M. Gardner, portion 164, parish of Clwydd, county of Cook.

No. 73.

Memo. by the Superintendent of Drills.

9 June, 1887.  
 THE amount due by this Company up to 21st May, 1887, is £1,086 16s. 7d., who, by direction of the Under Secretary, are informed as follows, *i.e.* :—

Unless the amount be paid within thirty days, the Crown Solicitor will be instructed to take proceedings to recover the amount.

J.M.,  
 (Pro Superintendent of Drills).

As the thirty days have expired, and the amount due has not been paid, the Crown Solicitor may be asked to take proceedings to recover the amount.—H.W., 13/7/87. Submitted. Approved.—F.A., 14/7/87. Crown Solicitor asked, 20/7/87.

No. 74.

The Under Secretary for Mines to The Crown Solicitor.

Sir, Department of Mines, Sydney, 30 July, 1887.

I have the honor to forward herewith a statement of particulars of amount due to this Department for the use of diamond drill No. A, and I am directed by the Secretary for Mines to request that you will be good enough to take the necessary steps for the recovery of such sum.

I have, &c.,  
 HARRIE WOOD,  
 Under Secretary.

Statement :—

Name—Brookdale Coal Company (Limited).

Amount due—£1,086 16s. 7d.

Date on which payment has been demanded—27th May, 1887, final.

No. 75.

Memo. by The Superintendent of Drills.

12 August, 1887.  
 THE Brookdale Company agreed to pay for the use of the diamond drill at Clarence Siding, at rate per week, as per copy of published conditions herewith.

See document, dated 6th May, 1885, from Company, informing the Department of their acceptance of the weekly conditions.

W. H. J. SLEE,  
 Superintendent of Drills.

[Enclosure.]

Diamond Drills.

Department of Mines, Sydney, 30 November, 1883.  
 The following terms and conditions under which the use of diamond drills may be obtained are published for general information. JOSEPH P. ABBOTT.

1. Applications for the use of diamond drills must be in writing, addressed to the Under Secretary for Mines, accompanied by a deposit of £2 2s. towards the cost of inspection. If an application be refused without inspection having been made the deposit will be refunded.

2. Each application must state the mineral to be bored for, the probable depth to be bored, and whether the work is to be confined to one or more holdings owned or occupied by the applicant, or to be spread over a tract of country for prospecting purposes, and in either case a plan, sketch, or description, defining the holding or tract of country to be operated upon must accompany the application. Upon receipt of any such application and deposit, the Minister for Mines may direct an inspection and report to be made, or he may refuse the application without inspection or report.

3. Applications approved of will be dealt with in the order of priority.
4. Before commencing operations the Minister may require the applicant to deposit a sum of money as security that the conditions will be observed, and the payments duly made.
5. *The person to whom the use of the drill is granted must:—*
  - (a.) *Defray the cost of removing the drill and all necessary appliances from the place where standing to the site of the operations, and placing it in position thereon.*
  - (b.) *Supply or defray the cost of all necessary fuel and water for working the drill.*
  - (c.) *Pay the cost price of any tubes that may be damaged or destroyed, or that cannot be withdrawn from the bore.*
  - (d.) *Pay £10 per week to cover the cost of diamonds and wear and tear of machinery.*
  - (e.) *Pay the actual wages of the foreman and labourers working the drill.*
6. *Payments shall be made on demand or within fourteen days thereafter, and upon failure to do so the drill may be withdrawn, and the money deposited applied to payment of amount due.*
7. Persons preferring to pay for the work by the foot instead of the foregoing rates may, in their application, state that fact, and the Minister may, if the site be considered suitable, cause a price per foot to be fixed for various depths, such price to include the cost of all labour, diamonds, wear and tear of machinery, and all material, except tubing, and shall be inclusive or exclusive of cost of fuel and water according to agreement.
8. When a drill is required by any body of co-operative miners, association, or corporation for the purpose of developing in the public interest the mineral deposits of any district, or for prospecting any lead or lode or the Crown lands generally in any given locality, the Minister may reduce the rates aforesaid according to the importance to the public of the work. The reduction in no case to exceed 50 per cent.
9. In any case in which it shall appear necessary in the interest of the public to do so, areas may be reserved under the Mining Act, in order to secure to the persons contributing towards the expense of the prospecting operations the benefit of any discovery that may be made.
10. Persons desiring the use of a diamond drill to bore for water can, on application made as aforesaid if the site prove on inspection suitable, obtain the use of a drill in the order of priority of application, on the terms set out in clause 5, subject, in cases where in the opinion of the Minister the work is of public benefit, to a reduction proportionate to the public importance of the work.

The portion in italics refer to the weekly terms.—W. H. J. SLEE, Superintendent of Drills.

No. 76.

Minute by The Under Secretary for Mines.

MR. MCLHOLLAND, Manager of the Brookdale Company, says, if a writ be issued at once for the amount due for boring at Clarence Siding, the money will be paid forthwith.

The papers are with the Crown Solicitor.

The Attorney-General would be obliged if the Crown Solicitor would see to this matter.

W.W.S., 23/11/87.

[Enclosure to No. 21.]

The Brookdale Coal Company to The Department of Mines, Sydney.—On account.

	£	s.	d.
To amount of account rendered to 13 February .....	490	10	5
15 February to 3 April, 1886.—			
To wages of engineer and labourers employed working No. A drill at Clarence Siding .....	67	16	0
To boring twenty-seven days at per week, £10 .....	45	0	0
To carriage on sundry goods, connections, &c.....	8	18	10
To fuel .....	12	6	0

To be paid to the Registrar, Department of Mines..... £624 11 3

Department of Mines, Diamond Drill Branch, Sydney, 5 April, 1886.

[Enclosure to No. 69.]

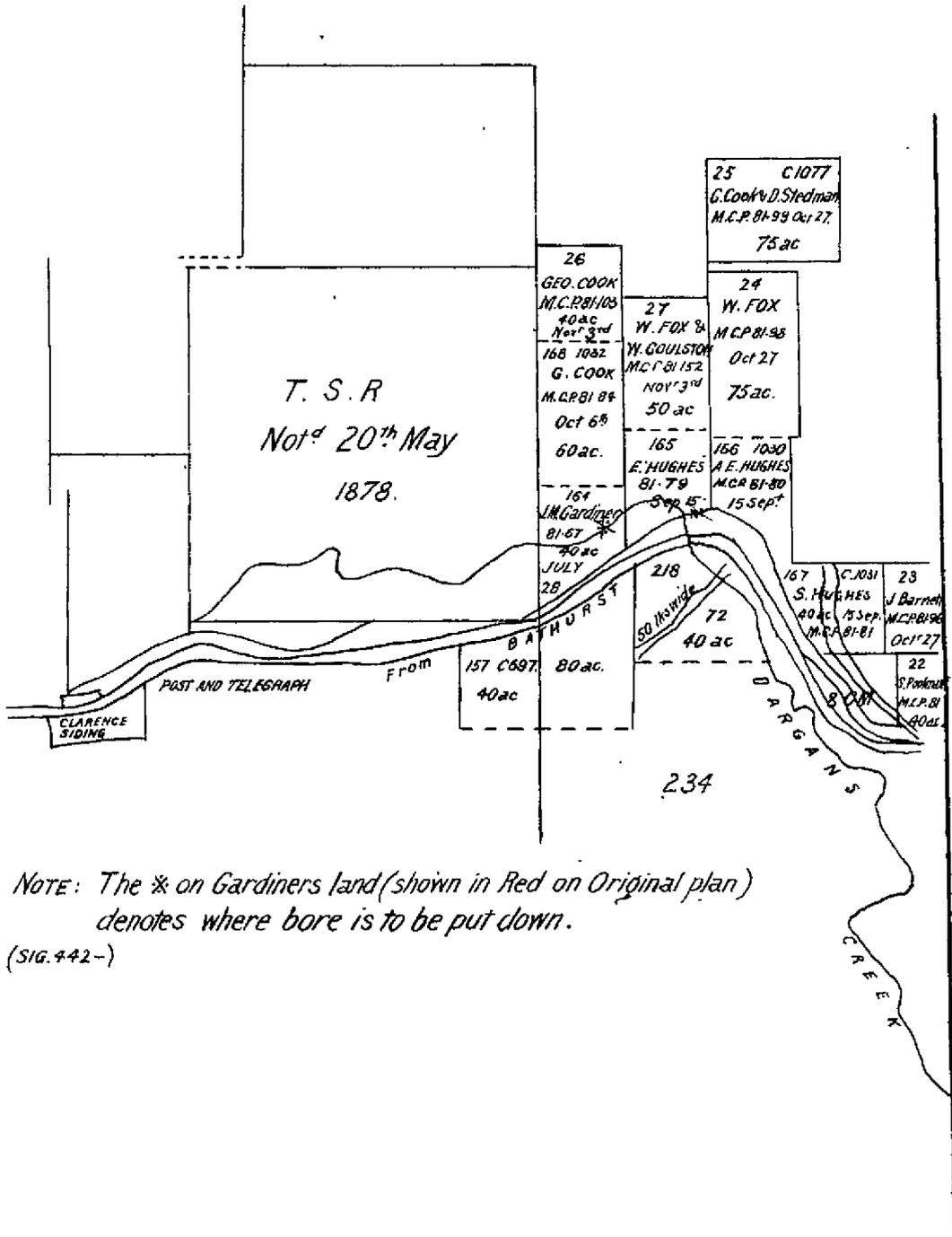
CLARENCE SIDING work cost.

The Brookdale Company.	About.	Had the work been done at rates per foot as per 86-2,714.	Rate.	Amount.
As per ledger and other claims .....	£ 1,278 1 9	From surface to depth of 500 feet .....	15/9	£ 303 15 0
		"    501    "    600    "    .....	18/9	93 15 0
		"    601    "    700    "    .....	21/9	108 15 0
		"    701    "    800    "    .....	24/9	123 15 0
		"    801    "    900    "    .....	27/9	138 15 0
		"    901    "    1,000    "    .....	30/9	153 15 0
		"    1,001    "    1,040    "    .....	33/9	67 10 0
1,040 feet at 24/6 $\frac{1}{2}$ = £	1,278 1 9	1,040 feet at 20/9 $\frac{1}{2}$ full = £		1,080 0 0

W. H. J. SLEE,  
Superintendent of Drills.

23/3/87.

[One plan.]



NOTE: The \* on Gardiners land (shown in Red on Original plan) denotes where bore is to be put down.  
(SIG. 942-)

1887-8.

## LEGISLATIVE ASSEMBLY.

## NEW SOUTH WALES.

## DIAMOND DRILLS AND WATER AUGERS.

(OUTSTANDING ACCOUNTS FOR USE OF.)

*Ordered by the Legislative Assembly to be printed, 14 February, 1888.**[Laid upon the Table of the House in reply to a Question by Mr. Wall, M.P., dated 9th February, 1888, respecting amounts due for Diamond Drills and Water Augers.]*

RETURN showing all Outstanding Accounts in connection with Diamond Drills and Water Augers at 29th January, 1887, and 28th January, 1888.

Name.	No. of Machine	Locality.	Amount at 29th January, 1887.	Amount at 28th January, 1888.	Remarks.
<b>DRILLS.</b>					
Brookdale Coal Company .....	A	Clarence Siding .....	£ s. d. 889 4 7	£ s. d. 1,201 6 10	In hands of Crown Solicitor.
Sydney and Melbourne Coal Company .....	3	Bundanoon .....	487 4 8	541 17 5	Payment being arranged.
Redhead Coal Company .....	8	Redhead .....	530 19 4	.....	Paid February 9th, 1887.
Great Western Coal Company .....	10	Balmore .....	197 3 9	236 18 10	Work in progress.
Cumberland Coal Company .....	11	Heathcote .....	1,071 0 1	.....	Paid July 14th, 1887.
Sydney Coal Company .....	11	Sutherland .....	1,560 10 0	1,560 10 0	In hands of Crown Solicitor.
Sunny Corner Silver-mining Company .....	13	Mitchell .....	173 5 4	.....	Paid January 3rd, 1888.
Folly Coal Company .....	13	Waratah .....	251 5 8	251 5 8	In hands of Crown Solicitor.
David Wilson .....	8	Monkwearmouth .....	300 0 0	150 0 0	do do
H. W. Newman .....	10	Lucknow .....	34 17 6	.....	Paid April 12th, 1887.
Department of Justice .....	4	Maitland Gaol .....	279 0 5	.....	Paid September 26th, 1887.
Thompson & Johnson .....	2	Branxton .....	240 1 3	240 1 3	In hands of Crown Solicitor.
Department of Works .....	12	Pelican Flat .....	934 11 0	934 11 0	Payment delayed.
Cobar Copper Company .....	6	Cobar .....	18 4 8	.....	Settled March 3rd, 1887.
John Wood .....	3	Redhead .....	.....	295 12 6	Work just finished. This does not include railway carriage of plant, Bundanoon to Sydney, which the Railway Department have not yet rendered.
A. Armstrong .....	13	Fullerton Cove .....	.....	83 4 1	Paid February 3rd, 1888.
Broken Hill Block Silver-mining Company .....	11	Broken Hill .....	.....	77 0 10	Work in progress.
H. Blackiston .....	...	Newcastle .....	.....	22 10 0	Payment requested.
John Coghlan .....	...	Sydney .....	.....	60 8 0	do.
			6,967 8 3	5,655 6 5	
<b>AUGERS.</b>					
Irwin Winter .....	7	Tulcumbah .....	359 11 9	359 11 9	In hands of Crown Solicitor.
Daniel Capel .....	9	Gorian Station .....	126 0 9	136 0 9	do do
			7,463 0 9	6,150 18 11	



1887.

(THIRD SESSION.)

LEGISLATIVE ASSEMBLY.  
NEW SOUTH WALES.

**BULLI COLLIERY EXPLOSION.**

(OPINION OF MR. ATTORNEY-GENERAL WISE.)

*Ordered by the Legislative Assembly to be printed, 29 September, 1887.*

**COPY of Mr. Attorney-General Wise's Opinion *re* Bulli Colliery Explosion.**

THE questions I am asked to decide are :—

1. Whether any ground for a criminal prosecution against any person or persons is afforded by the Report of the Royal Commission on the Bulli Colliery Accident? And
2. If not, whether the Report justifies the Government in taking any other legal steps?

The finding of the Report so far as it concerns these questions is (p. 23) :—“That the person or persons to whom blame is attachable for this disastrous accident is the man Westwood, or his mate (both deceased), who at the moment were working at the face of No. 2 heading, and who prepared and fired the shot which, in the opinion of the Commission, was the immediate or primary cause of the explosion. The Commission are, however, of opinion that the deputy, Robert Millward (deceased), Richard White, overman, and to a less extent (except in the matter of providing bratticing, for which he was alone responsible), Alexander Ross, manager, were guilty of contributory negligence. The Commission are firmly convinced that the carelessness, want of skill, and the loose and perfunctory manner in which the principal operations in this mine were performed by the majority of the men, and countenanced by at least the overman and deputies, were intimately connected with and led up to the occurrence of the final catastrophe, whereby by the direct negligence of probably one man eighty other men lost their lives.” Assuming, as I must, that this finding of a body of experts is justified by the evidence, which is mostly of a scientific character, it implicates criminally only one man, who is a Mr. Westwood, or his mate, both of whom are dead.

The criminal law knows nothing of the doctrine of contributory negligence in the sense in which that term is used in the Report. If the accident was caused by the negligence of Westwood, although White or Ross by the exercise of proper forethought might have prevented the consequences of Westwood's negligence (as to which I express no opinion), still Westwood alone is liable to the criminal law. Neither White nor Ross can be made criminally responsible for the results of the conduct of another man, unless the results were equally the results of their own conduct, and would have followed upon their action, even if Westwood had done nothing.

Of course this does not relieve the Company from their civil liability (if any), but that is a question between the Company and the individual claimants with which the Government cannot interfere.

As to the second question, I notice that the Report (p. 14, p. 21, p. 23) indicates that the rules under the Coal Mines Regulation Act, with reference to the use of safety lamps and to the method of preparing shots were not complied with, although it is said that the neglect of these rules was not the cause of the accident. None the less, the persons responsible for the non-observance of these rules might be proceeded against for a £10 penalty under s. 34 if the Department think that the evidence implicates with sufficient clearness any particular individual. For my part I have not the necessary scientific knowledge to say where in what respects these rules were not complied with, or whether the non-compliance with them was culpable or was the result of a mere error of judgment. The evidence on both these points seems to me, as an unscientific man, conflicting and obscure, and I would not recommend that any proceedings be taken, unless the Department are satisfied that there was a wilful and culpable neglect of the regulations.

B.R.W.

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1887.

(THIRD SESSION.)

LEGISLATIVE ASSEMBLY.

NEW SOUTH WALES.

# BULLI COLLIERY EXPLOSION.

(LETTER FROM MR. MACKENZIE, EXAMINER OF COAL FIELDS, ON REPORT ON, AND MINUTES &c., THEREON.

*Ordered by the Legislative Assembly to be printed, 30 November, 1887.*

RETURN to an *Order* made by the Honorable the Legislative Assembly of New South Wales, dated 25th November, 1887, That there be laid upon the Table of this House,—

“Copies of all replies, letters, &c., furnished by Mr. Mackenzie *re* Commission’s Report on Bulli Accident.”

*(Mr. Melville.)*

## SCHEDULE.

No.	PAGE.
1. Memo. of Under Secretary for Mines, that a copy of the Report of the Royal Commission on the Bulli Colliery Disaster be forwarded to the Examiner of Coal Fields for his report. 5 September, 1887.....	1
2. Under Secretary for Mines to Examiner of Coal Fields, forwarding abovementioned report. 5 September, 1887.....	1
3. The Examiner of Coal Fields to the Under Secretary for Mines, furnishing report on above. Minute thereon. 15 September, 1887.....	2

### No. 1.

Memo. by the Under Secretary for Mines.

Bulli Colliery.—Report of the Royal Commission.

5 September, 1887.

SHALL a copy be forwarded to the Examiner of Coal Fields for any remarks he may make.

H. W.

Submitted. Approved.—F.A., 5/9/87.

### No. 2.

The Under Secretary for Mines to The Examiner of Coal Fields.

Sir,

Department of Mines, Sydney, 5 September, 1887.

I have the honor, by direction of the Secretary for Mines, to forward by accompanying post, under separate cover, a copy of the report of the Royal Commission on the Bulli Colliery Accident for any remarks you may choose to make with reference thereto.

I have, &c.,

GERARD E. HERRING

(for the Under Secretary).

## No. 3.

## The Examiner of Coal Fields to The Under Secretary for Mines.

Sir,

"Botanic Hotel," Adelaide, 15 September, 1887.

I have the honor to acknowledge the receipt of your letter of the 5th instant, forwarding me, by direction of the Minister, a copy of the Report of the Royal Commission on the Bulli Colliery Disaster for any remarks I may choose to make with reference thereto.

In reply, I beg to say that the Commission have arrived at one conclusion and I at another. I am prepared to receive and pay all respect to the opinions expressed by the Commission as the conscientious utterance of their belief, though I entirely disagree with their finding as to the cause of the disaster, at the same time I can only express regret that the Commission has not displayed the same courtesy to me, but should so unnecessarily, and with evident warmth, have subjected my convictions to contemptuous and sneering criticism.

2. As an evidence of the recklessness with which damaging assertions are made concerning me, I beg to call the Minister's attention to the following extract from the report:—

"The object of the Examiner's visit was not to inspect, but to report upon, a section of coal in the Western District, leased by the Company from the Government. It is somewhat unfortunate that he did not thoroughly perform the mission by visiting the face of Nos. 3 and 4 headings, in which some of the plans are shown within Government lands."

In answer to this, I have only to say that there is no Government land in the Hillend or Gassy District. The Commission having full power, was in a position to avail itself of all and every information.

They have accepted an inaccurate plan instead of the correct one (although they had a special survey made of these and other workings), and bases upon it a charge against me of indifference to or neglect of duty, which, in reality, recoils upon themselves. The other inferences which this fact alone suggests, it is, I think, unnecessary that I should dilate upon.

I have, &c.,  
JOHN MACKENZIE,  
Examiner of Coal Fields.

Submitted.—G.E.H. (for Under Secretary).

Seen.—I do not approve of the manner Mr. Mackenzie deals with the Report of the Royal Commission on the Bulli Disaster. I am of opinion that his conclusion must give way to that of a number of men who inquired and took evidence, and who are not directly interested in any particular theory.—F.A., 21/9/87.

Seen.—J.M., 28/10/87.

1887-8.

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LEGISLATIVE ASSEMBLY.  
NEW SOUTH WALES.

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REPORT FROM THE SELECT COMMITTEE

ON

MINERAL CONDITIONAL PURCHASES, PARISH  
OF METZ ;

TOGETHER WITH THE

PROCEEDINGS OF THE COMMITTEE,

MINUTES OF EVIDENCE,

AND

APPENDIX.

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ORDERED BY THE LEGISLATIVE ASSEMBLY TO BE PRINTED,  
5 July, 1888.

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SYDNEY : CHARLES POTTER, GOVERNMENT PRINTER.

1888.

1887-8.

EXTRACTS FROM THE VOTES AND PROCEEDINGS OF THE  
LEGISLATIVE ASSEMBLY.

VOTES No. 45. TUESDAY, 20 DECEMBER, 1887.

16. MINERAL CONDITIONAL PURCHASES, PARISH OF METZ:—Mr. Levien moved, pursuant to Notice,—
- (1.) That a Select Committee be appointed, with power to send for persons and papers, for the purpose of inquiring into and reporting upon the granting of certain mineral conditional purchases in the parish of Metz, county of Sandon, to John Moore and others, of Armidale; also, with reference to the refusal of certain applications, and the granting of other applications, for permission to mine on the same land.
- (2.) That such Committee consist of Mr. Abbott, Mr. Abigail, Mr. Copeland, Mr. Frank Farnell, Mr. Garrett, Mr. Hassall, Mr. Moore, Mr. Vaughn, and the Mover.
- Debate ensued.
- Question put and passed.

VOTES No. 69. WEDNESDAY, 21 MARCH, 1888.

11. MINERAL CONDITIONAL PURCHASES, PARISH OF METZ:—Mr. Tonkin presented a Petition from John Moore and John M'Bean, of Armidale, praying that they may be heard by Counsel or Solicitor before the Select Committee on "Mineral Conditional Purchases, Parish of Metz," with liberty to adduce such evidence as may be advised concerning the subject of the inquiry, in the interests of the Petitioners.
- At the request of Mr. Tonkin, the Petition was read by the Clerk, by direction of Mr. Speaker, and received.

VOTES No. 70. THURSDAY, 22 MARCH, 1888.

8. MINERAL CONDITIONAL PURCHASES, PARISH OF METZ (*Formal Motion*):—Mr. Hugh Taylor, for Mr. Tonkin, moved, pursuant to Notice, That the prayer of the Petition, presented on the 21st March, from John Moore and John M'Bean, of Armidale, for leave to be heard by Counsel or Solicitor before the Select Committee on "Mineral Conditional Purchases, Parish of Metz," be granted.
- Question put and passed.

VOTES No. 92. THURSDAY, 17 MAY, 1888.

5. MINERAL CONDITIONAL PURCHASES, PARISH OF METZ:—Mr. J. P. Abbott (*by consent*) moved, without Notice, That the name of Mr. J. P. Abbott, one of the Members for Wentworth, be removed from the Committee sitting on "Mineral Conditional Purchases, parish of Metz."
- Question put and passed.
- \* \* \* \* \*
16. MINERAL CONDITIONAL PURCHASES, PARISH OF METZ:—Mr. Melville (*by consent*) moved, without Notice, That the Return to Order and Further Return (*in part*) to Order, laid upon the Table and ordered to be printed on the 7th July and 21st September, 1887, respectively, respecting "Applications for Mineral Conditional Purchases, parish of Metz," be referred to the Select Committee now sitting on that subject.
- Question put and passed.

VOTES No. 94. WEDNESDAY, 23 MAY, 1888.

4. MINERAL CONDITIONAL PURCHASES, PARISH OF METZ:—Mr. Melville presented a Petition from Joseph Francis M'Kinlay, of Armidale, representing that Petitioner is, and has been for many years, the holder of a miner's right; that he and others, forming a mining party, have, for a period of thirteen months, been in possession of certain portions of land, parish of Metz; that John Moore, John M'Beau, and Peter Speare, claim to be entitled to possession of the said land; that a Select Committee has been duly appointed to inquire into the matter; and praying that Petitioner may be heard before the said Committee, with liberty to adduce evidence.
- Petition received.
- Mr. Melville (*by consent*) moved, without Notice, That the prayer of the Petition be granted.
- Question put and passed.

VOTES No. 112. THURSDAY, 5 JULY, 1888.

3. MINERAL CONDITIONAL PURCHASES, PARISH OF METZ:—Mr. Levien, as Chairman, brought up the Report from, and laid upon the Table the Minutes of Proceedings of, and Evidence taken before, the Select Committee, for whose consideration and report this subject was referred on 20th December, 1887, together with Appendix.
- Ordered to be printed.

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1887-8.

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**MINERAL CONDITIONAL PURCHASES, PARISH OF METZ.**


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**REPORT.**


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THE SELECT COMMITTEE of the Legislative Assembly, appointed on the 20th December, 1887, "with power to send for persons and papers, for the purpose of inquiring into and reporting upon the granting of certain mineral conditional purchases in the parish of Metz, county of Sandon, to John Moore and others, of Armidale; also, with reference to the refusal of certain applications, and the granting of other applications, for permission to mine on the same land," and to whom was referred on 22nd March, 1888, "the Petition from John Moore and John M'Bean," on the 17th May, 1888, "the Returns to Order, 'Applications for Mineral Conditional Purchases, Parish of Metz,'" and on the 23rd May, 1888, "the Petition from Joseph Francis M'Kinlay,"—have agreed to the following Report:—

Your Committee, having examined the witnesses named in the List\* \*See list, page 5. (whose evidence will be found appended hereto), and carefully considered the whole of the evidence, find as follows:—

- (1.) That John Moore, of Armidale, selected portion 110 of 80 acres, in the parish of Metz, county of Sandon, as a mineral conditional purchase in his own name, but the evidence is conclusive that the selection was made in the interest and on behalf of the copartnership of which he, John Moore, was a member.
- (2.) That the said portion 110 was held in conjunction with portions 109 and 58, and remained throughout the property of the said copartnership.
- (3.) That the expenditure in mining—other than gold-mining—on portions 58 and 109 was sufficient to also cover the expenditure otherwise required to be made on the adjoining portion 110.
- (4.) That when the said John Moore applied to the Minister for Lands for the consolidation of portion 110 with portions 58 and 109, he did so on behalf of himself and copartners.

Your Committee therefore are of opinion that there is no evidence before them which would tend to invalidate the title of the said "John Moore and others" to the said mineral conditional purchases.

ROBERT HENRY LEVIEN,  
Chairman.

No. 3 Committee Room,  
Sydney, 26th June, 1888.

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PROCEEDINGS OF THE COMMITTEE.

WEDNESDAY, 16 MAY, 1888.

MEMBERS PRESENT:—

Mr. Levien, | Mr. Copeland,  
Mr. Frank Farnell.

Mr. Levien called to the Chair.

Entries from Votes and Proceedings, appointing the Committee and referring the Petition of John Moore and John M'Bean to be heard by counsel or solicitor before the Committee, read by the Clerk. Committee deliberated.

[Adjourned to Tuesday, 29th May, at half-past Ten o'clock.]

TUESDAY, 29 MAY, 1888.

MEMBERS PRESENT:—

Mr. Levien in the Chair.

Mr. Abigail, | Mr. Garrett,  
Mr. Copeland, | Mr. Frank Farnell.

Entries from Votes and Proceedings, discharging the name of Mr. J. P. Abbott from the Committee, and referring the petition from Joseph Francis M'Kinlay, and the Returns to Order "Applications for Mineral Conditional Purchases, parish of Metz," read by the Clerk.

Printed copies of Petitions and Papers referred before the Committee.

Present:—R. D. Pring, Esq., Counsel, and Alfred Horrocks, Esq., Solicitor (for Joseph Francis M'Kinlay), W. C. Proctor, Esq., Solicitor (for Messrs. Moore and M'Bean).

Mr. Pring addressed the Committee.

W. H. Capper, Esq. (Clerk in charge, Conditional Sales Branch, Lands Department), called in, sworn, and examined.

Witness [handed in] application by John Moore for mineral conditional purchase of portion 110, 80 acres, parish of Metz (Appendix A 1), two declarations by Mr. Moore (Appendix A 2), application by John Moore and party (Appendix A 3), Inspector Harper's report respecting mineral conditional purchase of John Moore (Appendix A 4), depositions before Land Board at Armidale (Appendix A 5).

Mr. Joseph Francis M'Kinlay, called in, sworn, and examined.

Witness withdrew.

Mr. John Moore, called in, sworn and, examined.

Witness produced agreement between Glass, Powrie, and himself, receipt from Oriental Bank for balance of account sales of antimony shipped to London, and regular permit to mine for minerals.

Cross-examined by Mr. Pring.

Witness withdrew.

[Adjourned to Tuesday next, at half-past Ten o'clock.]

TUESDAY, 5 JUNE, 1888.

MEMBERS PRESENT:—

Mr. Levien in the Chair.

Mr. Moore, | Mr. Copeland.

The Clerk laid before the Committee the MS. evidence of Mr. Moore, to which new matter had been added during its revision by the witness.

Committee deliberated, and instructed the Clerk to strike out the new matter which had been introduced.

Present:—W. C. Proctor, Esq., Solicitor (for Messrs. Moore and M'Bean), R. D. Pring, Esq., Counsel, and Alfred Horrocks, Esq., Solicitor (for Mr. J. F. M'Kinlay).

Mr. John Moore called in and further examined.

Witness produced account book showing account with M'Bean, and [handed in] medical certificate for John M'Bean, and statutory declarations of John M'Bean and Lambert Skene Gordon. (Appendices B 1, 2, and 3.)

Cross-examined by Mr. Proctor and Mr. Pring.

Witness withdrew.

[Adjourned to To-morrow, at Ten o'clock.]

WEDNESDAY, 6 JUNE, 1888.

MEMBERS PRESENT:—

Mr. Levien in the Chair.

Mr. Copeland, | Mr. Frank Farnell,  
Mr. Moore.

Present:—R. D. Pring, Esq., Counsel, and Alfred Horrocks, Esq., Solicitor (for J. F. M'Kinlay), W. C. Proctor, Esq., Solicitor (for Messrs. Moore and M'Bean). Mr.

Mr. John Moore called in and further examined.  
 Witness *produced* copy of mortgage, M'Bean to Mrs. Davis, W. G. S. and E. C. Moore.  
 Cross-examined by Mr. Pring.  
 Mr. Richard Palmer called in, sworn, and examined.  
 Witness withdrew.  
 Mr. Peter Speare called in, sworn, and examined.  
 Witness *produced* his agreement with Palmer for purchase of share in land at Armidale; and  
 Moore's receipt to him for third share of instalments paid on block 110.  
 Cross-examined by Mr. Pring.  
 Witness withdrew.  
 Mr. William Westren called in, sworn, and examined.  
 Cross-examined by Mr. Proctor.  
 Witness withdrew.  
 Mr. Alfred James Hack called in, sworn, and examined.  
 Cross-examined by Mr. Proctor.  
 Room cleared.  
 Committee deliberated.  
 Re-assembling of the Committee to be arranged by the Chairman.

[Adjourned ]

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TUESDAY, 26 JUNE, 1888.

MEMBERS PRESENT:—

Mr. Copeland,                     |                     Mr. Moore,  
    Mr. Frank Farnell.

Mr. Copeland called to the Chair *pro tem.*  
 Committee deliberated.  
 Deputy Chairman submitted draft report.  
 Same read and agreed to.  
 Chairman to report to the House.  
 Claims for expenses as witnesses from Joseph M'Kinlay, £18 17s.; J. Elliott, £18 17s.; Wm. Westren, £18 17s.; and A. J. Hack, £18 17s., were considered and disallowed.

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1887-8.

LEGISLATIVE ASSEMBLY.  
NEW SOUTH WALES.

MINUTES OF EVIDENCE

TAKEN BEFORE

THE SELECT COMMITTEE

ON

MINERAL CONDITIONAL PURCHASES, PARISH OF METZ.

TUESDAY, 29 MAY, 1888.

Present:—

MR. LEVIEN,		MR. COPELAND,
MR. ABIGAIL,		MR. FRANK FARNELL,
	MR. GARRETT.	

R. H. LEVIEN, Esq., IN THE CHAIR.

Mr. R. D. Pring, Counsel, instructed by Mr. Horrocks, appeared on behalf of Mr. J. F. M'Kinlay.  
Mr. W. C. Proctor, solicitor, appeared on behalf of Messrs. Moore and M'Bean.

William Henry Capper, Esq., called in, sworn, and examined:—

1. *Chairman.*] You are clerk in charge of the conditional sales branch of the Lands Department? Yes.
2. Have you got with you the original papers with reference to the applications for certain mineral conditional purchases, in the parish of Metz, which were ordered to be printed by the Legislative Assembly on the 7th July, 1887? Yes.
3. Do you produce the application for the mineral conditional purchase of portion 110, 80 acres, made by John Moore, on the 29th September, 1881? Yes. [*Vide Appendix A 1.*]
4. Do you produce two declarations, the first and the final one, by Mr. Moore? Yes. [*Vide Appendix A 2.*]
5. Do you produce a statutory declaration, and a notice of prosecution of complaint, by Joseph F. M'Kinlay? No; they are not with these papers.
6. Do you produce the application made by John Moore and party, on the 1st June, 1887, to the Secretary for Lands, and the reply thereto? Yes. [*Vide Appendix A 3.*]
7. Do you produce Mr. Inspector Harper's report respecting the mineral conditional purchase of John Moore? Yes. [*Vide Appendix A 4.*]
8. Do you produce the telegram sent by the Under Secretary for Lands to the Chairman of the Land Board, at Armidale, respecting the return of certain departmental papers? I have not the telegram itself, I have the authority for sending it.
9. Do you produce the depositions of J. F. M'Kinlay, W. Westren, J. Moore, and M. A. Maclean, before the Land Board at Armidale? Yes. [*Vide Appendix A 5.*]

W. H. Capper,  
Esq.  
29 May, 1888.

Mr. Joseph Francis M'Kinlay called in, sworn, and examined:—

10. *Chairman.*] Of whom does your party consist? I am not exactly sure of all the names. There are twelve or thirteen in the party, which includes Mr. Hack, Mr. Elliott, Mr. Westren, and a brother of mine.
11. You are one of the principal persons in the party? Yes.
12. Do you know portion 110, about which there is a dispute between Moore and party and yourself? Yes.
13. Are there any improvements at all on that portion? There is a little hole sunk in one place, like a prospecting hole.
14. How much do you think has been expended in all upon the portion? A man could do it all in a couple of days.
15. How much money do the improvements represent? Not more than £2 or £3. It may have been done by some prospector.

Mr. J. F.  
M'Kinlay.  
29 May, 1888.

- Mr. J. F. M'Kinlay.  
29 May, 1888.
16. You went on to the land? Yes.
  17. With what object? To prospect. I did not know that anyone else had a claim on the land.
  18. Did you apply for a permit afterwards to mine on the land? Yes.
  19. Did you discover any gold there? When gold was discovered we gave notice of our intention to apply for a lease, not knowing that any one had a claim on the ground. It was not distinctly surveyed. We found out that Mr. Moore claimed that portion. We each pegged out a miners' rights claim. I lodged the complaint before the Land Board.
  20. On the 10th May, 1887? Yes.
  21. You lodged £10 with the notice of prosecution of complaint? Exactly.
  22. An inquiry was held afterwards, and the Board gave a decision against you? Yes.
  23. Did you ever hear that Moore and Company applied to consolidate these portions? They did some time afterwards.
  24. Do you know as a fact that Moore applied for the consolidation of the portions after you lodged your complaint? Yes.
  25. *Mr. Copeland.*] Was it on portion 110 that you discovered the gold? Yes.
  26. I believe you made an application for permission to mine on that land? Yes; to the Mines Department.
  27. The Minister refused your application? Yes.

Mr. John Moore called in, sworn, and examined:—

- Mr. J. Moore.  
29 May, 1888.
28. *Mr. Proctor.*] You reside at Armidale? Yes.
  29. Do you remember taking up some mineral leases and mineral conditional purchases in the parish of Metz, county of Sandon, near Armidale? Yes.
  30. With whom were you in partnership at first? With James Glass, James Powrie, Richard Palmer, and John M'Bean.
  31. Do you remember having a dispute with Glass and Powrie? Powrie and Glass issued a writ against me to recover £10,000 for trespass.
  32. It brought forward an agreement? The action was settled by the agreement, which I now produce. It is duly registered.
  33. What portion did it refer to? Portion 58.
  34. Did you afterwards apply for portion 110, 80 acres? On the 29th September, 1881, I might mention that portion 109, which is mentioned in the agreement, is on the eastern side of portion 58. It was not surveyed until some time afterwards.
  35. Is portion 110 mentioned in the agreement? No.
  36. You applied yourself for that portion? Yes.
  37. Why did you apply for yourself? I applied for myself, Speare, and M'Bean. Speare had bought out Palmer for £1,000.
  38. Did you apply for the portion at that time for yourself and your partners? For Speare, M'Bean, and myself. It was after Speare gave £1,000 to Palmer for his interest.
  39. You knew of the existence of an agreement between Speare and Palmer? Yes; I brought about the matter. Palmer wanted to sell out. Speare happened to be in Sydney at the time. I wrote to him saying that Palmer would take £1,000 for his interest, and he took it at that price.
  40. Does the schedule to the agreement referring to 80 acres refer to portion 110? Yes; we could not have worked portions 58 and 109 without portion 110.
  41. Did you continue to work portions 109, 110, and 58 in conjunction with one another for any lengthened period? About three years.
  42. How much money has been spent? About £3,050.
  43. *Mr. Pring.*] On each portion? On portions 58 and 109. I have receipts to show that £3,051 18s. 6d. has been paid for work done.
  44. *Mr. Proctor.*] How much was spent on portion 109? The greater part of the money was spent on that portion named—on some very extensive tunnels and shafts, and tramways.
  45. Was it absolutely necessary that you should have portion 110? We could not work the others without it; the place is so abrupt; it is 1,400 feet from the top to the bottom.
  46. You afterwards bought Glass' interest? Yes. Powrie, according to the agreement I have produced, was to remain in England and sell the antimony. I was to have the management of the mine, and Mr. Mitchell was to find me with money as I required it; he held a power of attorney for Powrie. He sent home 1,000 tons of antimony; Powrie offered it for sale, but did not sell it. He came out and remained a couple of days here, but I have never heard of him since. The Oriental Bank sent me account sales, showing a loss of £1,030 on several shipments. I sent a cheque for one-third of the amount to the bank, but they would not take it. They sued me for the full amount, and I produce a receipt from the bank's solicitor for it.
  47. The Oriental Bank agreed to transfer Powrie's interest to you in consideration of your paying his share? Yes. I sued Mrs. Glass, and she transferred her interest to me, in consideration of my paying her share.
  48. You held and used all these lands together for a long time; do you remember when you made the first declaration as to the improvements being of the value of £1 4s. an acre—on portion 110? On the 24th December, 1884.
  49. Portion 110 was then in your name? Yes. After we gave up working it was considered a question whether we should throw it up or not. Speare did not press the transfer, and I did not press it. Afterwards he got a little crotchety, and I had to transfer to M'Bean and him. It was some time in May, 1886.
  50. When did you make the final declaration? On the 30th December, 1886.
  51. Was the land all this time the property of yourself, M'Bean, and Speare? Yes, from the commencement.
  52. In your evidence at Armidale before the Land Court you said, "This always belonged to me." What did you mean? I meant that I took it up in my own name; but that, the document shows, it was taken up really on behalf of myself and the others.
  53. It was a joint interest? Yes.
  54. As a matter of fact it was held by you in trust for the others? No doubt about it. Speare would not give £1,000 unless I had promised that he was to participate in it.

55. I believe you knew that there was gold in these properties long before? Oh, yes. From the time we commenced to work it was understood that an assay was to be made of the antimony before we could get an advance on a shipment to London. I suggested to Mr. Mitchell that an assay should be taken for gold as well as for antimony. Not one of the assays but showed that it contained from 2 to 4 oz. of gold to the ton. Mr. J. Moore.  
29 May, 1883.
56. You knew five or six years ago that there was gold there? From the time we got the first advance on the antimony.
57. I suppose that if you are deprived of the property it will be a very serious loss to you, having spent so much money on it? I should say so.
- 57½. Do you know M'Kinlay? Yes.
58. Have you been down the mine since he applied for it? Yes.
59. Has he spent any money on the property, do you think? No; I was on block 110.
60. They have spent no money of any consequence? Not that I could see.
61. You applied to consolidate the properties? Yes; on the 1st June, 1887.
62. Do you know whether it was granted? Yes.
63. The Minister approved of your application? Yes.
64. Mr. Pring.] Did you get a document to that effect? Yes; I have not got it with me.
65. Mr. Proctor.] Do you mean the letter from the Under Secretary for Lands to J. Moore and party? No; I think there is another letter. There was a letter of some kind to that effect.
66. Mr. Pring.] I think you said that the reason why you made the declaration on the 24th December was that portion 110 then stood in your own name? Yes; for myself and partners.
67. It is only made in your own name? Yes.
68. The reason you gave was that at that time it stood as far as the Government books were concerned in your own name? Yes.
69. And therefore you did not put it, on behalf of Speare and M'Bean? No.
70. Did you, on the 31st May, 1884, make a declaration in regard to portion 109? I did.
71. Did you not state in that declaration, "I, John Moore, of Armidale, do solemnly and sincerely declare that John Moore, Peter Speare, and John M'Bean are the lawful owners, by conditional purchase of the land?" I believe I did.
72. At that time you yourself were not the lawful owner of portion 109? No; there were other parties in with me.
73. Portion 109 was taken up by Powrie and Glass on the 3rd March, 1881? Yes.
74. It was not transferred to you until the 9th December, 1884? It was transferred on the 10th September, 1881, from James Powrie and James Glass, to James Powrie, James Glass, and John Moore.
75. You made the final declaration as regards portion 110 on the 30th December, 1886? Yes.
76. You say that it was held by you in trust for others—Speare, M'Bean, and Palmer? Yes.
77. Is there any document showing that trust? No; except that receipt which Speare got for his £1,000.
78. Does it say a word about it being in trust for him? I am not sure; but if my memory serves me aright, I gave him a written document.
79. What about Palmer and M'Bean, did you give them a written document also? M'Bean got a verbal understanding.
80. Did he get a written document? No.
81. Did Palmer get one? I believe he did, as well as Speare.
82. Who were the others in with you, when you say it was held by you in trust for others? Only Speare and M'Benn.
83. To the one you gave a written document, and to the other you did not? Speare insisted, and I believe I gave him one.
84. When? It was about the date of that document. It was through me that the purchase of the land was made.
85. Mr. Proctor.] The agreement contains this schedule:—"Also 80 acres situated near the above land selected at Armidale on Thursday, 29th day of September last, by John Moore, on behalf of Powrie, Glass, Moore, Palmer, and M'Bean." Did you know of the existence of that schedule when you gave the document to Speare? Yes.
86. Chairman.] In your first declaration you say that you had expended an amount equal to £1 4s. per acre on portion 110? Yes.
87. As a matter of fact there was no such expenditure on the land as £1 4s. per acre? There was a very large quantity of our antimony on it.
88. Was there any expenditure at all except £2 or £3 worth? That was all, except for the purpose of mining the other two blocks.
89. Was there an expenditure of £1 4s. per acre on the portion when you made that declaration? I do not think so. I did it by virtue of the others.
90. Is there one word in the declaration saying that you did it by virtue of the others? I do not see any.
91. You made that declaration in your own name? Yes.
92. But in the second declaration you included Peter Speare and John M'Bean? Yes.
93. You state that an expenditure of £2 per acre had been made on the land? Yes.
94. Both declarations, as far as an expenditure of £2 per acre on portion 110 is concerned, are incorrect? There was no expenditure except the antimony that was blasted out of the others.
95. Was there any expenditure on portion 110? There was not.
96. I notice that you never made any application to what is termed consolidate the portions until the 1st June, 1887? No; I was asked to do so, but from some cause or other I did not.
97. You did not do it until 1887? No.
98. When were you asked to do so? About the time I made the first declaration.
99. You allowed nearly three years to pass before you thought of doing it? We thought of doing it, but we did not think the land of sufficient value at the time.
100. When it became of sufficient value you asked for leave to consolidate the portions? Yes.
101. So that it could not have been thought of sufficient value at the time when you made those declarations? It was of very great value from the outset. When we took the antimony out of the land the value fell off. While we were taking it out it was of very great value, but the price afterwards fell in England from £16 to £8.

- Mr. J. Moore. 102. Why did you not include M'Bean and others in this declaration? I cannot assign any reason.
103. Can you assign any reason for including him in the second declaration? I cannot.
- 29 May, 1888. 104. It stood in your own name in the first instance? Yes.
105. That is the reason why you did not include him? I expect so.
106. Has portion 110 ever been transferred to the three names? Yes.
107. When? On the 3rd May, 1886. It was about the time Speare insisted on the transfer being made.
108. Mr. Proctor.] Twelve months before any disputes arose? Yes.
109. Chairman.] You say that Speare insisted on his rights being preserved? Yes.
110. Was there any legal document drawn up by a legal gentleman to that effect? I believe I signed some printed document; I suppose Speare has it.
111. A printed document? I believe there were some printed documents.
112. Do you know at what time? I cannot tell you.
113. Have you any idea of it? No; I think it was about, or a little before, the 3rd of May.
114. In your evidence before the Land Board at Armidale, you say—the property, I think, when I made declaration on 109 belonged to Powrie, Glass, and Moore. I made declaration on portion 110; this always belonged to me. I supposed the improvements on 109 would more than cover the £1 4s. improvements on 110. When I made the first declaration of £1 4s. per acre it was my own, not in the name of Powrie, Glass, and Moore. So that the whole of the expenditure was borne by yourself? No; every shilling of the money was paid by the firm, although it stood in my name.
115. Who presented the letter on the 1st June to the Lands Office asking for permission to consolidate these portions. It is signed Moore and party? It was not presented. I was in Sydney at the time with a bad hand. I got Mr. Sievers, in Dangar, Gedye, & Co.'s office, to write the note, and I posted it myself.
116. Mr. Proctor.] M'Kinlay's objection was heard by the Land Board and dismissed? Yes.
117. He appealed to the Minister? Yes.
118. And the Minister decided against him? Yes.
119. You have applied for permission to mine for minerals to the Secretary for Mines? Yes; I produce a regular permit. I have not got a permit for portion 110; Speare has it. I can produce a certificate of conformity, and the permit to mine for gold on portion 109.
120. Mr. Copeland.] With regard to the final declaration on portion 109. Seeing that you had a superabundance of expenditure to cover that portion, why did you not make a declaration for portion 110 at the same time? I cannot explain, except that Speare and I were not on very friendly terms at the time. There was some obstacle in the way; but what it was I can hardly recollect.
121. You stated before the Land Board that portion 110 was always your property, in contradistinction to the other, which stood in the names of several? I told Mr. Blythe afterwards that although it stood in my name it belonged to the others, but he would not insert the correction in my evidence.
122. You say that portion 110 was always held by the partnership? In my name, with the understanding that they were to participate in it.
123. How would the question be affected by your being on bad terms with Mr. Speare at the time you made the declaration of expenditure on portion 109—it was equally in his interest that the declaration of expenditure should be made on the two portions? Speare takes very little interest in these matters. If you can get anything done for him, you can do it. If you do it, well and good; he does not bother himself. We had some disputes about mining matters at Vegetable Creek. We were not on the best of terms.
124. When you made the final declaration on the 31st June, 1886, with regard to portion 109, seeing that you had made more than the necessary expenditure, and had a surplus expenditure which could have been made to apply to portion 110, why did you not also make a declaration as regards that portion? I cannot assign any reason.
125. Taking your statement before the Land Board that that particular piece of land was always yours, in connection with the fact that you only made a declaration on portion 109, totally ignoring portion 110, it gives one the impression that portion 110 had no connection with portion 109? It always had. It was understood. We were compelled to take up portion 110 for the purpose of working portion 109. It was impossible to work the one without the other. I took it up in my own name with the distinct understanding that Speare and M'Bean would participate in it.
126. You have no documents to show that they were partners in portion 110? It was understood. I believe Speare has a document of mine to that effect. M'Bean was living on the spot. He took my word. He prospects a great deal for me.
127. Have M'Bean and Speare an interest in portion 110 now? Yes.
128. Mr. Proctor.] What share? M'Bean has a third, Speare has a third, and I have a third.
129. Mr. Copeland.] They have the same interest in portion 110 as they have in portion 109? Yes.
130. Has any additional consideration passed between you in connection with portion 110? Except that I have paid M'Bean's way all along. I sent him a bill the other day. I paid £1,016 on his account. He has given me a security on his share.
131. Has any additional consideration passed between you in respect of portion 110? No.
132. You always keep books in connection with your business. Have you any entry to show that the time when you lodged £40 with your application for portion 110 the amount was debited to the account of this firm? I believe Speare paid in his share of the amount. M'Bean's share was charged to his account.
133. I understood you to say that Speare was away at the time? He very likely sent up a cheque for his share.
134. Have you any entry showing that the "antimony" firm was debited with the amount? There is no doubt that M'Bean was charged with his share.
135. At the time? Yes. I have no books here.
136. Considering that portion 109 was held in the name of the firm, and that you applied for portion 110 separately, it is only reasonable to assume that you took it up separately from the firm? M'Bean was charged with a third of the amount.
137. Can you produce books to show that, at the time you took up the land, you debited M'Bean and Speare with their shares of the amount? I know that I have M'Bean's account.
138. Mr. Proctor.] Did you keep an account? I kept an account against M'Bean.
139. Chairman.] Why not against Speare? It is very likely I have.
140. You say that you took a security from M'Bean? Yes.

141. Is it drawn up by a legal gentleman, or registered? It is not registered.
142. When was it given? A memorandum was given some time ago, and a legal document was drawn up lately.
143. Since the inquiry has been initiated? Yes. There is a document before that, in which he makes over his interest.
144. *Mr. Copeland.*] If you had time at your disposal, could you produce any evidence to show that, at the time you selected portion 110, you debited the members of the firm with their proportion of the amount? I can produce what books I have.

Mr. J. Moore.  
29 May, 1888.

TUESDAY, 5 JUNE, 1888.

Present:—  
MR. MOORE, | MR. COPELAND,  
| MR. LEVIEN.  
R. H. LEVIEN, ESQ., IN THE CHAIR.

Mr. R. D. Pring, Counsel, instructed by Mr. Horrocks, appeared on behalf of Mr. J. F. M'Kinlay. Mr. W. C. Proctor, solicitor, appeared on behalf of Messrs. Moore and M'Bean.

Mr. John Moore recalled and further examined:—

145. *Mr. Proctor.*] You were asked the other day this question, "Do you remember having a dispute with Glass and Powrie," was that before or after the partnership? It was before the partnership.
146. And you said the action was settled by agreement. Have you that agreement? Yes.
147. Was it duly registered? Yes.
148. You were then asked "What portion did it refer to," and you said, "portion 58?" Yes; it included several portions.
149. The agreement says "the eastern boundary of portion 58, 80 acres." That is measured as 109? Yes.
150. Then you said that portion 110 was not included in it? No; it was not.
151. Then you were asked, "Why did you apply for yourself?" and you said, "I applied for myself, Speare, and M'Bean; Speare had bought out Palmer for £1,000?" On the 29th September, 1881, I took up the land. Speare was in treaty with Palmer to purchase for £1,000. It was a week after the land was taken up. The sale of the land by Palmer to Speare was made in October, 1881.
152. You negotiated that sale, I understand? Yes.
153. You were asked, "Did you apply for the portion at that time for yourself and your partners," and in reply to that you said, "for Speare, M'Bean, and myself. It was after Speare gave £1,000 to Palmer for his interest." That agreement had not actually been completed, had it? No; it had not.
154. Then you say afterwards that the schedule to the agreement referring to the 80 acres refers to portion 110. That is the agreement between Speare and Palmer, I suppose? Yes.
155. Then you were asked, "you held and used all these lands together for a long time; do you remember when you made the first declaration as to the improvements being of the value of £1 4s. an acre?" I believe you have some explanation to make in regard to that information given to you by the land agent? When I went to make this declaration, Mr. Gordon, the land agent, asked what improvements I had on it. I said, "Very little, but I consider the improvements on lot 109 quite sufficient according to the 39 Victoria No. 13, section 26." He then took the declaration.
156. *Chairman.*] Is there anything said in the declaration as to these facts that because there were improvements on lot 109, you made the declaration on lot 110? I do not know.
157. *Mr. Proctor.*] You were asked, "Was the land all this time the property of yourself, M'Bean, and Speare," and you said it was. What did you mean by that? It was not from the commencement. From the 18th July it was in the name of Powrie, Glass, Palmer, myself, and M'Bean. On the 5th October it was transferred,\* and on the 5th October that agreement was made. Speare bought out Palmer.
158. In whose name was it then? Powrie, Glass, M'Bean, and Moore.
159. I believe the other partners bought out Powrie's interest? Yes.
160. Then it was Moore, Speare, M'Bean, and Glass? I sued Mrs. Glass, as executrix under her husband's will, for my share of £1,030 to settle that agreement, her third share. She transferred the land to me, by power given, I suppose, under her husband's will.
161. And you were asked, "Have you been down the mine since he (Mr. M'Kinlay) applied for it," and you said, "Yes?" We have to go over lots 58 and 109 to get to 110.
162. Then you were asked by Mr. Pring this question—"I think you said that the reason why you made the declaration on the 24th December was, that portion 110 then stood in your own name," and you said, "Yes, for myself and partners." I understand that there was a reason for its being in our name? Yes. When I went with Mr. Palmer to take up the land—and I may say here that a portion of my evidence on that point was not taking down at the last sitting—I met Glass, and he asked me if I knew that there were two men shooting antimony down the falls. I said, "No." I went out with Mr. Palmer, and he found 10 or 20 tons shot on the vacant block. I called a man out, and asked what they were doing, and he said, "We are earning as much money with you as will enable us to take up the land and pack up the antimony." I went to Bray, the land agent, and I said, "I want to take up conditional mineral land to-morrow." I said, "I want papers to take up a mineral conditional purchase," and I intimated that I wanted to take up under certain names. He said, "You cannot do that, by the 39 Victoria number 7, sec. 13, it is absolutely necessary to have all the parties present." I said, "These fellows are very likely to come to-morrow to take it up," and when I went on Thursday I took it up in my own name.
163. Why was it that you had to make the declaration in reference to portion 110 in your own name. Could you have transferred it to the other parties. You declare on the 24th December that it was yours; why did it stand in your name? Because as I have explained just now.
164. Could you have transferred it to the other names? No; the three years were not up. I could not have had it in any other name.

Mr. J. Moore.  
5 June, 1888.

\* NOTE (on revision):—Palmer transferred his share to Speare.

- Mr. J. Moore. 165. Then you were asked, "You say it was held by you in trust for others—Speare, M'Bean, and Palmer," and to that you said, "Yes." Is not that a mistake, Palmer not being a partner at the time? Yes; Palmer was not a partner, he had sold out.
- 5 June, 1888. 166. Then you were asked, "Who were the others in with you when you say it was held by you in trust for others," and your reply was, "Only Speare and M'Bean." You have already explained the antimony partnership how it existed from the commencement. For some time it was held in trust for Speare and M'Bean, was it not, and at others for Powrie, Glass, and M'Bean? The land was all held up to the 5th October, 1881, in the name of Powrie, Glass, M'Bean, and myself.
167. Then the Chairman asked, "In your first declaration you say that you had expended an amount equal to £1 4s. per acre on portion 110," and you said, "Yes." You have some explanation to make, I believe, about that? When I went to make the declaration Mr. Gordon said he would take it after reading the Act.
168. *Chairman.*] At all events you did not include anything in your declaration as to improvements upon the other lot that made up the requisite amount? The declaration speaks for itself.
169. As a matter of fact the declaration shows no such facts, does it? I have not looked at the declaration.
170. *Mr. Proctor.*] You made a declaration believing that the improvements on lot 109 covered lot 110, because the land was used in conjunction with it? Yes.
171. In the second declaration in reference to portion 110 you include Peter Speare and John M'Bean, why did you do that? Because Mr. Speare insisted upon it.
172. Had the land been transferred in the mean time? Yes.
173. When? On the 3rd May, 1886.
174. And that is why you included that? Yes.
175. You were asked, "Why did you not include M'Bean and the others in this declaration." You had some reason for that, I presume. That was the first declaration on lot 110. You said you could not assign a reason; but I believe that you can now give a reason. Did you make the declaration in your own name when the land stood in your own name, and in the others' when it stood in the names of others? Yes. When I made the first declaration it stood in the Government books in my name. After it was transferred, after the 3rd May, 1886, I declared in the names of the three. It was transferred to John Moore, P. Speare, and J. M'Beath.
176. Then you were asked, "Can you assign any reason for including him (M'Bean) in the second declaration," and you said that you could not. It was because the land had been transferred, was it not? Yes.
177. Mr. Copeland asked, "With regard to the final declaration on portion 109. Seeing that you had a superabundance of expenditure to cover that portion, why did you not make a declaration for portion 110 at the same time?" My answer to that is, the three years were not up as regards 110.
178. You made a declaration when the three years expired? Yes.
179. When did the three years expire on lot 110? They were up on the 29th September, 1884.
180. *Chairman.*] How did you come to give this answer, "I cannot explain, except that Speare and I were not on very friendly terms at the time. There was some obstacle in the way, but what it was I can hardly recollect." How was it that you made that statement. You say not that the three years has not expired. Is the reason you assigned to Mr. Copeland correct or incorrect. Which statement is correct, the statement that the three years had not expired, or the statement that you were at loggerheads with Speare? We were at loggerheads at the time, but the three years were not up.
181. What was the use of making that statement? I have refreshed my mind since I went home.
182. Is the statement which you made on the last occasion had nothing to do with the matter? That was correct.
183. Then is your present statement correct or incorrect? I cannot give any further explanation than is given in the margin of my corrected evidence.
184. You said, "I cannot explain, except that Speare and I were not on very friendly terms at the time. There was some obstacle in the way, but what it was I can hardly recollect." Was it not that you and Speare had not come to final arrangements as to his having any interest in it? He had an interest in it all along.
185. By any document? Yes.
186. Where is it? It is here.
187. *Mr. Copeland.*] You stated that you were not able to make a transfer, because three years had not expired. Yes. I understood that it was necessary that three years should expire.
188. At the time you declared on lot 109, what name did lot 110 stand in? It stood in my name.
189. *Mr. Pring.*] Have you spent £3,000 on the two blocks? No; £3,000 altogether, and more than half of that was spent on lot 109.
190. That was in December, 1884? Yes; when I made the declaration on 110.
191. You say that on the 31st May, 1884, you made one final declaration on lot 109? Yes.
192. In December, 1884, you only declared to the extent of £1 4s. on lot 110? Yes.
193. Although you were in a position then to make a final declaration on lot 110? Mr. Gordon told me that £1 4s. was quite enough.
194. *Mr. Copeland.*] You had a surplus on expenditure, and instead of making a declaration for £1 4s. you could have made it for the full amount, and have got your title straightaway? Mr. Gordon told me that £1 4s. an acre was quite sufficient, until the five years were up.
195. *Mr. Proctor.*] You said in the same reply, "I took it up in my own name, with the distinct understanding that Speare and M'Bean would participate in it." I believe that at that time Powrie and Glass were the other partners? Yes. Speare was negotiating.
196. You kept an account? Yes. I was a manager of the mine, and I kept an antimony account, and there is an entry on the 1st October, "Cash, taking up land, £40." [*Account book produced.*]
197. Look at the item, "Cash, taking up land?" That was for taking up block 110.
198. Was it charged on the date mentioned there? It was charged two days afterwards.\*
199. Did you take up land for anyone else? No.
200. *Mr. Copeland.*] That entry does not show that that expenditure was on behalf of the firm. You may have been transacting business on your own account? The agreement states that I shall be manager, and I was not connected with any other company.

201. *Mr. Proctor.*] You keep no other antimony account? No.
202. I believe that you have charged the item to M'Bean also? I did, by error. I have a separate account here, M'Bean's account in its entirety. [*Account produced.*]
203. I understand you to say that Speare was away at the time you took up block 110? He was not a partner at the time.
204. Who was present when you took up block 110? Palmer was present at the court-house.
205. And he knows the reason why you took it up in your own name? Yes. Mr. Bray objected unless we were all present.
206. Palmer went down to mark it out, did he not? Yes.
207. On the Sunday previously? Yes.
208. And he was then a partner, was he not? Yes.
209. You said M'Bean was charged one-third of the amount, and you were asked, "Can you produce books to show that at the time you took up the land you debited M'Bean and Speare with their share of the amount?" Speare was not a partner. I debited the antimony account with £10.
210. You were asked why you did not keep the account against Speare, and you said it was charged to the antimony account? Yes.
211. Do you remember just before you took up lot 110 having written a letter to Speare? Yes.
212. Is this the letter? Yes; that is my handwriting.

[Letter read by Chairman as follows:—

Dear Sir,

Armidale, 26 September, 1881.

I have this day sent you per Cobb & Co. several samples of antimony which were taken on the reef yesterday, Sunday, by myself and Palmer, at a distance of 600 feet down the falls. At this point it is one mass of antimony, many pieces being quite a load. We have 480 acres of mineral conditional purchase land on which 10s. per acre is paid up, the smelting works which must have cost upwards of £500, in fact Mr. Powrie says £900, in addition to which I take up 80 acres more on Thursday. As promised, I have seen Palmer. He is disposed to sell his share as under, three shares in all,—Mr. Powrie one share, Mr. Glass one share, Moore, Palmer, and M'Bean, one share, total three—for the sum of (£1,000). Mr. Proctor can tell you whether the title is correct or not. I commenced to work with fourteen men on 8th August last, and up to the present moment have despatched 65 tons.—August, 19; September, 46; total 65—out of the working time we had at least ten days' wet. I have no hesitation in stating that this is a property that will not be picked up every day. The black antimony contains more gold than the light.

Mr. P. Speare.

Yours, &c,  
J. MOORE.]

213. Did he receive that letter? Yes; he told me that he did.
214. This was at the time you were negotiating for the sale of Palmer's share to Speare? Yes.
215. You know the 80 acres referred to in the letter—is it what you took up three days afterwards? Yes.
216. In pursuance of that letter was this agreement entered into between Speare and Palmer? Yes.
217. And that 80 acres is the 80 acres you refer to in the schedule? Yes; in fact I understood from Mr. Speare that he would not buy it unless it was included.
218. Have you been up to Armidale since you were last examined? Yes.
219. Have you seen Mr. M'Bean? Yes.
220. In what state of health is he? He is in the Armidale hospital, very bad.
221. Unable to attend? He is quite a cripple. I got a declaration made by him, and here is the medical certificate, and the declaration by Lambert Gordon (*vide Appendices 1, 2, and 3*).
222. *Chairman*] Did Messrs. Waut and Johnson, solicitors, act for you in any business matters at all of late? Yes.
223. Did you instruct them to write a letter to M'Bean demanding that he should transfer his interest in this block 110 to anyone? Some time ago he transferred all his right, title, and interest to my daughter, a widow, Mrs. Davis, and to my two sons.
224. When did he execute this transfer? I could not tell.
225. He transferred it? Yes; he signed a document transferring his right, title, and interest.
226. Who got this declaration from him? He made it himself.
227. Did you go to the hospital to get it? I drove Mr. Sheahan, the Commissioner for Affidavits, over to the hospital.
228. Who got the particulars for the declaration before he signed it? I got the particulars.
229. And you gave them to Mr. Sheahan? No; Mr. Proctor drew up that affidavit.
230. From whom did he get the particulars? From me.
231. He says, "I am a partner with John Moore and Peter Speare in regard to mineral conditional purchases 58, 109, and 110, in the parish of Metz, county of Sandon, and I have been such partner since January, 1881, and I have resided on block portion 58 from January, 1881, until about three months ago, when I was compelled to come into Armidale for medical advice." This statement, then, is not true. As a matter of fact he transferred all his interest to your daughter? He simply gave a memorandum to my daughter and my two sons, and has since executed a mortgage, which has been registered.
232. A mortgage to whom? To my daughter and two sons.
233. For what? To cover my £1,000.
234. But they gave him no consideration? They did; they gave it through me.
235. Your daughter and your sons did not give Mr. M'Bean one farthing consideration, did they? They gave it through me; they did not give it directly.
236. So that this consideration money included in the mortgage never existed as between M'Bean and your daughter and the other persons mentioned? No; I got the money from my daughter and sons.
237. Why did you not, when you gave Mr. Proctor these particulars, insert here, that M'Bean was at one time partner, but had transferred all his interest to your daughter? Why did you not instruct Mr. Proctor as to this transfer of mortgage? There was no mortgage at the time, it was only a document.
238. Am I to understand that there is no mortgage? No; there is a mortgage.
239. Is it registered? It has been registered lately.
240. When? Last week. The last time I was in Sydney I went to Messrs. Waut, Johnson, and Company, and they said I should have to commence an equity suit against M'Bean. I said that I did not want to do that. I went and told my son, who is a magistrate, and when I came back and explained the matter to M'Bean, he consented to execute the mortgage for £1,000 to my daughter and two sons.

WEDNESDAY, 6 JUNE, 1888.

Present:—

MR. FRANK FARNELL,		MR. COPELAND,
MR. MOORE,		MR. LEVIEN.

R. H. LEVIEN, ESQ., IN THE CHAIR.

Mr. R. D. Pring, Counsel, instructed by Mr. Horrocks, appeared on behalf of Mr. J. F. M'Kinlay. Mr. W. C. Proctor, solicitor, appeared on behalf of Messrs Moore and M'Bean.

Mr. John Moore called in, and further examined:—

- Mr. J. Moore. 241. *Chairman.*] Can you tell when the last rent was paid on lots 109 and 110? It was paid before the balance of the purchase money was paid.
- 6 June, 1888. 242. You paid on the 24th March, in the name of Moore, Speare, and M'Bean, £18 on the 58 and 109 blocks? Yes.
243. Did you pay it before the 24th March on the 110 block? Yes; I paid it earlier.\*
244. When? Some weeks before. The three blocks were paid for in 1888.
245. Who collected these moneys? I paid them into the Land Office.
246. Did Mr. Dean ever call upon you for payment of these moneys? No; I paid Mr. Gordon.
247. What interest have you now in these blocks? My share was one-third less that portion which I transferred to my two boys. It is not registered, but simply a memorandum. As I mentioned, I got some money from them.
248. Your interest in the matter then is through the two boys? I gave them a memorandum that they held certain interest. I held about one-sixth. I have a memorandum as to payment of rent and balance of purchase money; but I have no date.†
249. You say that Dean had nothing whatever to do with this? I never thought of going to Dean. I went to the land agent—first Mr. Bray, and then Mr. Gordon.
250. *Mr. Pring.*] When were the first instalments on the 110 block paid? On the 24th December, 1884.
251. You have no receipt for that then? I have not got it here. I have the land agent's receipt here for 1884, 1885, and 1886.
252. There is no receipt in 1884 for block 110? I declared it on the 24th December, and no receipt was given until after I had declared.
253. Who was the land agent there in 1884? Either Mr. Bray or Mr. Gordon, I do not know which.
254. I see that a transfer of that 110 block was made on the 3rd May, 1886, by yourself to Moore, Speare, and M'Bean; can you account for the lapse of time between the taking up of the conditional purchase and the transfer to those persons? I think I mentioned that Mr. Speare and I had some dispute about the Vegetable Creek matter. He then insisted upon a transfer. He has a document that will show the transaction. We ceased to work for antimony; and he insisted that I should make a proper transfer, and produced the documents, which I signed.
255. *Mr. Proctor.*] It is almost impossible, I suppose, for you to remember all the transactions in the matter? I have business of such a character that it requires my undivided attention. It is impossible to remember everything accurately.
256. You were asked yesterday about a mortgage, or some transfer of M'Bean to Mrs. Davis?‡ Yes; that was a mortgage for £1,000.
257. Which he owes to you? I got the greater part of the money from my daughter and sons.
258. Is this a copy of it [*document produced*]? I believe that is a copy of it.
259. Then M'Bean holds that third share still? Yes, subject to the mortgage for twelve months. I may mention that I had some difficulty with M'Bean. He is very much crippled from rheumatism. There were several people camping out there, and they used to bring out bottles of whisky and poison his mind against me. My daughter and my sons authorised me to employ Want, Johnson, and Company to start an equity suit against him. Mr. Minter will testify to that statement.

Mr. Richard Palmer called in, sworn, and examined:—

- Mr. R. Palmer. 260. *Mr. Proctor.*] You are an hotel-keeper at North Shore? I am.
- 6 June, 1888. 261. You formerly lived at Arndale? Yes.
262. Do you remember any mining properties in which you were interested with Mr. Moore? Yes.
263. Who were with you? Powrie, Glass, Moore, and M'Bean.
264. Do you remember what date? About seven years ago.
265. Do you remember having a dispute with Powrie and Glass? I do.
266. Did it result in an agreement by which you became entitled to certain shares? It did.
267. Do you remember what shares you held under the agreement? I, Mr. Moore, and M'Bean had a share between us, that is one-third.
268. Do you remember that you went one Sunday down the falls with Mr. Moore? I do.
269. What occurred? We took up 80 acres more.
270. On what date? I could not recall the date.
271. Where was the land situated? Down under the falls, near block 109. I think it was in block 110.
272. Do you remember after visiting the land going to the land agent? Yes; Mr. Moore and I went together.
273. What did you do? I could not recollect. 274.

\*NOTE (on revision):—31st March, 1887, and again on 31st December, 1887, for year 1888; three months before I had any right to do.

†NOTE (on revision):—Balance of purchase money paid on 110 was about 11th January, 1888.

‡NOTE (on revision):—And W. G. S. and E. C. Moore—my two sons.

274. Whom did you see? Mr. Bray.  
 275. What did he tell you—did you apply to take up the land? Yes, between the lot of us; and he said that we could not do so without all being present. Then Moore took it up for the lot of us himself.  
 276. You knew you had a share in it? Yes.  
 277. Did Mr. Moore negotiate your interest in it afterwards? Yes.  
 278. For how much? £1,000.  
 279. Did you execute an agreement of transfer? I did.  
 280. The portion mentioned in the schedule to the agreement—80 acres taken up by Mr. Moore on behalf of Powrie, Glass, Moore, and M'Bean—is that the portion which you are referring to? Yes.  
 281. Then M'Bean became entitled to a share? Yes.  
 282. Did you know that Mr. Moore knew of the agreement? Yes. It was Mr. Moore who initiated the sale.

Mr. R.  
Palmer.  
6 June, 1888.

Mr. Peter Speare called in, sworn, and examined:—

283. *Mr. Proctor.*] Do you reside at Summer Hill? Yes.  
 284. What are you? I am a mining speculator.  
 285. Do you remember purchasing a share in some land at Armidale, from Mr. Palmer? Yes.  
 286. Was this the agreement [*produced*]? It was.  
 287. You have been on the land yourself, I believe? I went on to it shortly after I purchased.  
 288. Who negotiated the sale? Mr. Moore.  
 289. Do you remember receiving a letter from Mr. Moore on the subject? Yes.  
 290. And that letter, which has been produced here, refers to the 80-acre block? Yes.  
 291. Did you give Palmer an interest in it under the agreement? Yes.  
 292. Did you know in whose name it stood? At the time I did not. I did not understand the transaction at first. It seemed to be mixed up between Powrie, Glass, and a lot of them.  
 293. You bought Palmer's interest in that 80 acres included in the agreement? Yes.  
 294. And you have held a share ever since? Yes.  
 295. You bought out Glass and Powrie, subsequently? Yes.  
 296. What interest do you hold in it now? I hold a third, and I think a ninth share.  
 297. Does M'Bean claim a third? I do not know what he claims.  
 298. You know he has an interest in it? Yes.  
 299. You have held the property and used it in conjunction with other ground adjoining it, have you not? Yes. Some of it has been forfeited. That was lot 113.  
 300. Do you know block 109? Yes.  
 301. Has much money been spent on that? Yes; a very large sum.  
 302. Enough to cover the improvements on 110? Yes, ten times over.  
 303. You have always held and used the lands in conjunction with each other? Yes.  
 304. There is no doubt that you, Speare, and M'Bean have always been partners in the property? No doubt at all.  
 305. You had a dispute with Moore some time ago, had you not, at Glen Innes? Yes.  
 306. Did it result in any agreement? Yes.  
 307. It is dated the 25th April, 1886, is it not? Yes.  
 308. It was drawn by Mr. Boyd of Glen Innes, solicitor? Yes.  
 309. Did Mr. Moore agree in this to transfer one-third interest on all these properties to you? Yes.  
 310. In substance the agreement says that Mr. Moore agrees to transfer one-third interest in the Gara antimony mines to you? Yes.  
 311. Have you held these blocks ever since in conjunction with Mr. Moore and M'Bean? Yes.  
 312. *Chairman*] Were you interested with Mr. Moore in any other mining speculations? Yes; in lots of mines.  
 313. Was there any dispute as to whether you had any right in block 110? No; none whatever. The only difficulty was that I was dissatisfied with the way in which the land stood in the Department. I wanted to get a proper transfer. Powrie's interest was transferred to Moore, so was Glass's, and I had nothing to show that I had any claim to their interest which had been purchased by Moore and myself.  
 314. Did you know that the block stood in Moore's name? I knew by the agreement.  
 315. And that is how you got it inserted in that deed? No, I did not insert it at all. Mr. Proctor inserted it at the time when I bought.  
 316. How did you come to get that inserted. I see that it is in the latter part of the deed after the other had been done? The other land was in the partnership agreement between them. This was taken up afterwards, and therefore was not in this partnership agreement.  
 317. The land was not at the time in the name of this person when the agreement was drawn; how is it that it was put in afterwards? It was not put in afterwards. It was put in before I paid the money.  
 318. I see that you have not got this document registered? It has been fulfilled.  
 319. You always held an interest in this 110 block? Yes.  
 320. Do you know how it was paid for? No, I do not. I did not hold an interest in it until after it was taken up.  
 321. You knew nothing about it until it was taken up? No, I did not, except by Mr. Moore's letter.  
 322. *Mr. Proctor.*] You have since had to pay your share of the instalments? Yes; I paid my one-third share, and here is Mr. Moore's receipt [*produced*].  
 323. You have a permit from the Mines Department to work for gold? Yes.  
 324. Did you know long ago that there was gold there? Yes.  
 325. You produce also a permit to mine for gold dated 27th August, 1887? Yes.  
 326. *Chairman.*] You got your permit after you heard that they had discovered gold, I suppose? Yes; we had not applied previously, and we could not work it until we got a permit.  
 327. Why had you not applied? None of us knew how to take up gold land under mineral conditional purchase. We did not find it out until we were recommended to take up a gold mine lease on our own property.  
 328. You then became aware that they had discovered the gold? Oh, yes; I knew it before.  
 329. Do you mean to tell us that mixing up with mining matters as you have done you did not know how to do that? No; I did not.

Mr. P. Speare.  
6 June, 1888.

Mr. P. Speare. 330. And you did not think it worth while to inquire? I did. I went to Harrie Woods myself about taking out gold on a mineral conditional purchase, and all he said was, "Oh, we have nothing to do with mineral conditional purchases."

6 June, 1888. 331. And you mean to say that he would not tell you? My opinion is that he did not know anything at all about it.

332. Mr. Proctor.] Do you know that assays have been made of the antimony ore which was sent home? Yes.

333. Do you know that there was gold in it? I made an agreement with Mr. Moore to work on my own account for gold and antimony, but some men actually jumped the land whilst working on wages for me.

334. You paid one-third of the money to the Oriental Bank? Yes; £1,030.

335. Mr. Pring.] Did you know anything about there being gold before M'Kinlay's party came? No.\*

336. You have only been up there once or twice? A couple of times a year.

337. Do you know whether lot 110 was used in connection with antimony mining? No; it was not. It was very steep, and there was a difficulty in getting the ore; but it was necessary to have that, because we had no water frontage to the other land.

338. It was necessary for the water frontage? Yes.

Mr. William Westren called in, sworn, and examined:—

Mr. W.  
Westren.  
6 June, 1888.

339. Mr. Pring.] You are a miner? Yes.

340. Do you know blocks 109 and 110 at Gara? Yes.

341. How long have you known them? I have known them a long time.

342. Have you known them the last four or five years? Yes.

343. Have you been living there during the last four or five years? I have been living there thirteen or fourteen years.

344. Has block 110 ever been used in any way in conjunction with 109? No.

345. Has anything been done at 110? There is a small bit of a pot-hole sunk on 110.

346. Have you seen anything done on 110 in connection with the mining on 109? No.

347. And you have been living there all this time? Yes.

348. I think you are one of the men who discovered the gold on 110? Yes.

349. And your party are still in possession of it? Yes.

350. Chairman.] Do you think it was necessary to take up 110 for the purpose of working lot 109? I cannot see any reason for it.

351. Mr. Proctor.] Who are your party? There were Hack, John Allingham, and myself.

352. How many parties are there? There are different parties. Those are all that are in the claim that we are in.

353. Do you know that there are any tunnels in block 109? Yes; there are.

354. How many? I think there are three.

355. Where would the material taken out of that go to? It would go into the gully just underneath.

356. Under 110? No, not near it, I am certain of it.

357. Is it not a fact that the stuff has actually gone into 110? It would not go near it.

358. Mr. Frank Farnell.] What experience have you had in mining? I have been mining for years.

359. Where? In different places. First on the Peak Downs, then at Ironbarks, and at Bingera.

360. Mr. Proctor.] You say that you have been there this four years? No; fourteen or fifteen years.

361. Where? At Gara.

362. What have you been doing there all that time? I have been doing a lot of fencing.

Mr. Alfred James Hack called in, sworn, and examined:—

Mr.  
A. J. Hack.  
6 June, 1888.

363. Mr. Pring.] I think you are one of those who discovered gold on lot 110? I am not one of the first, but I was there about two days afterwards.

364. How long have you known lots 109 and 110? About fifteen months.

365. Have you ever seen any work done on 110 in connection with the mining on lot 109? No.

366. Is there any trace of any work at all? Yes, a small hole there, but nothing beyond that.

367. I suppose you know the lay of the country there pretty well? Yes.

368. Do you know where the tunnels are? Yes.

369. Where does any antimony taken out of the tunnels go to? It would roll down the gully, and a little of it might pass what we suppose to be the boundary of 109 and 110, but very little.

370. When were you last there? About a month ago.

371. Did you see any antimony ore at 110 then? Nothing to speak of.

372. You have never at any time seen more than a few lumps? That is all—a few which had fallen down the cliffs, water-worn pieces which had come down owing to the cliff decaying, but none from the workings of 109. Very little would go down on to lot 110. It would lodge in the gully, and I should say that it would lodge on lot 109.

373. Mr. Proctor.] Does not the gully go through lot 110 to Baker's Creek? Yes.

374. You never saw them working at all? Yes, on 109; at the time when the antimony was first discovered I was out there.

375. Since that you have never seen them at work at all, I believe? No.

376. And, of course, you could hardly say what the result of working lot 109 would be, or whether the stone would go over into lot 110 or not? Yes; I can form a very good opinion, because of the formation of the gully.

377. But it would only be a matter of opinion? Of course, it would be a matter of opinion.

378. Mr. Pring.] Are you a practical miner? I am not.

379. Mr. Proctor.] What party do you belong to? My own; to Westren's party.

380. Are there several parties, or only one? Several.

\* NOTE (on revision):—Yes.

## MINERAL CONDITIONAL PURCHASES, PARISH OF METZ.

### APPENDIX.

[To evidence of *W. H. Capper.*]

#### A 1.

*Application by J. Moore.*

[Alienation Act, section 19.]

Application for the conditional purchase, without competition, of unimproved Crown Land,  
District of Armidale.

No. 266 of 1881.

Application by John Moore for the conditional purchase, without competition, of 80 acres, unimproved Crown Land.

Received by me, with a deposit of £40, this 29th day of September, 1881, at 10 o'clock,—

J. BRAY,

Agent for the sale of Crown Lands at Armidale.

Sir,

29 September, 1881.

I am desirous of purchasing, without competition, under the Crown Lands Alienation Act of 1861, the portion of unimproved Crown Lands hereunder described, containing 80 acres; and I herewith tender the sum of £40, being a deposit at the rate of 10s. per acre on the area for which I apply.

I am, &c.,

JOHN MOORE,

Armidale.

The Agent for the Sale of Crown Lands at Armidale.

#### DESCRIPTION :

County of Sandon, parish of Cooney, 80 acres, extending along the eastern boundary of mineral conditional purchase of 80 acres, made by James Powrie and James Glass, on the 3rd March, 1881, and adjoining said portion from south-east corner to north-east corner, and extending towards the river or creek.

Mr. L.-S. Martyn.—For measurement in accordance with regulations, due regard being had to the river or creek mentioned in the application in view of circular 80/18 of 21 April, 1880—J.H. (for Sur.-Gen.), B.C., 27 Oct., 1881. Replied to by my letter to the Surveyor-General, dated 11 March, No. 82-13.—JOHN G. MARTYN.

#### A 2.

*Declaration of Conditional Purchaser.*

(C.P. 81-266.)

[Alienation Act, 1861.]

Declaration of conditional purchaser for mining purposes.

I, JOHN MOORE, of Armidale, do solemnly and sincerely declare that I am the lawful owner, by conditional purchase, of the land hereunder described, and that an expenditure equal to £1 4s per acre for the area of the land has been made on mining operations other than gold-mining on the land, and since the selection on 29th September, 1881. And I make this solemn declaration, conscientiously believing the same to be true, and by virtue of the provisions of an Act made and passed in the ninth year of the Reign of Her present Majesty, intituled "An Act for the more effectual abolition of oaths and affirmations taken and made in various Departments of the Government of New South Wales, and to substitute declarations in lieu thereof, and for the suppression of voluntary and extra-judicial oaths and affidavits."

#### DESCRIPTION :

County of Sandon, parish of Metz, 80 acres, on Hillgrove Run, being (part of) conditional mining purchase No. 266, of 1881, in the district of Armidale.

Taken and declared at Armidale, this 24th day of December, 1884, before me,—

LAMBART S. GORDON, Commissioner for Affidavits.

JOHN MOORE.

Instalment (£8) credited at Treasury, 30 December, 1884.—J.C., 15/1/85. Inspector Harper, 18/4/85.

*Final Declaration of Conditional Purchaser.*

(Final C.P. 81-266.)

[Alienation Act, 1861.]

Declaration of conditional purchaser for mining purposes.

I, JOHN MOORE, of Armidale, do solemnly and sincerely declare that John Moore, Peter Speare, and John M'Bean are the lawful owners, by conditional purchase, of the land hereunder described, and that an expenditure equal to £2 per acre for the area of the land has been made on mining operations other than gold-mining on the land, and since the selection on 29th September, 1881. And I make this solemn declaration, conscientiously believing the same to be true, and by virtue of the provisions of an Act made and passed in the ninth year of the Reign of Her present Majesty, intituled "An Act for the more effectual abolition of oaths and affirmations taken and made in various departments of the Government of New South Wales, and to substitute declarations in lieu thereof, and for the suppression of voluntary and extra-judicial oaths and affidavits."

#### DESCRIPTION :

County of Sandon, parish of Metz, 80 acres, being (part of) conditional mining purchase No. 266, of 1881, in the district of Armidale

Taken and declared at Armidale, this 30th day of December, 1886, before me,—

LAMBART S. GORDON, Commissioner for Affidavits.

JOHN MOORE.

Instalment (£8) credited, 31/12/84. (*Vide* 1st declaration.) Examined and entered C.P. Register.—C.C., 14/1/87.

#### A 3.

Sir,

Armidale, N.S.W., 1 June, 1887.

We have the honor to report that we are the holders of the following M.C.Ps., situate county Sandon, parish of Cooney or Metz, district of New England, viz.:—No. 80-357, 100 acres, taken up 29th July, 1880; No. 81-54, 80 acres, taken up 24th February, 1881; No. 81-265, 80 acres, taken up 29th October, 1881; and we desire to call your attention to the fact that these blocks are all adjoining; that we have spent the large sum of £2,500 upon improvements upon the first

two mentioned areas; we have, however, made declarations of having spent £2 per acre upon the whole three blocks, and we have now the honor to request that you will allow the three blocks to be consolidated for the purposes of the improvement under the 26th section of the Crown Lands Act of 1875.

We have, &c.,  
JOHN MOORE & PARTY,  
(*pro* JOHN MOORE.)

The Secretary for Lands.

The papers are with the Board. So far as can be stated in their absence, there is no objection to the request being complied with. Mr. Moore may be so informed, and this letter referred to the Board.—C.O., 3/6/87. Approved.—T.G., 3/6/87. Inform at once, and refer to Chairman.—C.O., 3/6/87. Informed, 4/6/87. The Chairman, Local Land Board, Armidale.—S.F., B.C., 4/6/87.

Gentlemen,

4 June, 1887.

M.C.P. 80-357, may be consolidated. I have the honor to inform you, by direction of the Minister for Lands, that the papers relating to the purchase referred to are under reference to the Local Land Board at Armidale, but so far as can be stated in their absence, there is no objection to your request being complied with.

I am to add that the letters under reply have been referred to the Local Land Board, Armidale.

I have, &c.,  
STEPHEN FREEMAN,  
(For the Under Secretary.)

J. Moore and Party.

#### A 4.

Report by Mr. Inspector Harper.

Respecting the mineral conditional purchase of J. Moore, made at Armidale, on 29th September, 1881.

Armidale, 9 June, 1887.

Sir,

I have the honor to report that I visited and inspected the above described conditional purchase on the 6th day of June, 1887, and that I found the selector then not resident upon this selection.

The land, which consists of precipitous gulf and steep spurs, inaccessible in places, and comprises 80 acres, is held by applicant for mining purposes, and the selector, who follows the avocation of merchant, had, at the time of my visit, made the improvements hereunder particularly described, the value of which I estimate at the sums respectively stated, viz.:—Pot-holes, 12 feet x 3 feet average, and 5 feet deep, £6. No other improvements on the block made by selector.

From the appearance of the land and the circumstances stated in the following remarks, I am of opinion that the selector has been continuously resident upon the selection.

#### Remarks.

A gold-bearing reef has been recently discovered on this land which promises to be very rich.

The dividing line between this portion and No. 109 has never been marked, I presume, because of the precipitous nature of the country. At the south-west corner, however, an apple-tree is marked 109 over 110. A line due north from this tree to a position on top of high spur about 10 chains. A line north would cut perpendicular cliffs, inaccessible deep gulf intervening

I have, &c.,  
WM. HARPER,  
Inspector of Conditional Purchases.

The Chairman of the Local Land Board at Armidale.

#### A 5.

Caption to Deposition of Witness.

New South Wales, }  
to Wit. }

[Crown Lands Act of 1884—Part II, section 14, subsection 1.]

The examination of Joseph Francis M'Kinlay, of Armidale, in the Colony of New South Wales, publican, William Westren, of Hillgrove, John Moore, of Armidale, and Mordaunt Abster Maclean, of Armidale, in the said Colony, draftsman.

WHEREAS it hath been alleged that the necessary expenditure required by law has not been made in mining operations (other than gold-mining) on the mineral conditional purchase mentioned in the margin, made at Armidale on the 29th September, 1881, 80 acres, county Sandon, parish Metz, and it hath been found necessary to investigate the said matter on oath, the depositions of the several witnesses are appended hereto.

#### [Enclosure.]

*Examined by Mr. Kearney, solicitor:* This witness being duly sworn on oath states: My name is Joseph Francis M'Kinlay; I am the person who lodged the complaint against the mineral conditional purchase, John Moore and others; I know the mineral conditional purchase portion 110, subject of inquiry; it adjoins mineral conditional purchase portion 109 on the eastern boundary; I have known this portion under inquiry about three months; I have been over the land; there is one place on it that there is a small hole about 5 or 6 feet deep x 2 feet wide; this comprised all the improvements on portion 110.

*By Mr. Simpson, solicitor:* I know the boundaries of the lands as far as they are surveyed; I know the portion subject to inquiry, it adjoins portion 109; I know portion 58; they all adjoin each other; on portion 58 there is a good deal of improvements; as far as the tracing in my possession shows me there is little expenditure on 109; there is a good deal of mining expenditure on portion 109 in the tracing now shown me by you, and I will not say there is not £850 worth of improvements on this portion.

Sworn at Armidale, this 24th day of }  
June, 1887, before us, — }

SYDNEY BLYTHE, J.P., Chairman.  
C. E. SMITH, P.M.

JOSEPH F. M'KINLAY.

This witness on oath states: My name is William Westren; I am a miner; I have been out in the neighbourhood of Hillgrove for this fourteen or fifteen years; I know a mineral conditional purchase of Mr. Moore, portion 110; it is only a short time ago that I knew it; the place I know now as 110 I have known for a number of years; I did not know it was a mineral conditional purchase until very lately; I do not consider there are any mining operations on this portion; there is a bit of a pot-hole on it that a man could work for about £1; it is on the falls.

Sworn at Armidale, this 24th day of }  
June, 1887, before us, — }

SYDNEY BLYTHE, J.P., Chairman.  
C. E. SMITH, P.M.

WM. WESTREN.

This closed the evidence for the complaint.

This witness being duly sworn on oath states: My name is John Moore; I, Peter Speare and M'Bean are the holders of three mineral conditional purchases, portions 58, 109, and 110, Nos. of conditional purchases, 80-357, 100 acres, 81-54, 80 acres, and 81-266, 80 acres; all these three selections belonged to myself, Peter Speare, and M'Bean; I produce the receipt for payment of interest at the rate of 2s. per acre, dated 31st of March, 1887; on portions 58, 110, and 109 of 80 acres we have actually expended £2,566, the greater part of which has been spent on portion 109; I could produce vouchers for £1,743, money actually expended in men's wages; I have been in possession of this land uninterrupted since 1881; M'Bean resided

resided on the land; it has been his home since it was taken up; these three blocks named above all adjoin each other; the lectr which has been read by the Chairman, dated 1st June, 1887, is the one forwarded by me to the Minister for Lands, and I produce the reply to the same.

*By Mr. Kearney, solicitor:* We made separate declarations on the three portions named; I could not state when I made declaration on portion 58; when I made this declaration I could not state if it stood in the name of Powrie, Glass, and Moore; I could not tell unless I saw the papers whether I made the declaration on mineral conditional purchase 80-357; I could not say from memory whether the expenditure was made by Powrie, Glass, and Moore; I do not think we applied for an extension of time; the property I think when I made declaration on 109 belonged to Powrie, Glass, and Moore; I made declaration on portion 110; this always belonged to me; I suppose the improvements on 109 would more than cover the £1 4s. improvements on 110; when I made the first declaration of £1 4s. per acre it was my own, not in the name of Powrie, Glass, and Moore; I subsequently transferred this to the firm, and made the declaration at the end of five years at £2 per acre in the name of firm, John Moore, Peter Speare, and John M'Bean.

Sworn at Armidale, this 24th day of }  
June, 1887, before us,— }

JOHN MOORE.

SYDNEY BLETHE, J.P., Chairman.  
C. E. SMITH, P.M.

This witness being duly sworn, on oath, states: My name is *Mordaunt Alister Maclean*; I am in the Survey Office; I represent the District Surveyor; I produce the original plans showing portions 58, 109, and 110, parish Metz and Cooney; I look at plan of portion 109; portion 109 is surveyed for 80 acres, including portions applied for as gold leases; I have no doubt whatever; nor of portion 58, 100 acres, surveyed inclusive of any application for gold leases; there was a gold-field proclaimed Gwyrn, 29th June, 1833; that embraces only portion 58 of these three portions; portions 109 and 110 have never been within any gold-field.

*By Mr. Kearney, solicitor:* These plans are from the Surveyor-General's Office; they do not show any gold lease applications; the local map does not show the boundaries of gold lease applications as being within portion 109; three of them are upon portion 109 and one on portion 58; the fact of their being shown on the local map would not necessarily show that these gold leases had been surveyed before the mineral conditional purchase; the mineral gold lease on portion 58 is the only one that is really included within the gold-field.

Sworn at Armidale, this 24th day of }  
June, 1887, before us,— }

M. A. MACLEAN.

SYDNEY BLETHE, J.P., Chairman.  
C. E. SMITH, J.P.

This closed the evidence.

## B 1.

[To Evidence of John Moore.]

Glenhurst, Armidale, 1 June, 1888.

JOHN M'BEAN is an inmate of the Armidale hospital. He is suffering from chronic rheumatic arthritis. In my opinion, he is unfit to undertake a journey to Sydney.

L. G. MALLAM, M.B., M.R.C.S., England,  
Med. Officer, Armidale Hospital.

## B 2.

Statutory Declaration.

I, JOHN M'BEAN, of Armidale, in the Colony of New South Wales, do hereby solemnly and sincerely declare as follows:—

1. I am a partner with John Moore and Peter Speare in regard to mineral conditional purchases 58, 109, and 110 in the parish of Metz, county of Sandon, and I have been such partner since January, 1881, and I have resided on block portion 58, from January, 1881, until about three months ago, when I was compelled to come into Armidale for medical advice.
2. I hold a one-third share or interest in the aforesaid mineral conditional purchases 58, 109, and 110, and have done so ever since they were taken up.
3. Previous to the 29th day of September, 1881 (the day in which block 110 was taken up), Mr. Moore came over to inspect the mine and found two men shooting the antimony down into block 110. These men stated in the presence of Mr. Moore that they intended earning as much money as would enable them to take up the block, and pack up the antimony by horses.
4. Mr. Moore proceeded to Armidale and took up the land in his own name.
5. Mr. Moore came out two or three days later and stated that the land agent could not take our deposit unless Mr. Speare and myself were present, and that as I was crippled with rheumatics, to prevent delay, he had taken up the land in his own name. Mr. Moore further stated that I would have a one-third share or interest in this block as well as in the others. He made this statement in the presence of his son Mr. James Moore.
6. I have no document or writing to show that I hold any such share or interest, but merely Mr. Moore's word.
7. Mr. Moore has paid for my share of all the expenses in taking up the whole of the land, and the expenses of erecting machinery thereon, and I am still indebted to him for my share of such expenses.

And I make this solemn declaration conscientiously believing the same to be true, and by virtue of the provisions of an Act made and passed in the ninth year of the Reign of Her present Majesty intituled "An Act for the more effectual abolition of oaths and affirmations taken and made in various departments of the Government of New South Wales, and to substitute declarations in lieu thereof, and for the suppression of voluntary and extra-judicial oaths and affidavits."

Subscribed and declared at Armidale, this 31st day of }  
May, before me,— }

JOHN M'BEAN.

JOHN M. SHEAHAN, a Commissioner for Affidavits.

## B 3.

Statutory Declaration.

I, LAMBERT SKENE GORDON, of Armidale, in the Colony of New South Wales, Crown Lands Agent, do hereby solemnly and sincerely declare as follows:—That I recollect at the time, John Moore, of Armidale, made his declaration before me as Crown Lands Agent, on the 24th day of December, 1884, as to M.C.P., No. 81-266 being improved to £1 4s. per acre, I asked him if such improvements were on such mineral conditional purchase when he, the said John Moore replied that same adjoined and formed one holding with mineral conditional purchases, Nos. 80-357 and 81-54, and under the 26th section of Crown Lands Act Amendment Act, 39 Victoria No. 13, I accepted the said John Moore's declarations as to improvements above referred to. I also recollect the said John Moore declaring on the same mineral conditional purchase above referred to, viz., No. 81-266 on the 30th December, 1886, when he valued the improvements thereon at £2 per acre, by virtue of mineral conditional purchase adjoining thereto, No. 81-54 being improved to the value of £5 per acre, and by virtue of mineral conditional purchase adjoining, No. 80-357 being improved to the value £8 per acre. And I make this solemn declaration conscientiously believing the same to be true, and by virtue of the provisions of an Act made and passed in the ninth year of the Reign of Her present Majesty, intituled "an Act for the more effectual abolition of oaths and affirmations taken and made in various departments of the Government of New South Wales, and to substitute declarations in lieu thereof, and for the suppression of voluntary and extra-judicial oaths and affidavits."

Subscribed and declared at Armidale, this 1st day of June, }  
1888, before me,— }

LAMBERT S. GORDON.

JOHN CRAIGIE, J.P.



1887.

(THIRD SESSION.)

LEGISLATIVE ASSEMBLY.

NEW SOUTH WALES.

## MINERAL CONDITIONAL PURCHASES, PARISH OF METZ.

(APPLICATIONS FOR.)

*Ordered by the Legislative Assembly to be printed, 21 September, 1887.*

FURTHER RETURN (*in part*) to an Order of the Honorable the Legislative Assembly of New South Wales, dated 2nd June, 1887, That there be laid upon the Table of this House,—

“Copies of all papers in connection with the applications for mineral conditional purchase of portions 109, 110, and 113, parish of Metz, county of Sandon; also, copies of all papers in respect to applications to mine for gold on the above-mentioned portions.

(*Mr. Copeland.*)

### SCHEDULE.

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2. Mr. Joseph Penglase to the Honorable the Secretary for Mines, calling attention to the injustice that will be done to miners in Armidale District if the rent due by Messrs. Moore and party on portions 109 and 110, parish of Metz, be accepted, with minutes. 20 April, 1887 .....	2
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13. Mr. Warden C. E. Smith to the Under Secretary for Mines, in reply to No. 5. 3 May, 1887 .....	5
14. Mr. J. M'Kinlay, application for authority to dig and search for gold on alienated land within a proclaimed gold-field. 19 May, 1887.....	5

[805 copies—Approximate Cost of Printing (labour and material), £3 18s. 2d.]

## MINERAL CONDITIONAL PURCHASES, PARISH OF METZ.

No. 1.

Mr. J. A. M'Donald to The Secretary for Lands.

Sir,

Armidale, 7 April, 1887.

I have the honor by request of the applicants to hand you enclosed herein application by Messrs. Wm. Westren, C. Allingham, Jno. Allingham, and Wm. H. Allingham, for a permit from you to take possession and mine for gold in and upon a part of a measured portion No. 110, in the parish of Metz, within the Gyra River Gold-field, in this district. The land is part of a mineral conditional purchase of one John Moore, taken up 29th September, 1881, and I am informed by the present applicants that no mining operations of any kind nor any expenditure whatever have been made on this portion, and that consequently the mineral conditional purchase is forfeitable for non-performance of the conditions attaching to same, if the same has not already been forfeited, and they desire to be informed whether the said mineral conditional purchase stands good in the books of the Department, or whether it has been forfeited or lapsed.

I have, &c.,

J. A. M'DONALD,  
(per J.A.G.)

Mr. Capper,—What is the state of M.C.P.?—R.H.D., 13/4/87. The C.P. stands good. Papers under reference to the Chairman of the Armidale Board.—W.H.C., 27/4/87.

[Enclosure.]

WE, the undersigned William Westren, Christopher Allingham, John Allingham, and William Henry Allingham, of Hill-grove, near Armidale, hereby apply for a permit to take possession in accordance with the Mining Board Regulations, and to dig and search for gold within a parcel of land of the dimensions of a prospecting protection area as prescribed by the said regulations, situated within the Gyra River Gold-field, county of Sandon, parish of Metz, being part of portion No. 110, which on the 29th day of September, 1881, was sold to John Moore as a mineral conditional purchase.—Dated at Armidale, this 7th day of April, 1887.

WILLIAM WESTREN.  
CHRISTOPHER ALLINGHAM.  
JOHN ALLINGHAM.  
W. H. ALLINGHAM.

The Secretary for Lands.

Must await action in re letter from Messrs. Moore & Co., per Mr. T. F. DeC. Browne, of 2nd May, 1887.—W.B.C., 23/5/87.

No. 2.

Mr. J. Penglase to The Secretary for Mines.

Sir,

Armidale, 20 April, 1887.

I have, on behalf of the miners of this district, to call your attention to a great injustice that will be done to them in reference to accepting the rent on two blocks of land situate at Gara Falls, Nos. 109 and 110. Your Mining Act states that the rent must be paid yearly in advance. The ground was held by John Moore as a mineral conditional purchase; the rent, I believe, has not been paid for two years, and we know that the labour conditions have not been fulfilled. Our party, thinking the ground abandoned, began prospecting, and discovered a payable quartz-lode on the block 110. Immediately on its becoming known, the rent I have heard was paid into the office here, and Moore claims the ground, threatening to sue for trespass. I protest against the rent being received, and apply to you as Minister for Mines to see that justice is done in this matter; the rent not being paid according to law, I presume that you will throw the land open for selection. I know that you have been the instrument in exposing much corruption in the Civil Service and Government Departments generally, and now you have before you a case demanding your best attention. Shall the working man be deprived of his right? If you administer the Act in its integrity, which I believe you will, you will see your way clear to refuse the rent on blocks 109 and 110 and cancel their leases. Give the pioneers a chance; the men who have entered into these awful ravines endeavouring to open up roads for the commerce of the nation, and never let it be said that these oft-times half-famished creatures should be driven away from the ground that their pluck and perseverance has found for them. Hoping to hear that you will forfeit this ground and give it to those better entitled,

I have, &c.,

JOSEPH PENGLASE.

Presented by Mr. Copeland, 21/4/87. This was handed to me by Mr. Copeland evidently in error; forward it to Mines.—THOMAS GARRETT, 22/4/87. The writer refers to the holdings as M.C.P.'s; let me know if the land is held under mining lease.—H. W., 22/4/87. Urgent. Chief Draftsman,—The Under Secretary is waiting for this information.—E.F.P., 22/4/87. 109 and 110 are both M.C.P.'s.—W.S.C., 22 April, 1887. Forward to the Lands Department and inform.—H.W., 22/4/87. The Under Secretary for Lands.—G.E.H., B.C., 23/4/87.

C.P. 81-266, Armidale, John Moore. The C.P. still stands good. The papers, 85-12,440, are under reference to the Chairman of the Armidale Land Board for inspection of the C.P. and inquiry if necessary. Under recent arrangements it is presumed the enclosed application to mine may be forwarded for consideration to the Under Secretary for Mines.—W.H.C., 29/4/87. The Under Secretary for Mines.—S.F., B.C., 7/5/87.

No. 3.

## No. 3.

Mr. J. Penglase to H. Copeland, Esq., M.P.

Sir,

Armidale, 20 April, 1887.

I have to call your attention to a great injustice likely to be done to some of the working men of this district. Mr. Moore had two blocks of ground at Gara Falls, taken as mineral purchases. On block No. 110 there has been no work done for years, and the diggers believing it to be abandoned started work and discovered a gold-bearing quartz-reef. Mr. Moore at once pays up his arrears of rent, about two years', and claims the ground. The Mining Act is distinct in stating that the rent must be paid yearly in advance, and therefore I enter a protest against the money being accepted by Government, and I have called upon the Minister for Mines to declare the land forfeited. Trusting you will see this matter through, and assist the working man to obtain what is justly his own, and acquaint me with the first intimation of cancellation,

I have, &amp;c.,

JOSEPH PENGLASE.

Chief Mining Surveyor.—M.L. No., please.—E.C.P., 20/4/87.  
20/4/87. M.C.P., 81-266.—W.S.C., 20 April, 1887.

Chief Draftsman.—E.F.P.,

The writer may be informed that the land has been conditionally purchased. The owner's attention may be invited to the fact that he has no right to the gold, and the warden may be asked to report any gold taken from the land.—H.W., 20/4/87. Approved.—F.A., 21/4/87.

## No. 4.

Telegram from Mr. J. A. M'Donald to The Secretary for Lands.

Armidale, 22 April, 1887.

My letter, 7th instant, *re* Allingham and party's permit. Kindly reply soon as possible.

JOHN A. M'DONALD,

Solicitor.

The letter of the 7th inst. has not been received in C.S. Records.—J.P.M., 23/4/87. Further particulars may be asked for.—W.H.C., 27/4/87.

## No. 5.

The Under Secretary for Mines to Mr. Warden Smith.

Sir,

Department of Mines, Sydney, 25 April, 1887.

I have the honor, by direction of the Secretary for Mines, to request that you will be good enough to report if any gold is taken from the land held by Mr. John Moore, of Armidale, under mineral conditional purchase, 81-266, the land being situated on block No. 110 at Gara Falls.

I have, &amp;c.,

HARRIE WOOD,

Under Secretary.

## No. 6.

The Under Secretary for Mines to Mr. J. Penglase.

Sir,

Department of Mines, Sydney, 25 April, 1887.

Referring to your letter of the 20th instant, presented by Mr. Copeland, M.P., to the effect See No. 2 that a Mr. Moore held two blocks of land at Gara Falls, under a mineral conditional purchase, and that no work has been done on the land for some years, and deeming it abandoned, certain miners started work and discovered a gold-bearing quartz-reef, and in which you ask that the arrears of rent, which have been paid by Mr. Moore, might not be accepted, and that the land might be forfeited, I have the honor to inform you that the land appears to be held under conditional purchase, and as the Lands Department deals with such holdings your letter on the subject has been sent thither.

In the meantime I may inform you that you have no right to remove any gold from the land.

I have, &amp;c.,

GERARD E. HERRING,

(For the Under Secretary.)

## No. 7.

The Under Secretary for Mines to Mr. J. Moore.

Sir,

Department of Mines, Sydney, 25 April, 1887.

I have the honor, by direction of the Secretary for Mines, to inform you, that it appears that mining operations have been carried on by certain persons on the land held by you under mineral conditional purchase, No. 81-266, and that a gold-bearing quartz-reef has been discovered, and I am to point out to you that you have no right to remove gold from the land in question.

The papers have been referred to the Lands Department, which deals with mineral conditional purchases.

I have, &amp;c.,

GERARD E. HERRING,

(For the Under Secretary.)

## No. 8.

## Application by P. Speare and others.

Crown Lands Act of 1884—(Part I, section 7.)

Application for permit to remove Mineral.

WE, Peter Speare, John Moore, and John M'Bean, being the owners of that piece or parcel of land, being M.C.P. 80-357, in the county of Sandon, parish of Metz, containing 100 acres, more or less, hereby apply for permission to dig, mine for, win, and remove any gold that may be found in such land. We make this application in terms of and subject to the conditions prescribed in the regulations made under the provisions of the Crown Lands Act 1884; and we agree to accept such permit, subject to, and to be bound by the conditions set forth in such regulations, and such other conditions as the Governor may impose.

PETER SPEARE,  
JOHN MOORE,  
JOHN M'BEAN.

By their Agent, P. SPEARE, Smith-street, Summer Hill.

Witness—T. F. DECOURCY BROWNE.

The Honorable the Secretary for Mines, Sydney.

State of conditional purchase, please. Has deed issued?—W.R.C. (*pro* U.S. Mines), 2/5/87.  
Mr. Cope. Not issued according to C.P. register.—C.C., 2/5/87. Submitted.—W.R.C., 2/5/87.

## No. 9.

## Application by P. Speare and others.

Crown Lands Act of 1884—(Part I, section 7.)

Application for permit to remove Mineral.

WE, Peter Speare, John Moore, and John M'Bean, being the owners of that piece or parcel of land, being M.C.P. 81-54, in the county of Sandon, parish of Cooney, containing 80 acres, more or less, hereby apply for permission to dig, mine for, win, and remove any gold that may be found in such land. We make this application in terms of and subject to the conditions prescribed in the regulations made under the provisions of the Crown Lands Act 1884; and we agree to accept such permit, subject to, and to be bound by the conditions set forth in such regulations, and such other conditions as the Governor may impose.

PETER SPEARE,  
JOHN MOORE,  
JOHN M'BEAN.

By their Agent, P. SPEARE, Smith-street, Summer Hill.

Witness—T. F. DECOURCY BROWNE.

The Honorable the Secretary for Mines, Sydney.

State of conditional purchase, please. Has the deed issued?—W.R.C. (*pro* U.S. Mines.) Mr.  
Cope. Not issued according to C.P. registers.—C.C., 2/5/87. Submitted.—W.R.C., 2/5/87.

## No. 10.

## Application by P. Speare and others.

Crown Lands Act of 1884—(Part I, section 7.)

Application for permit to remove Mineral.

WE, Peter Speare, John Moore, and John M'Bean, being the owners of that piece or parcel of land being M.C.P. 81-266, in the county of Sandon, parish of Cooney, containing 80 acres, more or less, hereby apply for permission to dig, mine for, win, and remove any gold that may be found in such land. We make this application in terms of and subject to the conditions prescribed in the regulations made under the provisions of the Crown Lands Act 1884; and we agree to accept such permit, subject to, and to be bound by the conditions set forth in such regulations, and such other conditions as the Governor may impose.

PETER SPEARE,  
JOHN MOORE,  
JOHN M'BEAN.

By their Agent, P. SPEARE, Smith-street, Summer Hill.

Witness—T. F. DECOURCY BROWNE.

The Honorable the Secretary for Mines, Sydney.

State of conditional purchase, please. Has deed issued?—W.R.C. (*pro* U.S. Mines), 2/5/87.  
Mr. Cope. Not issued according to C.P. register.—C.C., 2/5/87. Submitted.—W.R.C., 2/5/87.

## No. 11.

## Mr. J. Moore to The Secretary for Mines.

Sir,

In reply to your letter of the 25th instant, relative to M.C.P. 81-266, I have the honor to state that your informant is not stating facts—report states that a gold-bearing reef has been discovered. I am not aware of any person working the land, nor have I given any authority to do so.

I have, &amp;c.,

JOHN MOORE.

No. 12.

## No. 12.

## Mr. T. F. DeC. Browne to The Secretary for Mines.

Sir,

52, Castlereagh-street, Sydney, 2 May, 1887.

I have the honor to acknowledge the receipt of your letter No. 87-5,001, dated 25th April, See No. 7. informing me that gold-mining operations have been carried on by persons other than the owners on mineral conditional purchase 81-266, Armidale, and that I have no right to remove any gold under my mineral conditional purchase title.

In reply, I beg to state that a quartz reef carrying gold has been discovered as stated, and that on See No. 10. the 23rd April an application, under section 7 of the Land Act of 1884, was lodged in your Department by the owners of the above mineral conditional purchase to remove the gold. Will you please cause the application to be forwarded to the Lands Department (as provided for under the new arrangements of Departmental business) without delay, in order to facilitate a speedy issue of the necessary authority to mine for gold.

I have, &amp;c.,

JOHN MOORE,

For Self &amp; Co., Owners.

By their authorised agent, T. F. DeCOURCY BROWNE.

Has the application for permit been received.—H.W., 3/5/87.

The only application for permission to extract gold from M.C.P. 81-266, Armidale (portion of 80 acres, county of Sandon, parish of Metz), is one by Messrs. P. Speare, J. Moore, and J. M'Bean (conditional purchasers). The application (No. 22) is under submission, as upon enquiry at the Lands Department, it was found that the deed had not been issued, balance not having been paid.—W.R.C., 3/5/87.

Inform Mr. DeCourcy Browne.—H.W., 9/5/87.

Ascertain whether this was within a gold-field when the M.C.P. was made; what would be the terms of the deed of grant that will be issued to the purchasers; and then, it may, perhaps, be necessary to refer to the Crown Law Officers for an opinion whether the permit can issue before the purchase is completed and the deed of grant issued.—H.W., 23/5/87.

Expedite. The Chief Mining Surveyor.—W.R.C., 23/5/87. The Chief Draftsman.—E.F.P., 23/5/87. Urgent.

## No. 13.

## Mr. Warden Smith to The Under Secretary for Mines.

Sir,

Warden's Office, Armidale, 3 May, 1887.

Referring to your letter of the 25th ultimo, as to whether any gold is taken from the land See No. 5. held by Mr. John Moore, of Armidale, under mineral conditional purchase 81-266, portions 109 and 110, at Gara Falls, it is alleged a small quantity of gold has been taken from the blocks in question, but not by Mr. Moore or any person acting in authority under him.

I have, &amp;c.,

C. E. SMITH.

Submitted.—W.R.C., 9/5/87.

I presume no further action need be taken.—H.W., 9/5/87.

Submitted. Approved.—F.A., 10/5/87.

## No. 14.

## Application by J. M'Kinlay.

Crown Lands Act of 1884—(Part III, section 46).

Application for authority, to dig and search for gold on alienated land within a proclaimed gold-field.

I, JOHN M'KINLAY, hereby apply for authority to dig and search for gold within a parcel of land situated in the county of Sandon, parish of Metz, being portion No. 110, which on the 29th day of September, 1881, was alienated to Peter Speare, John Moore, and J. M'Bean as a mineral conditional purchase. That part of the said portion upon which I request authority to mine is described at the foot hereof.

I make this application in terms of and subject to the Crown Lands Act of 1884, and the regulations made thereunder; and I agree, if such authority be granted, to be bound by the conditions imposed by the said regulations, and any other conditions which may be contained in the permission or authority.

Description of land to be mined upon.

Being mineral conditional purchase No. 81-266 of 80 acres applied for by Speare, Moore, and M'Bean: Commencing on north-west corner of lot 110, and from thence along western boundary for a distance of 20 chains south, thence 20 chains east, thence 20 chains north to northern boundary, and 20 chains west to point of commencement.

JOHN M'KINLAY,

c/o Mr. Kennedy, Cove-street, Balmain,  
19th May, 1887.

Witness—P. J. COOKE.  
The Under Secretary for Lands, Sydney.

The Chief Mining Surveyor,—Urgent.—W.R.C., 27/5/87. Chief Draftsman.—E.F.P., 27/5/87.



1887-8.

LEGISLATIVE ASSEMBLY.  
NEW SOUTH WALES.

MINERAL CONDITIONAL PURCHASES, PARISH OF METZ.

(PETITION TO BE HEARD BEFORE SELECT COMMITTEE, BY COUNSEL OR SOLICITOR—JOHN MOORE AND OTHERS.)

*Ordered by the Legislative Assembly to be printed, 21 March, 1888.*

To the Honorable the Speaker and Legislative Assembly of New South Wales, in Parliament assembled.  
The Humble Petition of John Moore, John M'Bean, of Armidale, and Peter Speare, of Sydney,  
in the Colony of New South Wales,—

RESPECTFULLY SHOWETH:—

1. That on the twenty-ninth day of July, one thousand eight hundred and eighty-one, John M'Carthy applied for a portion of land being portion fifty-eight, parish of Metz, county of Sandon, under the thirteenth section of the Crown Lands Alienation Act of 1861, 25 Victoria Number 1, and that on the twenty-first of October, one thousand eight hundred and eighty, the said John M'Carthy applied to have this conditional purchase converted into a mineral conditional purchase, under the nineteenth section of the said Act, 25 Victoria Number 1.

2. That the said John M'Carthy transferred the said mineral conditional purchase to James Powrie and James Glass, on the thirty-first day of January, one thousand eight hundred and eighty-one.

3. That the said James Powrie and James Glass transferred the said mineral conditional purchase to James Powrie, James Glass, and John Moore, on the tenth day of September, one thousand eight hundred and eighty-one.

4. That the said mineral conditional purchase was transferred by the said James Powrie, James Glass, and John Moore, to John Moore, on the ninth of December, one thousand eight hundred and eighty-four.

5. That the said John Moore transferred the said mineral conditional purchase to John Moore, Peter Speare, and John M'Bean, on the third day of May, one thousand eight hundred and eighty-six.

6. That a Select Committee of your Honorable House was on Tuesday, the twentieth of December, one thousand eight hundred and eighty-seven, duly appointed by your Honorable House, with power to send for persons and papers to inquire into and report upon the granting of the above mineral conditional purchase, also with reference to the refusal of certain applications, and the granting of other applications for permission to mine on the said land.

Your Petitioners therefore humbly pray as follows:—

That your Petitioners may be heard by Counsel or Solicitor before the Select Committee with liberty to adduce such evidence as may be advised concerning the subject matter of the said inquiry in the interests of your Petitioners.

And your Petitioners as in duty bound will ever pray, &c.

Dated this twelfth day of March, in the year of our Lord one thousand eight hundred and eighty-eight.

Witness—JAMES J. MOORE, J.P.

JOHN MOORE.  
JOHN M'BEAN.



1887-8.

LEGISLATIVE ASSEMBLY.

NEW SOUTH WALES.

## MINERAL CONDITIONAL PURCHASE, PARISH OF METZ.

(PETITION TO BE HEARD BEFORE SELECT COMMITTEE ON—JOSEPH F. M'KINLAY.)

*Received by the Legislative Assembly, 23 May, 1888.*

In the matter of certain mineral conditional purchases in the parish of Metz or Cooney, county of Sandon,  
Colony of New South Wales.

To the Honorable the Speaker and Legislative Assembly of New South Wales, in Parliament assembled.

The humble Petition of Joseph Francis M'Kinlay, of Armidale, in the Colony of New South Wales,  
miner;—

RESPECTFULLY SHOWETH:—

1. That your Petitioner is, and has been since the year one thousand eight hundred and eighty-six, the holder of a miner's right issued under and in pursuance of the Mining Act of 1874, and was and is by virtue of such miner's right entitled amongst other things to enter upon, mine in for gold, and occupy for gold-mining purposes, any Crown Lands.

2. That your Petitioner and others forming a mining party have been in possession under their miner's rights, and have been occupying for gold-mining purposes certain portions of land, known as portion 58, parish of Metz, county of Sandon, and portion 109, parish of Metz or Cooney, county of Sandon, and portion 110, parish of Metz or Cooney, county of Sandon, for the period of thirteen months.

3. That John Moore, John M'Bean, and Peter Speare, claim to be entitled to the possession of the said portions by virtue of certain mineral conditional purchases under the Crown Lands Alienation Act of 1861.

4. That a Select Committee of your Honorable House was on Tuesday, the twentieth day of December, in the year one thousand eight hundred and eighty-seven, duly appointed by your Honorable House, with power to send for papers and persons, to inquire into and report upon the above mineral conditional purchases; also, with reference to the refusal of certain applications, and the granting of other applications, for permission to mine on the said land.

Your Petitioner therefore humbly prays as follows:—

That your Petitioner may be heard by counsel or solicitor before the said Select Committee, with liberty to adduce such evidence as he may be advised concerning the subject matter of the said inquiry in the interest of your Petitioner.

And your Petitioner, as in duty bound, will ever pray, &c.

Dated this seventeenth day of May, in the year of our Lord one thousand eight hundred and eighty-eight.

JOSEPH F. M'KINLAY.

Witness—ALFRED HORRICKS, Solr., Sydney.



1887-8.

LEGISLATIVE ASSEMBLY.  
NEW SOUTH WALES.

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**MINERS' RIGHTS.**

(PETITION FROM MINERS OF HILL END, SOFALA, SUNNY CORNER, &c., &c.)

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*Received by the Legislative Assembly, 12 April, 1888.*

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To the Honorable the Speaker and the Honorable Members of the Legislative Assembly of New South Wales, in Parliament assembled.

The humble Petition of the undersigned miners of Hill End, Sofala, Sunny Corner, Rylstone, Cargo, Gulgong, Silverton, Limestone, Mount McDonald, Bathurst, Wattle Flat, Nymagee, Hargreaves, Copeland, Parkes, Mount Brown, Oberon, and Tambaroora,—

HUMBLY SHOWETH:—

That the charge made for a miner's right is excessive.

That great relief will be afforded to them if the miners' right remains in force for twelve months, irrespective of date of issue.

Your Petitioners pray that your Honorable House will give consideration to the matters referred to, and grant such relief as you may deem fit.

And your Petitioners will, as in duty bound, ever pray, &c.

[*Here follow 929 signatures.*]

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1887-8.

LEGISLATIVE ASSEMBLY.  
NEW SOUTH WALES.

MINING ON PRIVATE PROPERTY.

(PETITION—MINERS OF FOREST REEF.)

*Received by the Legislative Assembly, 8 February, 1888.*

The humble Petition of the miners of Forest Reef.

To the Legislative Assembly of the Colony of New South Wales,—

WE, the undersigned, being miners or interested in the mining developments of New South Wales, respectively request that the Bill about to be introduced on our behalf by Mr. C. L. Garland, M.L.A., for the purpose of mining on private properties be favourably entertained by you.

There are, without doubt, in this extensive territory of New South Wales, large areas of land known to be highly auriferous, and to contain vast deposits of mineral wealth, but which, under existing laws, cannot be touched, thus retarding all tendencies towards natural progress and advancement in the line referred to.

The Bill about to be brought forward by Mr. Garland is, we believe, a step in the right direction, and as such should be entitled to the hearty support of all classes.

It is undoubtedly a matter of the deepest importance, not only to the mining but also to all other industrial classes, that the mineral resources of the country should be fully developed, as by those means new centres of industry would be established, which, with their consequent advantages to the country, would contribute largely to the prosperity and welfare of the whole Colony.

We therefore hope and pray that the said Bill will be treated in the manner in which we desire, and we, your humble Petitioners, will ever pray.

*[Here follow 64 signatures.]*

Similar Petitions were received,—

On 8th February, 1888,	from miners of Ironbarks ;	28 signatures.
”	”	” from miners of Brown’s Creek ; 49 signatures.
”	”	” from miners of Canowindra ; 50 signatures.
”	”	” from miners of Galley Swamp ; 31 signatures.
”	”	” from miners of Deepwater ; 37 signatures.
”	”	” from miners of Lismore ; 17 signatures.
”	”	” from miners of Capertee Flat ; 14 signatures.
”	”	” from miners of Nymagee ; 31 signatures.
”	”	” from miners of Adelong ; 45 signatures.
”	”	” from miners of Barraba ; 30 signatures.
”	”	” from miners of Araluen ; 60 signatures.
”	”	” from miners of Bingera ; 44 signatures.



1887.

(THIRD SESSION.)

LEGISLATIVE ASSEMBLY.

NEW SOUTH WALES.

## GOLD-MINING AND MINERAL LEASES.

(INFORMATION RESPECTING.)

*Ordered by the Legislative Assembly to be printed, 29 November, 1887.*

RETURN to an *Order* of the Honorable the Legislative Assembly, dated 29th September, 1887, That there be laid upon the Table of this House,—

“A Return showing the total number of Gold-mining and Mineral Leases applied for during the five years ending the 1st of September, 1887; also showing the period that has intervened between the date of application and the date of issue in the case of all applications where the delay has exceeded six months.”

*(Mr. Wall.)*

TOTAL number of Gold-mining Leases applied for during the five years ending the 1st of September, 1887, 2,331.

TOTAL number of Mineral Leases applied for during the five years ending the 1st of September, 1887, 4,942.

LEASES issued in which the period intervening between date of application and date of issue has exceeded six months, and showing such period during the five years ending 1st September, 1887.

## GOLD LEASES.

No. of Lease.	Date of Application.	Date of Issue.	No. of Lease.	Date of Application.	Date of Issue.	No. of Lease.	Date of Application.	Date of Issue.
244	1 Aug., 1881	1 Feb., 1883	265	1 May, 1883	1 Mar., 1884	288	29 June, 1883	19 June, 1884
245	10 June, 1882	18 Dec., 1882	266	1 June, 1882	13 „ 1884	289	20 Sept., 1882	12 „ 1884
246	26 April, 1882	14 Mar., 1883	267	29 April, 1882	15 „ 1884	290	1 Feb., 1883	4 „ 1884
247	7 Sept., 1880	5 July, 1883	268	16 Feb., 1882	27 „ 1884	291	24 Aug., 1883	21 „ 1884
248	16 Nov., 1880	14 Aug., 1883	269	5 May, 1882	27 „ 1884	292	27 Oct., 1883	25 „ 1884
249	16 „ 1882	28 Sept., 1883	270	5 „ 1882	27 „ 1884	293	1 May, 1882	11 July, 1884
250	16 Jan., 1882	21 Nov., 1883	271	19 June, 1882	27 „ 1884	294	4 Dec., 1882	27 June, 1884
251	24 Sept., 1881	18 Jan., 1884	272	25 Sept., 1882	27 „ 1884	295	21 Aug., 1883	30 „ 1884
252	24 „ 1881	18 „ 1884	273	6 Oct., 1882	27 „ 1884	296	10 „ 1883	4 July, 1884
253	25 Nov., 1881	18 „ 1884	274	2 „ 1882	23 April, 1884	297	25 Sept., 1882	7 Aug., 1884
254	20 Dec., 1881	18 „ 1884	277	23 Sept., 1882	10 May, 1884	300	27 „ 1884	7 April, 1885
255	24 Sept., 1881	29 „ 1884	278	6 „ 1883	12 „ 1884	301	27 „ 1884	16 May, 1885
256	25 Nov., 1881	29 „ 1884	279	21 April, 1883	7 „ 1884	302	15 „ 1884	1 June, 1885
257	6 Feb., 1882	21 „ 1884	280	21 „ 1883	14 „ 1884	303	24 Oct., 1884	18 July, 1885
258	14 Nov., 1882	29 „ 1884	281	27 July, 1883	14 „ 1884	305	8 Mar., 1882	20 Oct., 1885
259	24 July, 1882	28 „ 1884	282	23 April, 1883	16 „ 1884	306	8 „ 1882	20 „ 1885
260	28 „ 1881	2 Feb., 1884	283	25 May, 1883	23 „ 1884	307	17 Oct., 1884	26 „ 1885
261	10 Nov., 1882	14 „ 1884	284	14 „ 1883	22 „ 1884	308	22 Nov., 1884	5 Jan., 1886
262	25 Sept., 1882	14 „ 1884	285	21 June, 1882	12 June, 1884	309	2 „ 1884	3 Feb., 1886
263	2 Aug., 1882	22 Mar., 1884	286	4 Aug., 1883	14 „ 1884	310	3 „ 1884	3 „ 1886
264	2 „ 1882	22 „ 1884	287	25 Sept., 1883	14 „ 1884	311	21 Mar., 1884	6 „ 1886

## GOLD LEASES—continued.

No. of Lease.	Date of Application.	Date of Issue.	No. of Lease.	Date of Application.	Date of Issue.	No. of Lease.	Date of Application.	Date of Issue.
312	16 Mar., 1885	6 Feb., 1886	261	19 Jan., 1882	20 Mar., 1884	319	31 Dec., 1885	15 Dec., 1886
313	2 April, 1885	27 Jan., 1886	262	19 " 1882	29 " 1884	350	31 " 1885	15 " 1886
314	15 June, 1885	27 " 1886	263	18 Nov., 1881	29 " 1884	351	19 Oct., 1885	22 Jan., 1887
315	6 Oct., 1884	9 Mar., 1886	264	11 Feb., 1882	17 April, 1884	352	26 Mar., 1886	28 Mar., 1887
316	13 " 1884	9 " 1886	265	27 Mar., 1883	12 May, 1884	353	23 " 1886	6 April, 1887
317	26 Sept., 1884	5 Jan., 1886	266	25 April, 1883	6 " 1881	354	20 July, 1886	25 " 1887
318	3 July, 1884	27 Sept., 1886	267	25 " 1883	6 " 1881	355	27 April, 1886	2 May, 1887
319	8 June, 1885	26 Feb., 1886	268	27 June, 1882	13 " 1881	356	23 Aug., 1886	3 " 1887
320	27 " 1885	27 " 1886	269	19 Jan., 1882	27 " 1884	357	30 Sept., 1886	3 " 1887
321	4 Feb., 1884	23 Mar., 1886	270	8 Oct., 1881	4 July, 1884	358	17 Aug., 1886	26 " 1887
322	12 " 1884	4 " 1886	271	2 Aug., 1882	2 " 1881	359	6 Feb., 1886	15 June, 1887
323	11 July, 1884	5 " 1886	272	22 July, 1882	18 " 1884	360	11 Dec., 1886	4 July, 1887
324	2 April, 1885	8 " 1886	273	12 April, 1883	22 " 1884	361	22 Sept., 1886	22 June, 1887
325	15 Dec., 1884	6 " 1886	274	5 July, 1883	26 " 1884	362	22 " 1886	22 " 1887
326	15 " 1884	8 " 1886	275	10 Nov., 1883	26 " 1884	363	8 Oct., 1886	14 July, 1887
327	25 Feb., 1885	8 " 1886	276	19 " 1881	31 " 1881	364	27 Mar., 1886	19 " 1887
328	15 Dec., 1884	19 " 1886	277	5 " 1883	2 Aug., 1884	77	4 Nov., 1881	27 Aug., 1883
329	15 " 1884	18 May, 1886	278	31 Oct., 1883	19 Sept., 1884	78	8 " 1881	25 " 1883
330	17 " 1884	21 July, 1886	279	17 Sept., 1883	30 " 1884	87	6 Feb., 1884	7 Nov., 1884
331	23 July, 1885	5 " 1886	280	27 May, 1881	4 July, 1884	88	6 " 1884	7 " 1884
332	22 Dec., 1884	3 Sept., 1886	281	11 Oct., 1881	27 Aug., 1884	89	20 " 1884	7 " 1884
333	5 Sept., 1884	27 " 1886	282	7 Mar., 1884	11 Nov., 1884	90	20 " 1884	7 " 1884
335	5 Sept., 1885	6 Nov., 1886	283	7 " 1884	11 " 1884	91	31 Oct., 1883	14 April, 1885
336	8 " 1885	12 " 1886	284	17 Oct., 1881	5 Jan., 1885	92	18 Mar., 1884	17 Aug., 1885
337	23 Oct., 1885	8 " 1886	285	10 May, 1884	8 " 1885	93	19 Nov., 1884	5 Jan., 1886
338	16 April, 1885	8 Dec., 1886	286	2 Aug., 1884	7 " 1885	94	4 April, 1885	24 Feb., 1886
339	24 " 1886	21 " 1886	287	17 April, 1884	12 Feb., 1885	95	19 Nov., 1884	2 Mar., 1886
340	28 Aug., 1884	30 Nov., 1886	288	17 " 1884	8 " 1885	96	13 Aug., 1885	14 Sept., 1886
341	4 " 1884	30 " 1886	289	17 May, 1884	7 " 1885	97	9 Feb., 1886	6 Nov., 1886
343	6 April, 1886	19 Jan., 1887	290	20 Oct., 1881	28 " 1885	98	7 Sept., 1885	1 Dec., 1886
342	9 Mar., 1886	21 " 1887	291	8 Mar., 1881	9 Mar., 1885	99	10 Oct., 1885	1 " 1886
344	16 Jan., 1886	31 " 1887	292	13 April, 1882	14 " 1885	100	12 " 1885	1 " 1886
345	30 April, 1886	14 " 1887	293	1 Dec., 1883	10 " 1885	101	7 Nov., 1885	1 " 1886
346	11 Jan., 1886	22 " 1887	294	5 Mar., 1883	1 April, 1885	102	19 Oct., 1885	1 " 1886
348	25 June, 1886	19 Mar., 1887	295	16 Aug., 1884	4 " 1885	103	14 Nov., 1885	11 Feb., 1887
349	6 July, 1886	28 " 1887	296	26 Sept., 1884	30 " 1885	104	10 Dec., 1885	15 " 1887
350	13 Mar., 1886	28 May, 1887	297	23 Oct., 1883	30 " 1885	105	12 Oct., 1885	16 " 1887
351	9 Aug., 1886	26 " 1887	298	6 June, 1884	20 May, 1885	106	18 " 1886	26 May, 1887
352	11 June, 1884	18 June, 1887	299	7 Aug., 1883	29 " 1885	107	18 " 1886	26 " 1887
353	18 Nov., 1886	22 July, 1887	300	7 " 1883	29 " 1885	108	24 June, 1886	1 July, 1887
354	23 Aug., 1886	4 June, 1887	301	25 Oct., 1883	1 June, 1885	109	22 Dec., 1886	12 " 1887
356	14 Dec., 1886	17 Aug., 1887	302	7 Jan., 1885	12 Aug., 1885	110	7 Aug., 1886	10 Aug., 1887
358	2 Oct., 1886	22 " 1887	303	28 " 1882	18 " 1885	112	15 " 1881	28 Sept., 1882
359	26 Nov., 1886	19 " 1887	304	13 May, 1881	21 " 1883	116	29 " 1881	13 Jan., 1883
131	16 Sept., 1880	20 Jan., 1886	305	5 Nov., 1884	29 Sept., 1885	118	25 July, 1881	17 Mar., 1883
132	15 Oct., 1880	20 " 1886	306	5 " 1884	29 " 1885	119	25 " 1881	21 May, 1883
143	13 Dec., 1880	25 Dec., 1885	307	5 " 1884	29 " 1885	120	27 " 1881	15 Mar., 1883
149	25 Jan., 1881	22 " 1886	308	5 " 1884	29 " 1885	121	27 " 1881	12 " 1883
154	20 Dec., 1880	22 " 1885	309	10 Jan., 1885	16 Nov., 1885	122	2 Sept., 1881	17 " 1883
168	14 June, 1881	20 Jan., 1886	310	24 June, 1882	3 Dec., 1885	125	30 May, 1881	19 Jan., 1883
178	7 Sept., 1881	7 Oct., 1882	311	18 Sept., 1884	22 " 1885	126	18 June, 1881	14 Dec., 1882
179	1 Aug., 1881	22 Nov., 1882	312	3 Nov., 1884	20 Jan., 1886	127	21 Nov., 1881	23 Jan., 1883
180	4 Mar., 1881	5 Jan., 1883	313	14 April, 1885	15 " 1886	128	19 April, 1881	28 May, 1883
181	5 Dec., 1881	28 Oct., 1882	314	14 " 1885	15 " 1886	131	19 Dec., 1881	21 Mar., 1883
182	15 " 1881	28 " 1882	315	29 Sept., 1884	23 " 1886	132	2 May, 1881	16 April, 1883
185	22 Nov., 1881	19 Feb., 1883	316	2 Oct., 1884	16 " 1886	133	6 June, 1881	16 June, 1884
186	6 Jan., 1881	6 Jan., 1883	317	30 Aug., 1884	29 " 1886	134	20 Feb., 1882	4 Aug., 1883
187	28 Nov., 1881	10 Feb., 1883	318	27 June, 1885	2 Feb., 1886	135	6 Dec., 1882	2 July, 1883
190	16 Dec., 1881	17 Mar., 1883	319	4 May, 1885	6 " 1886	136	2 June, 1881	5 " 1883
191	3 Oct., 1881	17 " 1883	320	13 Dec., 1884	12 Jan., 1886	137	2 " 1882	4 Dec., 1883
198	22 " 1881	13 " 1883	321	30 Sept., 1884	19 " 1886	138	9 Sept., 1882	23 July, 1883
199	3 Dec., 1881	4 Dec., 1883	322	4 May, 1885	15 Feb., 1886	139	30 " 1882	23 " 1883
203	7 Nov., 1881	16 May, 1883	323	9 Nov., 1884	16 " 1886	140	15 Jan., 1883	19 " 1883
208	3 Dec., 1881	11 April, 1883	324	19 May, 1885	20 " 1886	141	20 Oct., 1880	3 Sept., 1883
212	2 Nov., 1880	14 May, 1883	325	7 " 1885	12 Mar., 1886	142	22 " 1880	3 " 1883
213	9 Jan., 1882	29 June, 1883	326	29 Dec., 1883	22 " 1886	143	15 " 1881	27 Aug., 1883
216	22 Mar., 1881	19 " 1883	327	29 " 1883	22 " 1886	144	15 " 1881	29 " 1883
218	11 May, 1882	27 " 1883	328	6 " 1884	30 " 1886	145	28 Nov., 1881	3 Sept., 1883
221	19 Oct., 1880	6 Sept., 1883	329	5 May, 1885	25 Jan., 1886	146	28 " 1881	29 Aug., 1883
223	14 April, 1882	14 Aug., 1883	330	10 Jan., 1885	16 " 1886	147	28 " 1881	29 " 1883
224	4 Oct., 1882	14 " 1883	331	12 Aug., 1885	3 Sept., 1886	148	28 " 1881	29 " 1883
225	26 Sept., 1882	11 " 1883	332	2 Oct., 1884	27 " 1886	149	28 " 1881	29 " 1883
229	5 July, 1882	25 " 1883	333	4 " 1884	16 " 1886	151	7 Jan., 1882	31 " 1883
233	22 " 1882	2 Nov., 1883	334	27 Dec., 1884	28 " 1886	154	4 July, 1881	28 " 1883
234	11 Sept., 1882	2 " 1883	335	30 Nov., 1885	23 Oct., 1886	155	13 Mar., 1882	21 " 1883
235	11 " 1882	2 " 1883	336	30 " 1885	23 " 1886	156	17 July, 1882	20 Oct., 1883
237	13 Feb., 1882	22 Sept., 1883	337	7 Aug., 1885	10 Nov., 1886	157	4 Dec., 1882	10 Sept., 1883
238	17 " 1882	16 April, 1884	338	7 " 1885	10 " 1886	161	27 Aug., 1881	22 " 1883
239	1 July, 1881	21 May, 1884	339	29 Dec., 1885	17 " 1886	162	8 Feb., 1882	4 Mar., 1885
253	30 Dec., 1882	22 Feb., 1884	340	12 Aug., 1885	17 " 1886	163	8 " 1882	4 " 1885
254	30 " 1882	22 " 1884	341	6 " 1885	22 " 1886	164	8 " 1882	4 " 1885
252	15 Sept., 1882	29 " 1884	342	15 Oct., 1885	17 " 1886	165	1 June, 1882	2 Jan., 1886
255	29 May, 1882	6 Mar., 1884	343	15 " 1885	17 " 1886	167	22 April, 1882	23 " 1884
256	22 July, 1882	6 " 1884	344	20 Nov., 1885	26 " 1886	168	9 May, 1883	9 Feb., 1884
257	9 Sept., 1882	6 " 1884	345	2 " 1885	27 " 1886	169	7 July, 1882	12 " 1884
258	19 Nov., 1881	8 " 1884	346	6 " 1885	23 Dec., 1886	170	15 April, 1882	23 " 1884
259	3 Dec., 1881	8 " 1884	347	2 Dec., 1885	8 Jan., 1887	171	12 Dec., 1881	26 " 1884
260	12 July, 1882	11 " 1884	348	2 Nov., 1885	14 " 1887	172	22 April, 1882	3 Mar., 1884

## GOLD LEASES—continued.

No. of Lease.	Date of Application.	Date of Issue.	No. of Lease.	Date of Application.	Date of Issue.	No. of Lease.	Date of Application.	Date of Issue.
173	11 July, 1883	12 Mar., 1884	326	28 Sept., 1882	12 Jan., 1885	234	13 May, 1886	21 July, 1887
174	12 " 1883	10 " 1884	327	30 " 1882	12 " 1885	235	14 June, 1886	20 " 1887
175	14 " 1883	8 " 1884	328	30 Nov., 1883	10 " 1885	236	12 April, 1886	18 " 1887
176	3 Mar., 1882	12 May, 1882	329	19 Feb., 1884	10 " 1885	237	21 July, 1886	17 " 1887
177	18 Dec., 1882	13 " 1884	330	3 Mar., 1884	10 " 1885	238	17 Aug., 1886	23 Aug., 1887
178	9 Feb., 1883	4 June, 1884	331	17 May, 1884	19 " 1885	239	27 April, 1886	30 July, 1887
179	10 July, 1883	9 " 1884	332	2 Feb., 1884	30 " 1885	240	12 July, 1886	2 June, 1887
180	25 " 1881	23 " 1884	333	1 Mar., 1884	30 " 1885	241	2 Oct., 1886	29 Aug., 1887
181	1 Nov., 1883	21 " 1884	334	17 " 1884	30 " 1885	242	1 " 1886	20 July, 1887
183	5 Oct., 1883	17 July, 1884	335	23 " 1882	6 Feb., 1885	245	20 Nov., 1886	18 Aug., 1887
181	25 Aug., 1883	17 " 1884	336	15 Sept., 1884	24 Mar., 1885	607	16 Feb., 1882	15 Mar., 1883
185	3 Dec., 1881	22 " 1884	337	1 Aug., 1884	24 " 1885	612	9 " 1881	11 " 1883
186	13 Sept., 1882	24 " 1884	338	10 May, 1884	7 April, 1885	614	22 Mar., 1881	8 Aug., 1883
187	13 Feb., 1884	13 Sept., 1884	339	23 Aug., 1884	24 Mar., 1885	625	12 " 1881	17 Sept., 1883
188	9 July, 1882	10 " 1884	340	25 " 1884	29 Mar., 1885	626	28 Nov., 1881	8 Oct., 1883
189	3 Mar., 1883	30 " 1884	341	29 " 1884	29 July, 1885	627	25 " 1881	17 Dec., 1883
190	1 May, 1884	13 Nov., 1884	342	8 Dec., 1881	14 Aug., 1885	631	4 July, 1881	18 Feb., 1884
191	6 Feb., 1883	25 " 1884	343	8 Nov., 1881	10 Sept., 1885	632	9 Sept., 1881	22 " 1884
192	27 June, 1882	11 Dec., 1884	344	19 Jan., 1885	5 Dec., 1885	633	26 Oct., 1881	12 Mar., 1884
193	27 " 1882	11 " 1884	345	20 " 1885	14 " 1885	635	20 July, 1883	17 May, 1884
194	17 Oct., 1883	5 Jan., 1885	346	8 " 1885	7 " 1885	636	7 Dec., 1881	19 " 1883
195	30 Jan., 1882	6 " 1885	347	28 Nov., 1884	29 July, 1885	637	18 Sept., 1882	28 " 1884
196	4 May, 1883	10 " 1885	348	24 Aug., 1885	23 Sept., 1886	638	16 June, 1882	30 " 1884
197	6 Feb., 1884	2 Feb., 1885	349	1 Oct., 1885	16 " 1886	639	25 April, 1883	29 " 1884
198	28 Nov., 1881	2 Jan., 1885	350	1 " 1885	16 " 1886	640	29 Aug., 1882	6 June, 1884
199	8 " 1882	8 " 1885	351	17 Dec., 1885	28 Jan., 1887	641	7 July, 1883	17 " 1884
200	23 June, 1883	28 Mar., 1885	352	5 Nov., 1885	3 " 1887	642	16 " 1883	17 " 1884
202	12 " 1883	30 " 1885	353	31 Oct., 1885	2 Feb., 1887	643	17 Dec., 1883	17 " 1884
203	24 July, 1884	12 April, 1885	354	9 July, 1886	25 Mar., 1887	645	26 Sept., 1882	28 " 1884
204	18 Aug., 1881	23 May, 1885	355	15 Sept., 1886	4 April, 1887	646	6 July, 1882	25 July, 1884
205	4 July, 1884	25 " 1885	356	8 April, 1885	30 May, 1887	647	28 Mar., 1884	21 Nov., 1884
206	12 Sept., 1884	26 " 1885	357	12 Oct., 1886	2 July, 1887	648	9 April, 1884	9 Dec., 1884
208	6 Aug., 1883	21 July, 1885	358	27 Feb., 1886	8 " 1887	649	15 June, 1882	5 " 1884
210	23 Sept., 1884	14 Nov., 1885	359	30 Jan., 1886	3 Aug., 1887	651	16 Aug., 1884	21 Jan., 1885
211	20 " 1884	6 Jan., 1886	360	30 " 1886	3 " 1887	652	22 Feb., 1884	7 April, 1885
212	2 Mar., 1885	6 " 1886	361	5 Dec., 1885	3 " 1887	653	14 Nov., 1884	5 Aug., 1885
213	7 Jan., 1885	19 " 1886	362	15 Oct., 1886	15 " 1887	654	27 " 1884	18 " 1885
214	30 April, 1885	22 " 1886	363	27 Nov., 1886	16 " 1887	655	24 Jan., 1885	12 Sept., 1885
215	18 July, 1885	2 Mar., 1886	364	7 Dec., 1886	10 " 1887	656	15 Sept., 1884	28 " 1885
216	26 " 1884	23 " 1886	365	7 Feb., 1885	23 " 1887	657	31 Jan., 1885	10 Nov., 1885
217	11 " 1884	24 " 1886	16	7 Sept., 1881	26 Sept., 1882	658	31 " 1885	10 " 1885
218	11 " 1884	16 " 1886	22	26 July, 1881	16 Oct., 1882	659	2 April, 1885	17 Feb., 1886
219	17 Nov., 1884	30 Aug., 1886	24	6 Sept., 1881	26 " 1882	660	15 Sept., 1885	1 Mar., 1886
220	8 Oct., 1884	12 Oct., 1886	36	17 Nov., 1881	16 " 1882	661	15 " 1885	27 Sept., 1886
221	21 April, 1886	1 Dec., 1886	39	26 July, 1881	16 " 1882	662	18 " 1885	10 Nov., 1886
222	31 Aug., 1885	29 Jan., 1887	40	17 Oct., 1881	2 Jan., 1883	663	26 " 1885	10 " 1886
223	5 Feb., 1886	31 Mar., 1887	42	24 " 1881	21 Dec., 1883	664	1 Oct., 1885	10 " 1886
224	3 Aug., 1886	16 " 1887	43	1 Dec., 1881	9 April, 1883	665	30 Jan., 1885	17 Jan., 1887
225	3 " 1886	16 " 1887	45	22 " 1881	6 Mar., 1883	666	14 Nov., 1885	28 Feb., 1887
226	22 Dec., 1885	26 July, 1887	57	18 Feb., 1882	4 Aug., 1883	667	15 Feb., 1886	6 April, 1887
227	2 " 1886	9 Aug., 1887	85	1 Nov., 1881	23 Oct., 1883	668	17 Sept., 1886	18 May, 1887
228	19 Aug., 1885	27 May, 1887	99	18 Sept., 1882	7 Sept., 1883	669	17 " 1886	18 " 1887
229	11 Sept., 1885	11 July, 1887	100	6 April, 1882	1 Oct., 1883	670	3 May, 1886	30 " 1887
265	3 " 1880	18 Oct., 1882	102	9 Jan., 1882	3 " 1883	673	6 Sept., 1886	23 June, 1887
266	3 " 1880	18 " 1882	120	11 April, 1882	31 " 1883	674	18 " 1886	9 July, 1887
269	4 June, 1881	8 Nov., 1882	124	13 Aug., 1883	10 Mar., 1884	106	11 Nov., 1881	17 Feb., 1883
270	31 Oct., 1881	4 Oct., 1882	125	29 " 1885	21 Feb., 1887	107	5 April, 1882	27 Dec., 1882
271	10 Feb., 1882	21 Mar., 1883	126	29 " 1885	21 " 1887	108	1 May, 1882	27 " 1882
272	10 June, 1882	20 Dec., 1882	127	16 Jan., 1886	28 " 1887	116	15 Oct., 1881	23 May, 1883
277	17 Dec., 1881	19 Mar., 1883	205	11 July, 1882	27 Mar., 1884	117	15 " 1881	23 " 1883
285	1 Sept., 1881	30 April, 1883	206	11 " 1882	2 May, 1884	118	31 " 1881	26 Feb., 1883
287	3 Oct., 1881	30 " 1883	207	24 June, 1882	26 " 1884	119	18 Nov., 1881	26 " 1883
290	8 Nov., 1881	1 Aug., 1883	208	4 April, 1882	20 June, 1884	123	10 June, 1882	3 July, 1883
292	4 Jan., 1882	29 Mar., 1883	209	29 Aug., 1882	20 " 1884	125	8 Mar., 1882	4 Aug., 1883
293	13 Mar., 1882	26 " 1883	210	24 " 1883	25 May, 1885	129	1 Nov., 1881	5 Nov., 1883
294	26 July, 1881	16 " 1883	211	9 June, 1884	16 Sept., 1885	132	5 June, 1882	17 Oct., 1883
295	9 Feb., 1882	23 May, 1883	212	5 Sept., 1884	7 " 1885	134	25 Oct., 1882	6 Sept., 1883
296	24 Nov., 1881	6 July, 1883	213	2 Oct., 1884	16 " 1885	138	3 " 1881	12 Nov., 1883
300	18 Sept., 1882	2 Oct., 1883	214	28 Mar., 1885	16 Aug., 1886	139	20 Feb., 1882	24 Jan., 1884
302	2 Oct., 1882	30 " 1883	215	23 " 1885	16 " 1886	140	20 " 1882	24 " 1884
305	3 July, 1882	22 Nov., 1883	216	28 " 1885	16 " 1886	141	27 July, 1882	16 " 1884
306	4 Aug., 1882	12 Dec., 1883	217	28 April, 1886	22 Mar., 1887	142	9 Sept., 1882	21 " 1884
307	27 " 1881	4 Feb., 1884	218	16 Sept., 1886	26 April, 1887	143	17 April, 1883	9 Feb., 1884
308	18 May, 1883	19 " 1884	219	17 Nov., 1886	23 May, 1887	144	7 June, 1882	4 Mar., 1884
309	27 July, 1883	8 Mar., 1884	220	8 May, 1886	20 June, 1887	145	24 Aug., 1881	16 April, 1884
312	1 Nov., 1883	23 June, 1884	221	10 " 1886	22 " 1887	146	13 Jan., 1883	7 May, 1884
313	9 Oct., 1883	30 " 1884	222	30 July, 1886	13 Aug., 1887	147	5 Sept., 1882	23 " 1884
314	11 June, 1883	13 July, 1884	223	27 Nov., 1886	17 " 1887	148	20 Mar., 1883	2 June, 1884
315	17 Dec., 1883	11 Aug., 1884	224	30 April, 1886	28 June, 1887	149	7 Aug., 1883	26 " 1884
316	3 Sept., 1883	18 " 1884	225	5 May, 1886	22 July, 1887	150	2 July, 1883	13 " 1884
317	1 Mar., 1883	3 Sept., 1884	226	14 Dec., 1886	28 " 1887	151	25 Sept., 1883	1 July, 1884
319	25 Oct., 1883	30 " 1884	227	26 Nov., 1886	16 " 1887	152	23 Nov., 1883	7 " 1884
320	19 " 1883	5 Aug., 1884	228	21 Sept., 1886	16 " 1887	153	7 Dec., 1883	7 " 1884
321	18 April, 1884	25 Oct., 1884	229	23 Sept., 1886	16 " 1887	154	22 Sept., 1883	8 " 1884
322	3 " 1884	25 Nov., 1884	230	6 Oct., 1886	18 " 1887	155	5 Jan., 1883	9 " 1884
323	10 Feb., 1884	7 Jan., 1885	231	21 Dec., 1886	9 " 1887	156	30 May, 1882	28 June, 1884
324	12 Oct., 1881	8 " 1885	232	14 Aug., 1886	16 " 1887	157	5 Sept., 1883	21 July, 1884
325	23 " 1882	7 " 1885	233	13 Dec., 1886	20 " 1887	158	13 " 1882	26 " 1884

GOLD LEASES—continued.

No. of Lease.	Date of Application.	Date of Issuc.	No of Lease	Date of Application.	Date of Issuc.	No. of Lease.	Date of Application.	Date of Issuc.
159	30 Mar., 1883	11 Aug., 1884	208	12 May, 1886	20 April, 1887	205	30 June, 1883	31 Dec., 1885
160	8 Jun., 1884	22 „ 1884	209	26 Oct., 1885	19 „ 1887	206	9 Sept., 1884	6 Oct., 1885
161	30 Aug., 1883	27 „ 1884	210	5 Dec., 1885	29 „ 1887	207	9 June, 1884	2 Dec., 1885
162	1 Mar., 1884	22 Oct., 1884	211	5 „ 1885	29 „ 1887	208	17 „ 1884	2 „ 1885
163	26 April, 1884	22 Nov., 1884	212	8 Mar., 1886	29 „ 1887	209	17 „ 1884	2 „ 1885
164	10 Sept., 1883	17 „ 1884	213	18 Sept., 1886	2 May, 1887	210	16 „ 1885	7 Oct., 1886
165	3 Jan., 1884	25 „ 1884	214	24 July, 1886	22 June, 1887	211	24 July, 1884	5 June, 1886
166	16 Feb., 1881	25 „ 1884	215	11 Jan., 1886	30 May, 1887	212	24 „ 1884	5 „ 1886
167	25 April, 1884	27 „ 1884	216	22 Oct., 1885	2 „ 1887	213	28 Nov., 1884	25 Nov., 1886
168	30 Mar., 1883	10 Jan., 1885	217	14 June, 1886	3 June, 1887	214	17 Sept., 1885	14 Dec., 1886
169	1 „ 1882	13 April, 1885	218	29 July, 1886	16 July, 1887	215	6 June, 1885	8 Jan., 1887
170	9 Oct., 1884	7 July, 1885	219	7 Aug., 1886	18 June, 1887	1	24 Dec., 1881	18 Sept., 1885
171	11 Aug., 1882	30 „ 1885	221	16 Feb., 1886	22 July, 1887	2	12 Jan., 1885	9 Dec., 1885
172	7 June, 1884	10 Aug., 1885	4	5 Sept., 1882	2 April, 1884	4	26 May, 1885	29 July, 1886
173	29 Oct., 1884	12 „ 1885	5	24 Feb., 1885	20 Dec., 1886	5	2 Jan., 1885	8 Mar., 1886
174	20 Feb., 1883	13 „ 1885	172	2 Mar., 1881	6 „ 1882	6	8 June, 1885	27 Feb., 1886
175	8 Jan., 1885	8 Sept., 1885	173	28 Sept., 1881	6 „ 1882	7	17 July, 1885	25 „ 1886
176	5 April, 1882	20 Oct., 1885	174	19 „ 1881	23 Jan., 1883	8	21 „ 1885	8 Mar., 1886
177	1 Nov., 1883	4 Nov., 1885	175	14 „ 1881	8 Oct., 1883	9	3 Aug., 1885	5 „ 1886
178	14 Aug., 1884	30 Dec., 1885	176	4 Oct., 1882	16 Nov., 1883	10	7 April, 1885	8 Nov., 1886
179	2 Oct., 1883	6 Jan., 1886	177	25 April, 1882	6 „ 1883	11	17 Dec., 1884	16 „ 1886
180	20 Mar., 1885	27 „ 1886	178	25 „ 1882	6 „ 1883	12	11 Feb., 1886	18 Oct., 1886
181	3 July, 1884	23 May, 1886	179	8 May, 1882	7 April, 1884	13	8 June, 1885	4 Dec., 1886
182	3 „ 1884	26 June, 1886	180	23 Jan., 1883	7 May, 1884	14	24 Aug., 1885	8 Jan., 1887
183	7 Aug., 1884	23 July, 1886	181	23 „ 1883	7 „ 1884	15	1 Mar., 1886	17 „ 1887
184	18 June, 1885	16 „ 1886	182	5 June, 1882	19 „ 1884	16	19 „ 1885	3 Mar., 1887
185	2 Aug., 1884	6 Oct., 1886	183	5 „ 1882	19 „ 1884	17	8 Feb., 1886	3 „ 1887
186	4 Sept., 1885	5 Nov., 1886	184	20 Nov., 1882	16 July, 1884	18	23 Jan., 1886	19 Feb., 1887
187	18 June, 1885	5 „ 1886	185	3 July, 1882	4 „ 1884	19	19 „ 1885	26 April, 1887
188	4 Sept., 1885	5 „ 1885	186	6 Mar., 1884	20 Oct., 1884	20	26 Oct., 1885	19 „ 1887
189	20 „ 1884	1 „ 1886	187	11 Aug., 1883	25 „ 1884	21	3 Nov., 1885	19 „ 1887
190	24 Dec., 1884	5 „ 1886	188	21 May, 1884	11 Nov., 1884	22	22 Oct., 1886	20 „ 1887
191	10 Aug., 1885	22 „ 1886	189	3 Mar., 1884	18 „ 1884	23	4 Mar., 1886	18 „ 1887
192	10 „ 1885	22 „ 1886	190	10 April, 1884	14 Jan., 1885	24	16 Oct., 1886	19 May, 1887
193	10 „ 1885	22 „ 1886	191	2 June, 1884	14 „ 1885	28	23 Mar., 1886	28 April, 1887
194	10 „ 1885	22 „ 1886	192	17 „ 1884	7 Feb., 1885	29	18 Aug., 1885	16 June, 1887
195	19 „ 1885	22 „ 1886	193	1 Mar., 1884	3 „ 1885	30	10 May, 1886	23 „ 1887
196	29 „ 1885	29 „ 1886	194	3 „ 1884	2 April, 1885	32	16 Aug., 1886	27 „ 1887
197	13 Oct., 1885	4 Dec., 1886	195	26 May, 1883	20 „ 1885	33	1 May, 1886	1 July, 1887
198	24 Sept., 1885	10 Jan., 1887	196	27 June, 1884	18 „ 1885	34	8 Jan., 1886	7 June, 1887
199	18 June, 1885	10 „ 1887	197	1 July, 1884	18 „ 1885	35	22 Oct., 1885	27 July, 1887
200	4 „ 1886	13 „ 1887	198	21 May, 1884	3 June, 1885	36	20 July, 1886	25 „ 1887
201	7 April, 1886	25 Mar., 1887	199	24 Dec., 1883	1 „ 1885	37	7 June, 1886	21 „ 1887
202	9 Oct., 1885	28 „ 1887	200	24 „ 1883	1 „ 1885	38	13 July, 1885	1 June, 1887
203	2 Dec., 1885	1 April, 1887	201	24 „ 1883	1 „ 1885	39	17 April, 1886	17 Aug., 1887
204	2 April, 1886	1 „ 1887	202	16 Sept., 1884	3 „ 1885	41	11 Sept., 1886	6 July, 1887
205	21 Dec., 1885	2 „ 1887	203	1 Mar., 1884	7 July, 1885	42	13 „ 1886	16 „ 1887
206	15 Mar., 1886	2 „ 1887	204	5 April, 1884	17 „ 1885			

MINERAL LEASES.

1328	15 Mar., 1881	11 Sept., 1882	1432	23 May, 1881	16 Oct., 1882	1480	27 Sept., 1881	27 Dec., 1882
1362	10 Aug., 1889	13 „ 1882	1433	25 „ 1881	18 „ 1882	1481	30 Jan., 1882	27 „ 1882
1367	3 July, 1880	8 „ 1882	1434	25 „ 1881	18 „ 1882	1482	30 July, 1881	19 Feb., 1883
1375	5 Dec., 1880	5 Dec., 1882	1435	28 „ 1881	27 „ 1882	1483	30 „ 1881	19 „ 1883
1378	1 Aug., 1881	18 ct., 1882	1439	25 Sept., 1880	18 „ 1882	1484	19 Sept., 1881	27 Dec., 1882
1379	16 July, 1881	23 „ 1882	1440	2 July, 1881	21 „ 1882	1485	3 Feb., 1882	12 April, 1883
1385	24 June, 1881	23 Dec., 1882	1441	6 „ 1881	17 „ 1882	1486	10 Nov., 1881	25 „ 1883
1386	24 „ 1881	20 „ 1882	1442	26 „ 1881	18 „ 1882	1489	17 Sept., 1881	14 Mar., 1883
1390	20 Aug., 1881	16 Nov., 1882	1443	2 Aug., 1881	16 „ 1882	1490	12 Oct., 1881	6 „ 1883
1391	29 „ 1881	16 „ 1882	1444	9 „ 1881	16 „ 1882	1493	9 Dec., 1881	10 May, 1883
1393	7 Dec., 1880	24 Oct., 1882	1445	9 Sept., 1881	16 „ 1882	1494	9 „ 1881	10 „ 1883
1394	24 „ 1880	21 „ 1882	1447	5 „ 1881	13 „ 1882	1495	25 Mar., 1882	12 Mar., 1883
1395	6 Oct., 1880	20 „ 1882	1448	9 „ 1881	14 „ 1882	1496	15 Oct., 1881	2 „ 1883
1399	22 Jan., 1881	5 „ 1882	1449	13 Aug., 1881	18 „ 1882	1497	21 „ 1881	17 „ 1883
1400	14 July, 1881	19 „ 1882	1450	27 July, 1881	16 „ 1882	1500	15 July, 1881	20 „ 1883
1401	15 Aug., 1881	5 Jan., 1883	1451	12 Aug., 1881	14 „ 1882	1502	8 April, 1881	12 „ 1883
1405	2 May, 1881	14 Feb., 1883	1452	2 Nov., 1880	18 „ 1882	1504	16 Sept., 1881	10 „ 1883
1407	7 June, 1881	23 Oct., 1882	1453	20 June, 1881	15 Nov., 1882	1507	9 „ 1881	12 „ 1883
1408	22 Jan., 1881	9 „ 1882	1454	10 Aug., 1881	20 Oct., 1882	1509	28 May, 1881	30 Jan., 1883
1409	30 July, 1881	2 Nov., 1882	1455	13 „ 1881	12 „ 1882	1510	24 Oct., 1881	30 „ 1883
1410	30 Jan., 1882	5 Jan., 1883	1456	17 Sept., 1881	14 „ 1882	1511	19 June, 1882	12 „ 1883
1414	28 Sept., 1880	5 Oct., 1882	1457	8 April, 1882	18 „ 1882	1513	17 Aug., 1881	19 April, 1883
1416	30 April, 1881	2 „ 1882	1458	22 Dec., 1880	20 „ 1882	1514	24 „ 1881	12 Mar., 1883
1417	30 „ 1881	2 „ 1882	1459	22 „ 1880	23 „ 1882	1516	22 June, 1881	22 „ 1883
1418	30 „ 1881	2 „ 1882	1461	23 Nov., 1881	17 „ 1882	1517	10 Dec., 1881	10 „ 1883
1419	2 May, 1881	2 „ 1882	1462	23 „ 1881	14 „ 1882	1519	6 „ 1881	5 „ 1883
1421	9 July, 1881	7 „ 1882	1463	23 Oct., 1880	23 Dec., 1882	1520	24 June, 1880	20 „ 1883
1422	4 „ 1881	4 „ 1882	1464	25 July, 1881	28 Oct., 1882	1521	19 July, 1880	2 „ 1883
1423	28 May, 1881	27 „ 1882	1470	8 Aug., 1881	16 „ 1882	1522	6 Aug., 1880	8 „ 1883
1424	28 „ 1881	27 „ 1882	1472	24 „ 1881	18 „ 1882	1523	7 „ 1880	14 „ 1883
1425	27 July, 1881	23 „ 1882	1474	17 Sept., 1881	14 „ 1882	1524	10 „ 1880	14 „ 1883
1427	7 Jan., 1882	23 „ 1882	1475	31 Dec., 1881	12 Jan., 1883	1525	13 „ 1881	14 „ 1883
1428	7 „ 1882	14 „ 1882	1476	8 Oct., 1881	31 Dec., 1882	1526	14 Dec., 1881	10 May, 1883
1429	7 „ 1882	16 „ 1882	1477	8 „ 1881	31 „ 1882	1527	12 Aug., 1882	20 Mar., 1883
1430	7 „ 1882	16 „ 1882	1473	8 „ 1881	31 „ 1882	1528	12 „ 1882	20 „ 1883
1431	7 „ 1882	16 „ 1882	1479	8 „ 1881	31 „ 1882	1529	12 „ 1882	20 „ 1883

## MINERAL LEASES—continued.

No. of Lease.	Date of Application.	Date of Issue.	No. of Lease.	Date of Application.	Date of Issue.	No. of Lease.	Date of Application.	Date of Issue.
1530	12 Aug., 1882	20 Mar., 1883	1683	17 Sept., 1881	15 Oct., 1883	1808	15 June, 1882	15 Jan., 1884
1531	12 " 1882	20 " 1883	1684	24 June, 1882	10 Nov., 1883	1815	14 Jan., 1882	12 Nov., 1883
1532	12 " 1882	20 " 1883	1685	2 Aug., 1882	3 Sept., 1883	1816	24 Mar., 1882	12 " 1883
1533	12 " 1882	20 " 1883	1686	28 " 1882	23 Aug., 1883	1817	17 Nov., 1882	12 " 1883
1534	2 Oct., 1882	20 " 1883	1687	20 Mar., 1882	26 " 1883	1821	17 Dec., 1881	23 Jan., 1884
1535	5 June, 1882	24 Feb., 1883	1688	4 April, 1882	12 Sept., 1883	1822	16 July, 1880	25 " 1884
1536	5 " 1882	24 " 1883	1690	10 " 1882	8 Oct., 1883	1823	30 Sept., 1882	28 " 1884
1537	17 April, 1882	24 " 1883	1691	10 " 1882	8 " 1883	1824	20 Mar., 1882	1 Feb., 1884
1538	21 July, 1882	21 " 1883	1693	24 June, 1882	21 " 1883	1825	20 " 1882	1 " 1884
1542	30 May, 1881	15 Mar., 1883	1694	1 Dec., 1881	10 Jan., 1884	1826	29 " 1883	20 Jan., 1884
1543	18 Aug., 1880	4 April, 1883	1695	1 " 1881	17 " 1884	1827	30 " 1883	30 " 1884
1544	20 July, 1881	27 Mar., 1883	1696	3 " 1881	8 " 1884	1828	3 Jan., 1882	1 Feb., 1884
1545	14 Jan., 1882	20 " 1883	1697	29 April, 1882	16 July, 1881	1829	27 Mar., 1883	5 " 1884
1546	14 " 1882	20 " 1883	1698	10 Nov., 1881	26 Nov., 1884	1830	12 Aug., 1882	29 Jan., 1884
1547	23 " 1882	20 " 1883	1699	9 Oct., 1882	28 " 1884	1831	10 Nov., 1882	7 Feb., 1884
1548	21 " 1882	22 " 1883	1700	19 Mar., 1883	29 Jan., 1884	1832	29 May, 1882	7 " 1884
1549	21 " 1882	22 " 1883	1701	19 " 1883	29 " 1884	1833	28 Dec., 1884	4 " 1884
1550	23 " 1882	2 April, 1883	1705	8 Oct., 1881	3 Dec., 1883	1834	10 July, 1882	6 " 1884
1552	8 Feb., 1882	22 Mar., 1883	1706	3 Aug., 1882	28 " 1883	1835	4 " 1882	18 " 1884
1553	10 " 1882	22 May, 1883	1707	28 " 1882	4 " 1883	1836	29 " 1882	18 " 1884
1559	30 Aug., 1882	31 Mar., 1883	1710	28 April, 1882	10 " 1883	1837	2 April, 1883	8 " 1884
1560	15 Dec., 1879	8 May, 1883	1711	5 Dec., 1882	13 " 1883	1838	2 " 1883	8 " 1884
1561	16 " 1881	5 April, 1883	1712	5 July, 1882	27 Nov., 1883	1839	28 Aug., 1882	18 " 1884
1562	20 " 1881	7 May, 1883	1713	21 " 1882	27 " 1883	1840	9 Mar., 1882	16 " 1884
1567	13 June, 1881	5 April, 1883	1714	7 Nov., 1882	6 Feb., 1883	1841	20 " 1882	16 " 1884
1571	29 Jan., 1881	18 Sept., 1883	1715	15 June, 1882	23 Jan., 1884	1842	19 June, 1882	12 " 1884
1572	13 Feb., 1881	7 June, 1883	1716	13 Oct., 1881	26 Feb., 1884	1842	7 Feb., 1883	12 " 1884
1573	13 " 1882	7 " 1883	1717	27 June, 1882	7 " 1884	1844	7 " 1883	12 " 1884
1574	13 " 1882	7 " 1883	1718	27 " 1882	7 " 1884	1845	28 April, 1883	9 " 1884
1575	13 " 1882	7 " 1883	1720	28 Aug., 1882	23 " 1884	1846	9 Feb., 1883	6 " 1884
1576	9 Mar., 1882	30 April, 1883	1721	4 Sept., 1882	23 Jan., 1884	1847	7 April, 1883	6 " 1884
1577	9 " 1882	30 " 1883	1722	4 " 1882	15 Dec., 1883	1848	7 " 1883	6 " 1884
1578	9 " 1883	30 " 1883	1723	7 April, 1882	19 Nov., 1883	1849	1 " 1882	18 " 1884
1579	15 Feb., 1882	16 " 1883	1724	27 July, 1882	16 Jan., 1884	1850	4 Aug., 1882	18 " 1884
1580	15 " 1882	16 " 1883	1725	27 " 1882	16 " 1884	1851	13 July, 1881	16 " 1884
1585	27 " 1882	19 June, 1883	1726	4 Dec., 1882	8 Dec., 1883	1852	17 Feb., 1883	3 Mar., 1884
1588	3 Mar., 1882	7 May, 1883	1727	8 May, 1882	28 Nov., 1883	1853	2 April, 1883	4 " 1884
1589	4 " 1882	11 June, 1883	1728	19 " 1882	13 Dec., 1883	1854	24 Mar., 1882	7 " 1884
1590	13 " 1882	11 " 1883	1730	1 Feb., 1883	23 " 1883	1855	24 Oct., 1882	6 " 1884
1591	4 Nov., 1881	12 May, 1883	1732	19 Mar., 1883	8 " 1883	1856	19 Dec., 1882	10 " 1884
1592	4 Feb., 1882	25 " 1883	1733	13 Oct., 1882	3 " 1883	1857	27 Nov., 1882	10 " 1884
1595	14 " 1882	21 " 1883	1735	16 Mar., 1883	28 Feb., 1884	1858	30 May, 1883	14 " 1884
1596	21 " 1882	31 " 1883	1736	4 Oct., 1882	17 Dec., 1883	1859	18 April, 1883	3 " 1884
1597	2 Mar., 1882	25 June, 1883	1737	8 July, 1882	8 " 1883	1860	25 " 1882	5 " 1884
1598	6 " 1882	12 May, 1883	1710	4 Sept., 1882	10 " 1883	1861	5 " 1882	31 " 1884
1599	6 " 1882	30 June, 1883	1742	1 Nov., 1882	7 " 1883	1862	10 " 1882	31 " 1884
1600	17 " 1882	28 May, 1883	1743	12 June, 1882	1 " 1883	1863	8 July, 1882	8 April, 1884
1602	11 Jan., 1882	18 " 1883	1745	18 Dec., 1882	7 Feb., 1884	1864	3 Sept., 1882	7 " 1884
1603	16 " 1882	21 " 1883	1746	18 " 1882	7 " 1884	1865	11 Nov., 1882	8 " 1884
1604	21 " 1882	21 " 1883	1747	25 July, 1882	8 Dec., 1883	1866	11 " 1882	8 " 1884
1607	28 Mar., 1882	17 " 1883	1748	17 June, 1882	4 " 1883	1867	11 " 1882	8 " 1884
1610	11 April, 1882	18 " 1883	1750	23 " 1882	15 " 1883	1868	14 " 1882	8 " 1884
1612	18 " 1882	18 " 1883	1754	21 Aug., 1882	29 Nov., 1883	1869	9 April, 1883	9 " 1884
1614	20 Mar., 1882	1 " 1883	1755	20 Sept., 1882	13 Dec., 1883	1870	18 Dec., 1880	26 " 1884
1618	23 Dec., 1881	16 " 1883	1756	9 Oct., 1882	15 " 1883	1871	22 Feb., 1882	29 " 1884
1621	16 " 1881	1 Aug., 1883	1757	9 " 1882	15 " 1883	1872	1 Oct., 1881	29 " 1884
1622	16 " 1881	1 " 1883	1758	10 Nov., 1882	29 Nov., 1883	1873	28 Nov., 1881	29 " 1884
1624	21 Feb., 1881	24 Sept., 1883	1759	10 " 1882	20 " 1883	1874	20 " 1882	27 " 1884
1625	27 Jan., 1882	3 Aug., 1883	1762	26 Jan., 1883	4 Dec., 1883	1875	20 " 1882	27 " 1884
1626	27 " 1882	3 " 1883	1763	8 July, 1882	8 " 1883	1876	22 Feb., 1882	13 May, 1884
1630	14 Feb., 1882	3 " 1883	1764	26 April, 1882	4 " 1883	1877	4 May, 1882	9 " 1884
1631	12 April, 1882	3 " 1883	1765	20 June, 1882	14 " 1883	1878	9 Aug., 1883	10 " 1884
1633	27 Jan., 1882	3 " 1883	1766	20 " 1882	14 " 1883	1879	6 May, 1882	14 " 1884
1635	1 Sept., 1882	1 " 1883	1767	9 Aug., 1882	7 " 1883	1880	31 July, 1882	14 " 1884
1636	7 " 1881	19 July, 1883	1768	18 " 1882	31 Nov., 1883	1881	8 Aug., 1882	14 " 1884
1641	2 Oct., 1882	27 Oct., 1883	1769	4 Oct., 1882	4 Dec., 1883	1882	22 " 1882	14 " 1884
1642	12 Sept., 1882	30 July, 1883	1770	30 Dec., 1882	7 " 1883	1883	14 Sept., 1882	14 " 1884
1643	30 Nov., 1882	28 " 1883	1772	27 Feb., 1882	17 " 1883	1884	11 July, 1883	20 " 1884
1644	4 July, 1881	28 " 1883	1775	19 June, 1882	10 " 1883	1885	11 " 1883	20 " 1884
1646	27 Dec., 1882	18 Sept., 1883	1776	21 July, 1882	13 " 1883	1886	23 April, 1883	15 " 1884
1647	27 " 1882	19 " 1883	1777	14 Aug., 1882	20 " 1883	1887	12 Dec., 1882	21 " 1884
1650	3 June, 1880	25 " 1883	1778	28 Sept., 1882	17 " 1883	1888	13 Aug., 1883	30 " 1884
1652	26 May, 1880	22 " 1883	1779	29 " 1882	13 " 1883	1889	4 Dec., 1882	24 " 1884
1653	20 Mar., 1882	2 Aug., 1883	1780	23 Oct., 1882	13 " 1883	1890	4 Oct., 1883	23 " 1884
1654	3 May, 1882	22 Sept., 1883	1781	23 " 1882	13 " 1883	1891	17 April, 1883	26 " 1884
1657	3 " 1882	27 Aug., 1883	1782	13 Mar., 1882	8 " 1883	1892	17 " 1883	26 " 1884
1658	13 " 1882	3 Sept., 1883	1783	8 April, 1882	8 " 1883	1893	17 " 1883	26 " 1884
1660	19 June, 1882	19 Oct., 1883	1784	4 May, 1882	8 " 1883	1894	9 Oct., 1883	28 " 1884
1664	28 April, 1882	9 Feb., 1883	1785	29 Sept., 1882	8 " 1883	1895	28 Sept., 1883	31 " 1884
1666	11 May, 1882	31 Aug., 1883	1786	11 Nov., 1882	4 " 1883	1896	6 Aug., 1883	6 June, 1884
1667	11 " 1882	31 " 1883	1787	16 " 1882	10 " 1883	1897	17 July, 1882	23 May, 1884
1668	11 " 1882	31 " 1883	1788	23 " 1882	19 " 1883	1898	1 Sept., 1882	27 " 1884
1669	11 " 1882	31 " 1883	1789	4 Dec., 1882	19 " 1883	1899	14 Oct., 1882	28 " 1884
1670	11 " 1882	31 " 1883	1790	7 June, 1882	13 " 1883	1900	25 Jan., 1883	31 " 1884
1671	31 " 1882	3 Sept., 1883	1791	14 Aug., 1882	17 " 1883	1901	20 June, 1883	31 " 1884
1672	5 June, 1882	24 Aug., 1883	1794	13 " 1880	5 " 1883	1902	20 " 1882	31 " 1884
1680	13 Jan., 1882	4 Sept., 1883	1800	9 May, 1882	7 Feb., 1884	1903	10 Aug., 1883	23 " 1884
1682	14 Aug., 1880	26 " 1883	1807	15 June, 1882	15 Jan., 1884	1904	14 " 1883	25 " 1884

## MINERAL LEASES—continued.

No. of Lease.	Date of Application.	Date of Issue.	No. of Lease.	Date of Application.	Date of Issue.	No. of Lease.	Date of Application.	Date of Issue.
1905	20 Aug., 1883	22 May, 1884	1994	18 Jan., 1883	16 Aug., 1884	2094	17 July, 1884	13 Jan., 1885
1906	10 April, 1880	7 June, 1884	1995	19 Dec., 1882	16 " 1884	2095	19 Aug., 1884	19 " 1885
1907	3 Oct., 1883	28 May, 1884	1996	25 June, 1883	14 " 1884	2096	20 Mar., 1884	6 " 1885
1908	1 Mar., 1883	16 June, 1885	1997	6 Aug., 1883	16 " 1884	2097	27 Dec., 1883	15 " 1885
1909	16 June, 1883	13 " 1884	1998	9 July, 1883	1 Sept., 1884	2098	1 Mar., 1884	7 " 1885
1910	17 Nov., 1882	17 " 1884	1999	25 Sept., 1883	1 " 1884	2099	6 " 1884	6 " 1885
1911	4 Oct., 1882	19 " 1884	2000	15 Oct., 1883	1 " 1884	2100	2 Nov., 1883	5 " 1885
1912	4 " 1882	19 " 1884	2001	6 Dec., 1883	16 Aug., 1884	2101	2 " 1883	8 " 1885
1913	4 June, 1882	9 " 1884	2002	6 " 1883	16 " 1884	2102	29 Dec., 1883	7 " 1885
1914	25 Nov., 1882	17 " 1884	2003	24 Feb., 1883	21 " 1884	2103	10 " 1883	7 " 1885
1915	1 Sept., 1882	10 " 1884	2004	1 Aug., 1883	23 " 1884	2104	6 May, 1884	20 " 1885
1916	14 Aug., 1883	11 " 1884	2005	12 Feb., 1884	19 " 1884	2105	5 Jan., 1884	22 " 1885
1917	10 Sept., 1883	11 " 1884	2006	12 " 1884	19 " 1884	2106	18 June, 1884	22 " 1885
1918	16 Nov., 1883	13 " 1884	2007	22 May, 1883	28 " 1884	2107	3 Dec., 1883	17 " 1885
1919	16 " 1883	13 " 1884	2008	9 Sept., 1882	3 Sept., 1884	2108	3 Nov., 1882	30 " 1885
1920	19 Dec., 1883	10 " 1884	2009	19 June, 1883	29 Aug., 1884	2109	18 Dec., 1883	2 Feb., 1885
1921	31 " 1883	12 " 1884	2011	22 Dec., 1883	4 Sept., 1884	2110	20 Mar., 1884	2 " 1885
1922	6 Sept., 1883	24 " 1884	2012	5 Mar., 1883	31 July, 1884	2111	20 " 1884	2 " 1885
1923	3 Oct., 1883	9 " 1884	2013	5 " 1883	31 " 1884	2112	20 " 1884	2 " 1885
1924	11 " 1883	23 " 1884	2014	14 June, 1883	25 Aug., 1884	2113	8 April, 1884	17 " 1885
1925	10 Dec., 1883	9 " 1884	2015	14 Aug., 1883	23 " 1884	2114	8 Nov., 1883	19 " 1885
1927	19 Sept., 1883	23 " 1884	2016	28 " 1883	29 " 1884	2115	7 Aug., 1884	27 " 1885
1928	3 Oct., 1883	23 " 1884	2017	29 " 1883	29 " 1884	2116	27 June, 1884	7 Mar., 1885
1929	27 Nov., 1883	23 " 1884	2018	7 Sept., 1883	20 " 1884	2117	26 May, 1884	9 " 1885
1930	1 Sept., 1882	22 " 1884	2019	7 " 1883	20 " 1884	2118	23 Mar., 1882	12 Sept., 1884
1931	11 May, 1883	16 " 1884	2020	12 " 1883	5 Sept., 1884	2119	7 April, 1884	19 Mar., 1885
1932	28 Sept., 1883	18 " 1884	2021	19 Oct., 1883	28 Aug., 1884	2120	29 May, 1884	19 " 1885
1933	19 Oct., 1883	20 " 1884	2022	25 " 1883	25 " 1884	2121	27 " 1884	23 " 1885
1934	14 Dec., 1883	19 " 1884	2023	25 " 1883	25 " 1884	2122	27 " 1884	23 " 1885
1935	7 May, 1883	9 " 1884	2024	25 " 1883	25 " 1884	2123	27 " 1884	23 " 1885
1936	23 April, 1883	4 " 1884	2025	31 Dec., 1883	1 Sept., 1884	2124	27 " 1884	23 " 1885
1937	15 Dec., 1883	30 " 1884	2026	12 Mar., 1883	26 Aug., 1884	2125	6 June, 1884	20 " 1885
1938	1 May, 1882	12 " 1884	2027	12 " 1883	26 " 1884	2126	24 Mar., 1882	2 " 1885
1939	5 Oct., 1883	28 " 1884	2028	27 June, 1883	18 " 1884	2127	24 " 1882	2 " 1885
1940	19 Nov., 1883	23 " 1884	2029	26 Nov., 1883	18 July, 1884	2128	2 Nov., 1882	3 " 1885
1941	13 Oct., 1882	24 " 1884	2030	26 " 1883	10 " 1884	2129	6 " 1883	2 " 1885
1942	12 Feb., 1883	14 July, 1884	2032	17 Feb., 1883	17 Sept., 1884	2130	13 " 1883	5 " 1885
1943	15 June, 1883	14 " 1884	2033	28 April, 1884	18 " 1884	2131	3 April, 1884	24 " 1885
1944	15 " 1883	14 " 1884	2034	15 Oct., 1883	9 " 1884	2132	30 May, 1884	21 " 1885
1945	18 Oct., 1883	14 " 1884	2035	7 " 1881	20 " 1884	2133	26 Aug., 1884	21 " 1885
1946	6 Nov., 1883	14 " 1884	2036	31 Dec., 1883	16 " 1884	2134	7 " 1884	4 April, 1885
1947	20 " 1883	14 " 1884	2037	28 June, 1876	26 " 1884	2135	10 Dec., 1883	24 Mar., 1885
1948	7 Aug., 1883	18 " 1884	2038	28 " 1876	26 " 1884	2136	27 June, 1884	2 April, 1885
1949	7 " 1883	18 " 1884	2039	28 " 1876	26 " 1884	2137	14 July, 1884	27 Mar., 1885
1950	7 " 1883	18 " 1884	2040	24 Sept., 1883	9 " 1884	2138	1 Dec., 1883	1 April, 1885
1951	7 " 1883	18 " 1884	2041	24 Nov., 1882	25 Aug., 1884	2139	26 June, 1884	1 " 1885
1952	28 Dec., 1882	16 " 1884	2042	21 Feb., 1883	20 Sept., 1884	2140	19 " 1884	17 " 1885
1953	28 Nov., 1883	16 " 1884	2043	10 Aug., 1883	9 " 1884	2141	22 Dec., 1883	10 " 1885
1954	7 Feb., 1883	9 " 1884	2044	10 " 1883	9 " 1884	2142	17 Mar., 1884	10 " 1885
1955	26 April, 1883	11 " 1884	2045	24 Oct., 1883	12 " 1884	2143	14 July, 1884	10 " 1885
1956	6 Aug., 1883	11 " 1884	2046	3 Sept., 1883	23 " 1884	2144	14 " 1884	7 " 1885
1957	6 " 1883	12 " 1884	2047	7 Aug., 1883	3 Oct., 1884	2145	6 June, 1884	10 " 1885
1958	1 April, 1882	22 " 1884	2048	13 Oct., 1883	3 " 1884	2146	3 Dec., 1883	23 " 1885
1959	6 " 1882	22 " 1884	2049	16 Nov., 1883	4 " 1884	2147	18 " 1883	11 " 1885
1960	4 May, 1882	22 " 1884	2050	2 Oct., 1883	10 " 1884	2148	8 Aug., 1884	11 " 1885
1961	17 Aug., 1882	5 May, 1884	2051	16 " 1882	14 " 1884	2149	29 " 1884	14 " 1885
1962	28 " 1882	22 July, 1884	2052	27 Mar., 1882	27 " 1884	2150	7 Dec., 1883	25 " 1885
1963	8 Sept., 1882	26 " 1884	2054	3 Sept., 1883	31 May, 1884	2151	8 July, 1884	23 " 1885
1964	6 Nov., 1882	20 June, 1884	2055	8 " 1883	29 Oct., 1884	2152	6 Aug., 1884	23 " 1885
1965	4 " 1882	5 May, 1884	2056	22 April, 1884	5 Nov., 1884	2153	26 July, 1884	28 " 1885
1966	14 " 1882	5 " 1884	2057	29 May, 1884	10 " 1884	2154	26 " 1884	28 " 1885
1967	25 " 1882	20 June, 1884	2058	29 " 1884	10 " 1884	2155	18 Sept., 1884	28 " 1885
1968	21 May, 1883	3 " 1884	2059	29 " 1884	10 " 1884	2156	10 June, 1884	27 " 1885
1969	21 July, 1883	21 July, 1884	2060	29 " 1884	10 " 1884	2157	11 Aug., 1883	2 May, 1885
1970	24 Feb., 1883	17 " 1884	2063	8 Mar., 1883	3 " 1884	2158	15 July, 1884	1 " 1885
1971	24 " 1883	17 " 1884	2064	28 June, 1876	2 Dec., 1884	2159	25 Aug., 1884	2 " 1885
1972	9 Oct., 1883	21 " 1884	2065	6 Mar., 1883	7 July, 1884	2160	5 July, 1884	1 April, 1885
1973	9 " 1883	24 " 1884	2066	24 Aug., 1883	11 Nov., 1884	2161	23 May, 1884	8 May, 1885
1974	9 " 1883	24 " 1884	2067	9 Dec., 1882	7 " 1884	2162	18 Aug., 1884	14 April, 1885
1975	19 Dec., 1883	6 Aug., 1884	2068	14 Nov., 1883	16 Dec., 1884	2163	30 June, 1884	7 May, 1885
1976	25 Mar., 1882	24 July, 1884	2069	10 Dec., 1883	1 " 1884	2165	27 Sept., 1884	11 " 1885
1977	6 Aug., 1883	30 " 1884	2070	20 " 1883	22 " 1884	2166	8 " 1884	11 " 1885
1978	28 Sept., 1883	9 " 1884	2071	30 May, 1884	22 " 1884	2167	18 " 1884	9 " 1885
1979	10 Oct., 1883	21 " 1884	2072	2 Oct., 1883	18 Nov., 1884	2168	10 July, 1884	15 " 1885
1980	18 Mar., 1883	12 Aug., 1884	2073	12 Nov., 1883	18 " 1884	2169	21 May, 1884	15 " 1885
1981	13 " 1883	12 " 1884	2074	21 Mar., 1884	18 " 1884	2170	21 " 1884	15 " 1885
1982	30 June, 1883	4 " 1884	2081	7 Feb., 1884	15 Dec., 1884	2171	21 " 1884	15 " 1885
1983	21 July, 1883	4 " 1884	2082	15 May, 1884	20 " 1884	2172	21 " 1884	15 " 1885
1984	21 " 1883	4 " 1884	2083	15 " 1884	20 " 1884	2173	21 " 1884	15 " 1885
1985	21 May, 1883	4 " 1884	2085	2 Mar., 1883	22 " 1884	2174	7 Dec., 1883	11 " 1885
1986	21 " 1883	4 " 1884	2086	11 " 1884	5 Jan., 1885	2175	30 May, 1884	11 " 1885
1987	12 Mar., 1883	4 " 1884	2087	17 April, 1884	5 " 1885	2176	24 July, 1884	27 Mar., 1885
1988	12 " 1883	4 " 1884	2088	22 Feb., 1884	9 " 1885	2177	18 Aug., 1884	27 May, 1885
1989	12 " 1883	4 " 1884	2089	17 Sept., 1883	9 " 1885	2178	22 July, 1884	26 " 1885
1990	12 " 1883	4 " 1884	2090	23 July, 1884	9 " 1885	2179	29 May, 1884	29 " 1885
1991	14 Jan., 1883	15 " 1884	2091	5 June, 1882	17 " 1885	2180	29 " 1884	29 " 1885
1992	3 Oct., 1883	27 " 1884	2092	5 " 1882	17 " 1885	2181	29 " 1884	29 " 1885
1993	18 Aug., 1882	4 " 1884	2093	1 Dec., 1883	15 " 1885	2182	29 " 1884	29 " 1885

## MINERAL LEASES—continued.

No. of Lease.	Date of Application.	Date of Issue.	No. of Lease.	Date of Application.	Date of Issue.	No. of Lease.	Date of Application.	Date of Issue.
2183	18 Oct., 1883	29 May, 1885	2269	26 June, 1884	13 July, 1885	2356	8 Sept., 1883	3 Sept., 1885
2184	25 Aug., 1884	18 " 1885	2270	28 " 1884	14 " 1885	2357	8 " 1883	3 " 1885
2185	14 " 1884	18 " 1885	2271	26 " 1884	13 " 1885	2358	8 " 1883	3 " 1885
2186	24 July, 1884	18 " 1885	2272	20 " 1882	17 " 1885	2359	8 " 1883	3 " 1885
2187	25 June, 1884	18 " 1885	2273	13 " 1884	11 " 1885	2360	21 " 1883	3 " 1885
2188	9 Aug., 1884	27 " 1885	2274	3 May, 1884	11 " 1885	2361	21 " 1883	3 " 1885
2189	24 July, 1884	27 " 1885	2275	2 April, 1884	11 " 1885	2362	19 Aug, 1884	3 " 1885
2190	2 Aug., 1884	26 " 1885	2276	11 Jan., 1884	14 " 1885	2363	7 Jan., 1884	3 " 1885
2191	2 " 1884	26 " 1885	2277	10 Dec., 1883	16 " 1885	2364	9 July, 1884	3 " 1885
2192	2 " 1884	26 " 1885	2278	10 " 1883	16 " 1885	2365	9 Dec., 1884	1 " 1885
2193	16 June, 1883	22 " 1885	2279	10 " 1883	14 " 1885	2366	23 Oct., 1884	27 Aug., 1885
2194	5 July, 1884	1 June, 1885	2280	29 Oct., 1883	13 " 1885	2367	6 Aug., 1884	8 Sept., 1885
2195	5 " 1884	1 " 1885	2281	18 June, 1884	21 " 1885	2368	7 " 1884	7 " 1885
2196	14 " 1884	1 " 1885	2282	8 Dec., 1883	18 June, 1885	2369	7 " 1884	7 " 1885
2197	28 Aug., 1884	1 " 1885	2283	2 Sept., 1884	29 " 1885	2370	7 " 1884	7 " 1885
2197	9 " 1884	1 " 1885	2284	2 " 1884	29 " 1885	2371	13 " 1884	7 " 1885
2198	9 " 1884	1 " 1885	2285	2 " 1884	29 " 1885	2372	2 Nov., 1883	11 " 1885
2199	14 " 1884	1 " 1885	2286	3 " 1884	29 " 1885	2373	8 Aug., 1884	5 " 1885
2200	18 " 1884	1 " 1885	2287	16 July, 1884	28 July, 1885	2374	8 " 1884	5 " 1885
2201	19 July, 1884	7 " 1885	2288	5 Aug., 1884	13 " 1885	2375	22 Dec., 1883	7 " 1885
2202	8 Aug., 1884	12 " 1885	2289	2 June, 1884	30 " 1885	2376	9 May, 1884	7 " 1885
2203	14 July, 1884	11 " 1885	2290	2 Oct., 1884	30 " 1885	2377	19 " 1884	24 Aug., 1885
2204	6 Aug., 1884	2 " 1885	2291	26 May, 1884	6 Aug., 1885	2378	5 June, 1883	1 Sept., 1885
2205	9 " 1884	2 " 1885	2292	26 " 1884	6 " 1885	2379	24 Sept., 1884	21 " 1885
2206	5 Dec., 1883	11 May, 1885	2293	14 Nov., 1883	6 " 1885	2380	6 Dec., 1883	19 " 1885
2207	29 Oct., 1883	27 June, 1885	2294	5 July, 1884	6 " 1885	2381	21 July, 1884	17 " 1885
2208	27 Dec., 1883	25 " 1885	2295	10 Sept., 1884	28 July, 1885	2382	29 " 1884	16 " 1885
2209	18 Aug., 1884	27 " 1885	2296	25 Jan., 1884	10 Aug., 1885	2383	30 " 1884	16 " 1885
2210	18 " 1884	27 " 1885	2297	29 May, 1884	10 " 1885	2384	1 Aug., 1884	17 " 1885
2211	6 Oct., 1884	27 " 1885	2298	19 July, 1884	6 " 1885	2385	23 " 1884	17 " 1885
2212	2 June, 1884	20 July, 1885	2299	30 May, 1884	12 " 1885	2386	9 Sept., 1884	16 " 1885
2213	7 July, 1884	13 " 1885	2300	30 " 1884	12 " 1885	2387	25 July, 1884	19 " 1885
2214	1 Dec., 1883	13 " 1885	2301	25 Sept., 1884	3 " 1885	2388	23 Aug., 1884	21 " 1885
2215	7 July, 1884	13 " 1885	2302	25 " 1884	3 " 1885	2389	15 Nov., 1884	9 Oct., 1885
2216	28 May, 1884	13 " 1885	2303	3 " 1884	3 " 1885	2390	16 " 1884	6 " 1885
2217	1 July, 1884	13 " 1885	2304	30 Jan., 1885	10 " 1885	2391	24 Oct., 1884	22 Sept., 1885
2218	28 " 1884	13 " 1885	2305	24 Mar., 1884	1 " 1885	2392	14 " 1884	22 " 1885
2219	20 June, 1884	13 " 1885	2306	10 April, 1884	20 July, 1885	2393	14 " 1884	22 " 1885
2220	20 " 1884	13 " 1885	2307	10 " 1884	20 " 1885	2394	8 July, 1884	8 " 1885
2221	20 " 1884	13 " 1885	2308	25 " 1884	27 " 1885	2395	1 Oct., 1884	28 " 1885
2222	20 Dec., 1883	13 " 1885	2309	2 July, 1884	30 " 1885	2396	17 " 1884	28 " 1885
2223	8 Aug., 1884	13 " 1885	2310	10 " 1884	22 " 1885	2397	8 Sept., 1884	5 Oct., 1885
2224	14 May, 1884	14 " 1885	2311	10 " 1884	22 " 1885	2398	14 Oct., 1884	7 " 1885
2225	6 Dec., 1883	14 " 1885	2312	18 " 1884	24 " 1885	2399	22 Sept., 1884	9 " 1885
2226	20 June, 1884	14 " 1885	2313	19 " 1884	31 " 1885	2400	21 Oct., 1884	28 Sept., 1885
2227	1 July, 1884	10 " 1885	2314	19 " 1884	31 " 1885	2401	2 May, 1884	14 Oct., 1885
2228	16 " 1884	10 " 1885	2315	22 " 1884	27 " 1885	2402	22 Sept., 1884	14 " 1885
2229	14 " 1884	11 " 1885	2316	2 Aug., 1884	28 " 1885	2403	22 " 1884	14 " 1885
2230	25 Aug., 1884	9 " 1885	2317	7 " 1884	3 Aug., 1885	2404	21 Nov., 1884	21 Sept., 1885
2231	1 Oct., 1884	10 " 1885	2318	17 May, 1884	14 " 1885	2405	21 " 1884	21 " 1885
2232	29 Sept., 1884	27 June, 1885	2319	15 Feb., 1884	17 " 1885	2406	21 " 1884	21 " 1885
2233	3 June, 1884	17 July, 1885	2320	15 " 1884	17 " 1885	2407	21 " 1884	21 " 1885
2234	8 " 1884	17 " 1885	2321	7 July, 1884	5 " 1885	2408	21 " 1884	21 " 1885
2235	8 Nov., 1883	30 June, 1885	2322	11 Jan., 1884	15 " 1885	2409	21 " 1884	21 " 1885
2236	15 Dec., 1883	7 " 1885	2323	8 July, 1884	15 " 1885	2410	21 " 1884	21 " 1885
2237	12 April, 1884	6 July, 1885	2324	1 Nov., 1884	12 " 1885	2411	21 " 1884	21 " 1885
2238	18 June, 1884	29 June, 1885	2325	24 Sept., 1884	15 " 1885	2412	8 Dec., 1884	7 Oct., 1885
2239	27 " 1884	10 July, 1885	2326	24 Nov., 1884	28 " 1885	2413	8 " 1884	7 " 1885
2240	18 July, 1884	30 June, 1885	2327	24 " 1884	28 " 1885	2414	2 June, 1884	30 Sept., 1885
2241	18 " 1884	6 July, 1885	2328	24 Oct., 1884	18 " 1885	2415	6 Feb., 1884	21 Oct., 1885
2242	18 " 1884	7 " 1885	2329	24 " 1884	18 " 1885	2416	21 July, 1884	14 " 1885
2243	26 " 1884	6 " 1885	2330	25 Sept., 1884	27 July, 1885	2417	22 Aug., 1884	14 " 1885
2244	26 " 1884	6 " 1885	2331	25 " 1884	27 " 1885	2418	21 July, 1884	14 " 1885
2245	7 Aug., 1884	8 " 1885	2332	25 " 1884	27 " 1885	2419	18 Oct., 1884	21 Aug., 1885
2246	7 " 1884	8 " 1885	2333	14 May, 1884	20 Aug., 1885	2420	2 Nov., 1883	2 Oct., 1885
2247	16 " 1884	7 " 1885	2334	21 " 1884	24 " 1885	2421	15 Dec., 1883	23 Sept., 1885
2248	26 " 1884	7 " 1885	2335	26 " 1884	17 " 1885	2422	17 Oct., 1883	24 " 1885
2249	5 Sept., 1884	29 June, 1885	2336	9 July, 1884	20 " 1885	2423	26 Sept., 1884	29 " 1885
2250	15 " 1884	9 July, 1885	2337	17 " 1884	24 " 1885	2424	8 May, 1884	7 Oct., 1885
2251	15 " 1884	9 " 1885	2338	2 Aug., 1884	10 " 1885	2425	19 Aug., 1884	7 " 1885
2252	16 " 1884	9 " 1885	2339	22 " 1884	20 " 1885	2426	1 " 1884	28 " 1885
2253	27 " 1884	6 " 1885	2340	16 Oct., 1884	20 " 1885	2427	27 May, 1884	29 " 1885
2254	18 Oct., 1884	6 " 1885	2341	17 " 1884	17 " 1885	2428	27 " 1884	29 " 1885
2255	27 " 1884	9 " 1885	2342	30 June, 1884	11 Sept., 1885	2429	21 Nov., 1884	29 " 1885
2256	1 Nov., 1884	7 " 1885	2343	30 " 1884	11 " 1885	2430	21 " 1884	29 " 1885
2257	8 Sept., 1884	20 " 1885	2344	11 Oct., 1884	7 " 1885	2431	3 " 1883	28 " 1885
2258	8 " 1884	14 " 1885	2345	15 " 1884	6 Aug., 1885	2432	18 April, 1884	28 " 1885
2259	8 " 1884	14 " 1885	2346	12 June, 1884	6 " 1885	2433	21 Nov., 1884	3 Nov., 1885
2260	8 " 1884	16 " 1885	2347	7 July, 1884	3 " 1885	2434	14 Dec., 1883	19 Oct., 1885
2261	10 " 1884	15 " 1885	2348	15 " 1884	3 " 1885	2435	16 July, 1883	29 " 1885
2262	20 " 1884	15 " 1885	2349	15 " 1884	3 " 1885	2436	3 April, 1884	27 " 1885
2263	16 July, 1884	22 " 1885	2350	15 " 1884	3 " 1885	2437	12 Sept., 1884	21 " 1885
2264	20 Sept., 1884	16 " 1885	2351	15 " 1884	3 " 1885	2438	14 Aug., 1884	16 " 1885
2265	8 " 1884	17 " 1885	2352	15 " 1884	3 " 1885	2439	4 June, 1884	21 " 1885
2266	17 July, 1884	16 " 1885	2353	15 " 1884	3 " 1885	2440	4 " 1884	21 " 1885
2267	7 " 1884	13 " 1885	2354	15 " 1884	3 " 1885	2441	2 July, 1884	29 " 1885
2268	5 " 1884	13 " 1885	2355	6 Sept., 1883	3 Sept., 1885	2442	9 Aug., 1884	22 " 1885

## MINERAL LEASES—continued.

No. of Lease.	Date of Application.	Date of Issue.	No. of Lease.	Date of Application.	Date of Issue.	No. of Lease.	Date of Application.	Date of Issue.
2443	24 April, 1884	28 Oct., 1885	2531	15 Oct., 1884	17 Dec., 1885	2619	1 April, 1885	1 Mar., 1886
2444	10 June, 1884	27 " 1885	2532	22 " 1884	17 " 1885	2620	1 " 1885	1 " 1886
2445	20 Oct., 1884	24 " 1885	2533	17 Nov., 1884	30 " 1885	2621	1 " 1885	1 " 1886
2446	20 " 1884	24 " 1885	2534	27 Dec., 1884	30 " 1885	2622	18 " 1885	1 " 1886
2447	15 Dec., 1884	24 " 1885	2535	27 " 1884	30 " 1885	2623	10 Feb., 1885	17 Feb., 1886
2448	20 " 1883	20 Nov., 1885	2536	14 Mar., 1885	29 " 1885	2624	20 Dec., 1884	1 " 1886
2449	26 Jan., 1884	20 " 1885	2537	19 " 1885	29 " 1885	2625	21 Oct., 1884	9 " 1886
2450	6 Feb., 1884	20 " 1885	2538	20 " 1885	17 " 1885	2627	13 Dec., 1884	5 " 1886
2451	29 July, 1884	2 " 1885	2539	20 " 1885	17 " 1885	2628	18 April, 1885	25 " 1886
2452	19 Aug., 1884	5 " 1885	2540	8 April, 1885	31 " 1885	2629	6 Oct., 1884	2 Mar., 1886
2453	31 Oct., 1884	2 " 1885	2541	8 " 1885	31 " 1885	2630	20 Mar., 1885	26 Feb., 1886
2454	1 Dec., 1884	30 Dec., 1885	2542	8 " 1885	31 " 1885	2631	9 June, 1885	2 Mar., 1886
2455	13 " 1884	30 Nov., 1885	2543	8 " 1885	31 " 1885	2632	20 Mar., 1885	26 Feb., 1886
2456	13 " 1884	10 " 1885	2544	8 " 1885	31 " 1885	2633	27 May, 1885	26 " 1886
2457	3 Jan., 1885	2 " 1885	2545	17 Jan., 1885	6 Jun., 1886	2634	21 " 1884	2 Mar., 1886
2458	19 " 1885	5 " 1885	2546	9 Mar., 1885	11 " 1886	2635	21 " 1884	2 " 1886
2459	4 " 1884	20 " 1885	2547	16 Sept., 1884	13 " 1886	2636	18 July, 1884	2 " 1886
2460	4 " 1884	20 " 1885	2548	23 April, 1885	11 " 1886	2637	27 Nov., 1884	9 Feb., 1886
2461	4 " 1884	20 " 1885	2549	23 " 1885	11 " 1886	2638	26 Mar., 1885	26 " 1886
2462	20 Sept., 1884	20 " 1885	2550	6 Dec., 1884	16 " 1886	2639	20 July, 1885	1 Mar., 1886
2463	22 " 1884	20 " 1885	2551	9 " 1884	16 " 1886	2640	16 April, 1885	12 " 1886
2464	25 " 1884	17 " 1885	2552	25 April, 1885	13 " 1886	2641	14 Feb., 1884	24 Feb., 1886
2465	25 " 1884	20 " 1885	2553	15 Oct., 1883	8 " 1886	2642	25 Aug., 1884	2 Mar., 1886
2466	2 Oct., 1884	20 " 1885	2554	7 Dec., 1883	8 " 1886	2643	5 Sept., 1884	2 " 1886
2467	4 " 1884	20 " 1885	2555	8 " 1883	4 " 1886	2644	8 April, 1885	2 " 1886
2468	21 " 1884	20 " 1885	2556	20 " 1883	15 " 1886	2645	23 May, 1885	4 " 1886
2469	27 " 1884	20 " 1885	2557	2 May, 1884	4 " 1886	2646	10 April, 1885	10 " 1886
2470	3 Nov., 1884	20 " 1885	2558	2 June, 1884	2 " 1886	2647	5 Feb., 1885	15 " 1886
2471	3 " 1884	20 " 1885	2559	1 Aug., 1884	2 " 1886	2648	3 Sept., 1883	3 " 1885
2472	22 " 1884	20 " 1885	2560	11 " 1884	5 " 1886	2649	31 Mar., 1884	11 " 1885
2473	3 " 1884	20 " 1885	2561	13 Sept., 1884	4 " 1886	2650	19 July, 1884	11 " 1886
2474	3 Dec., 1884	19 " 1885	2562	24 " 1884	4 " 1886	2651	15 Nov., 1884	11 " 1886
2475	3 " 1884	19 " 1885	2563	14 Oct., 1884	4 " 1886	2652	29 Dec., 1884	11 " 1886
2476	28 Aug., 1884	27 " 1885	2564	13 Nov., 1884	14 " 1886	2653	5 Nov., 1884	10 " 1886
2477	2 " 1884	30 " 1885	2565	17 " 1884	2 " 1886	2654	9 Dec., 1884	8 " 1886
2478	2 " 1884	30 " 1885	2566	17 " 1884	2 " 1886	2655	18 Mar., 1885	7 " 1886
2479	2 " 1884	30 " 1885	2567	16 Dec., 1884	4 " 1886	2656	16 Sept., 1884	12 " 1886
2480	16 Sept., 1884	30 " 1885	2568	30 " 1884	9 " 1886	2657	16 Mar., 1885	13 " 1886
2481	28 April, 1884	30 " 1885	2569	5 Mar., 1885	9 " 1886	2658	11 May, 1885	12 " 1886
2482	14 July, 1884	4 Dec., 1885	2570	31 " 1885	7 " 1886	2659	13 Jan., 1885	18 " 1886
2483	20 Dec., 1884	26 Nov., 1885	2571	11 Oct., 1884	20 " 1886	2660	6 Feb., 1885	18 " 1886
2484	1 " 1884	30 " 1885	2572	22 Jan., 1885	22 " 1886	2661	24 Mar., 1885	18 " 1886
2485	12 Jan., 1885	24 " 1885	2573	19 Mar., 1885	22 " 1886	2662	1 Oct., 1883	3 Nov., 1885
2486	21 Nov., 1884	18 Dec., 1885	2574	20 Oct., 1884	12 " 1886	2663	12 Sept., 1884	15 Mar., 1886
2487	21 " 1884	18 " 1885	2575	5 Nov., 1884	19 " 1886	2664	16 Mar., 1885	15 " 1886
2488	21 " 1884	18 " 1885	2576	12 April, 1884	23 " 1886	2665	16 " 1885	15 " 1886
2489	21 " 1884	18 " 1885	2577	12 " 1884	23 " 1886	2666	23 " 1885	15 " 1886
2490	21 " 1884	18 " 1885	2578	17 May, 1884	5 Feb., 1886	2667	2 June, 1885	15 " 1886
2491	10 April, 1884	17 " 1885	2579	1 July, 1884	5 " 1886	2668	7 April, 1885	13 " 1886
2492	30 June, 1884	28 Nov., 1885	2580	1 " 1884	5 " 1886	2669	28 Aug., 1885	20 " 1886
2493	30 " 1884	27 " 1885	2581	16 May, 1885	4 " 1886	2670	12 Jan., 1885	23 " 1886
2494	26 Sept., 1884	15 Dec., 1885	2582	16 " 1885	4 " 1886	2671	6 " 1885	23 Dec., 1885
2495	2 April, 1884	21 " 1885	2583	22 April, 1885	11 " 1886	2672	6 " 1885	23 " 1885
2496	5 Aug., 1884	21 " 1885	2584	3 Sept., 1883	8 " 1886	2673	28 May, 1885	30 Mar., 1886
2497	15 July, 1884	21 " 1885	2585	3 " 1883	8 " 1886	2674	20 Mar., 1885	24 " 1886
2498	10 Oct., 1884	22 " 1885	2586	17 April, 1885	12 Jan., 1886	2675	8 Jan., 1885	15 Feb., 1886
2499	22 " 1884	21 " 1885	2587	8 Jan., 1885	10 Feb., 1886	2676	5 Nov., 1884	20 Mar., 1886
2500	11 Nov., 1884	20 " 1885	2588	8 " 1885	10 " 1886	2677	15 Dec., 1884	29 " 1886
2501	23 May, 1884	31 " 1885	2589	14 July, 1884	12 " 1886	2678	20 Jan., 1885	20 " 1886
2502	8 Nov., 1884	29 " 1885	2590	9 Aug., 1884	12 " 1886	2679	15 Oct., 1884	5 April, 1886
2503	12 Jan., 1885	4 Jan., 1886	2591	25 Oct., 1883	19 " 1886	2680	11 April, 1885	6 " 1886
2504	23 " 1885	26 Dec., 1885	2592	24 Dec., 1883	27 " 1886	2681	11 " 1885	6 " 1886
2505	7 Feb., 1885	29 " 1885	2593	19 Aug., 1884	20 Jun., 1886	2682	26 Feb., 1885	6 " 1886
2506	29 Dec., 1884	26 " 1885	2594	27 " 1884	25 " 1886	2683	8 Jan., 1885	22 Mar., 1886
2507	9 Jan., 1885	26 " 1885	2595	3 Sept., 1884	27 " 1886	2684	14 July, 1884	22 " 1886
2508	12 Nov., 1884	30 " 1885	2596	6 Oct., 1884	25 " 1886	2685	27 Oct., 1884	29 " 1886
2509	20 Oct., 1884	21 " 1885	2597	17 " 1884	1 Feb., 1886	2686	22 April, 1885	18 " 1886
2510	27 Jan., 1885	7 Jan., 1886	2598	3 Nov., 1884	25 Jan., 1886	2687	24 Mar., 1885	1 April, 1886
2511	20 Feb., 1885	7 " 1886	2599	7 " 1884	25 " 1886	2688	17 April, 1885	1 " 1886
2512	17 April, 1882	4 June, 1885	2600	12 Dec., 1884	1 Feb., 1886	2689	31 July, 1885	22 Mar., 1886
2513	17 " 1882	4 " 1885	2601	12 " 1884	1 " 1886	2690	18 Aug., 1884	12 April, 1886
2514	7 Mar., 1885	8 Jan., 1886	2602	2 Feb., 1885	26 Jan., 1886	2691	13 Mar., 1885	30 Mar., 1886
2515	7 " 1885	8 " 1886	2603	14 Dec., 1884	10 Feb., 1886	2692	22 July, 1884	3 April, 1886
2516	7 " 1885	8 " 1886	2604	11 " 1884	12 " 1886	2693	15 " 1884	15 Jan., 1886
2517	7 " 1885	8 " 1886	2605	12 Jan., 1885	12 " 1886	2694	25 Mar., 1884	6 " 1886
2518	7 " 1885	8 " 1886	2606	9 " 1885	17 " 1886	2695	16 Feb., 1885	19 April, 1886
2519	17 " 1885	18 " 1886	2607	11 Dec., 1884	18 " 1886	2696	21 July, 1884	21 Jan., 1886
2520	7 July, 1884	17 Dec., 1885	2608	30 Mar., 1885	22 Jan., 1886	2697	21 " 1884	21 " 1886
2521	28 " 1884	17 " 1885	2609	2 July, 1885	23 " 1886	2698	14 Jan., 1885	27 " 1886
2522	21 Aug., 1884	12 " 1885	2610	24 Oct., 1884	13 Feb., 1886	2699	14 " 1885	27 " 1886
2523	25 " 1884	15 " 1885	2611	12 Feb., 1885	11 " 1886	2700	8 Dec., 1884	16 Feb., 1886
2524	15 July, 1884	29 " 1885	2612	20 Oct., 1884	15 " 1886	2701	2 Jan., 1885	27 Mar., 1886
2525	22 Sept., 1884	12 " 1885	2613	19 Feb., 1885	27 Jan., 1886	2702	2 " 1885	27 " 1886
2526	14 April, 1884	29 " 1885	2614	17 Jan., 1885	16 Feb., 1886	2703	2 " 1885	27 " 1886
2527	14 " 1884	29 " 1885	2615	3 Nov., 1884	15 " 1886	2704	28 Aug., 1885	28 April, 1886
2528	22 Sept., 1884	17 " 1885	2616	10 Oct., 1884	3 " 1886	2705	14 July, 1884	27 " 1886
2529	4 Aug., 1884	29 " 1885	2617	16 Jan., 1885	26 " 1886	2706	14 " 1884	27 " 1886
2530	27 Sept., 1884	5 " 1886	2618	22 Nov., 1884	13 " 1886	2707	22 " 1884	20 " 1886

## MINERAL LEASES—continued.

No. of Lease.	Date of Application.	Date of Issue.	No. of Lease.	Date of Application.	Date of Issue.	No. of Lease.	Date of Application.	Date of Issue.
2708	22 July, 1884	19 April, 1886	2798	14 Oct., 1884	11 Sept., 1886	2886	15 Sept., 1885	23 Nov., 1886
2709	22 " 1884	12 " 1886	2799	9 June, 1884	20 " 1886	2887	18 " 1885	23 " 1886
2710	22 " 1884	14 " 1886	2800	20 Sept., 1884	14 " 1886	2888	22 Oct., 1885	1 Dec., 1886
2711	27 April, 1885	15 " 1886	2801	20 " 1884	14 " 1886	2889	15 Jan., 1886	1 " 1886
2712	27 " 1885	15 " 1886	2802	24 Mar., 1885	18 " 1886	2890	19 April, 1886	1 " 1886
2718	11 Aug., 1885	15 " 1886	2803	20 April, 1885	5 Oct., 1886	2891	24 Nov., 1884	14 " 1886
2714	14 Jan., 1885	9 Jan., 1886	2804	20 " 1885	5 " 1886	2892	16 " 1885	17 " 1886
2715	14 " 1885	9 " 1886	2805	20 " 1885	5 " 1886	2893	12 June, 1885	8 " 1886
2716	7 Feb., 1885	8 May, 1886	2806	16 May, 1885	5 " 1886	2894	17 Sept., 1885	16 " 1886
2717	7 " 1885	8 " 1886	2807	16 " 1885	5 " 1886	2895	17 " 1885	16 " 1886
2718	7 " 1885	8 " 1886	2808	9 Sept., 1885	28 Sept., 1886	2896	5 April, 1886	20 " 1886
2719	7 " 1885	8 " 1886	2809	27 June, 1885	21 July, 1886	2897	30 Jan., 1886	21 " 1886
2720	7 " 1885	8 " 1886	2810	16 Feb., 1885	4 Oct., 1886	2898	7 Aug., 1885	20 " 1886
2721	7 " 1885	8 " 1886	2811	25 Sept., 1885	27 July, 1886	2899	7 " 1885	20 " 1886
2722	23 Sept., 1884	22 April, 1886	2812	25 " 1885	8 Oct., 1886	2900	11 Sept., 1884	23 Nov., 1886
2723	24 Mar., 1885	12 May, 1886	2813	15 " 1884	5 " 1886	2901	3 June, 1885	14 Dec., 1886
2724	3 June, 1885	8 " 1886	2814	15 " 1884	5 " 1886	2902	8 " 1885	9 " 1886
2725	15 Nov., 1884	25 Nov., 1885	2815	13 Nov., 1884	2 " 1886	2903	30 July, 1885	13 " 1886
2726	20 Oct., 1884	27 May, 1886	2816	13 " 1884	2 " 1886	2904	1 Aug., 1885	13 " 1886
2727	20 " 1884	27 " 1886	2817	3 Dec., 1884	4 " 1886	2905	1 " 1885	6 " 1886
2728	25 Mar., 1885	13 " 1886	2818	13 " 1884	4 " 1886	2906	9 Dec., 1885	13 " 1886
2729	22 Aug., 1885	28 " 1886	2819	28 Mar., 1885	28 Sept., 1886	2907	14 " 1885	6 " 1886
2730	8 April, 1885	22 " 1886	2820	11 April, 1885	24 " 1886	2908	15 Jan., 1886	6 " 1886
2731	13 " 1885	8 April, 1886	2821	13 Aug., 1885	4 Oct., 1886	2909	11 " 1886	15 " 1886
2732	12 May, 1885	8 " 1886	2822	14 Sept., 1885	9 " 1886	2910	11 " 1886	15 " 1886
2733	25 June, 1883	9 Feb., 1886	2823	23 " 1885	27 Sept., 1886	2911	11 " 1886	15 " 1886
2734	21 July, 1884	1 June, 1886	2824	9 May, 1885	15 Oct., 1886	2912	11 " 1886	15 " 1886
2735	30 Mar., 1885	10 April, 1886	2825	9 Oct., 1884	18 " 1886	2913	28 " 1886	15 " 1886
2736	27 April, 1885	28 May, 1886	2826	16 Dec., 1885	18 " 1886	2914	21 April, 1886	3 " 1886
2737	6 June, 1884	31 " 1886	2827	16 " 1885	18 " 1886	2915	21 " 1886	3 " 1886
2738	25 July, 1884	4 June, 1886	2828	16 " 1885	19 " 1886	2916	2 Feb., 1886	20 " 1886
2739	10 Sept., 1884	31 May, 1886	2829	9 Mar., 1885	5 " 1886	2917	22 " 1886	21 " 1886
2740	12 Mar., 1885	29 " 1886	2830	10 Sept., 1884	20 " 1886	2918	15 " 1886	23 " 1886
2741	18 " 1885	9 June, 1886	2831	1 June, 1885	20 " 1886	2919	1 Mar., 1886	23 " 1886
2742	24 " 1885	12 " 1886	2832	18 April, 1885	21 " 1886	2920	4 " 1886	21 " 1886
2743	10 April, 1885	8 " 1886	2833	6 " 1886	22 " 1886	2921	19 April, 1886	23 " 1886
2744	21 " 1885	28 May, 1886	2834	6 " 1886	22 " 1886	2922	8 Feb., 1886	22 " 1886
2745	24 " 1885	2 June, 1886	2835	6 " 1886	22 " 1886	2923	11 Dec., 1885	23 " 1886
2746	30 " 1885	14 " 1886	2836	6 " 1886	22 " 1886	2924	29 June, 1885	18 " 1886
2747	4 May, 1885	10 " 1886	2837	6 " 1886	22 " 1886	2925	18 Sept., 1885	21 " 1886
2748	11 " 1885	25 May, 1886	2838	23 Jan., 1885	13 " 1886	2926	14 Oct., 1885	21 " 1886
2749	19 " 1885	28 " 1886	2839	24 April, 1885	11 " 1886	2927	14 " 1885	21 " 1886
2750	16 " 1885	29 " 1886	2840	27 " 1885	20 " 1886	2928	21 " 1885	21 " 1886
2751	18 April, 1885	24 June, 1886	2841	19 June, 1885	20 " 1886	2929	2 Nov., 1885	21 " 1886
2752	30 Dec., 1885	1 July, 1886	2842	27 July, 1885	20 " 1886	2930	17 Oct., 1885	17 Oct., 1886
2753	1 Sept., 1884	2 " 1886	2843	14 Nov., 1885	11 " 1886	2931	17 " 1885	17 " 1886
2754	18 " 1884	2 " 1886	2844	21 Sept., 1885	18 " 1886	2932	5 Mar., 1886	23 " 1886
2755	27 Dec., 1884	27 April, 1886	2845	16 Nov., 1885	18 " 1886	2933	18 Sept., 1885	23 " 1886
2756	23 " 1884	28 June, 1886	2846	16 " 1885	18 " 1886	2934	26 Aug., 1885	23 " 1886
2757	6 " 1885	7 July, 1886	2847	17 Sept., 1885	6 Nov., 1886	2935	10 Nov., 1885	16 " 1886
2758	27 April, 1885	16 June, 1886	2848	6 Oct., 1885	8 " 1886	2936	10 " 1885	16 " 1886
2759	11 " 1885	29 " 1886	2849	2 " 1885	22 Oct., 1886	2937	26 Sept., 1885	24 " 1886
2760	13 May, 1885	29 " 1886	2850	13 Aug., 1884	30 " 1886	2938	26 " 1885	24 " 1886
2761	6 Nov., 1885	7 July, 1886	2851	25 " 1884	6 Nov., 1886	2939	28 Oct., 1885	28 " 1886
2762	3 Oct., 1885	13 " 1886	2852	31 Mar., 1886	24 " 1886	2940	9 May, 1885	31 " 1886
2763	3 " 1885	13 " 1886	2853	29 June, 1885	6 " 1886	2941	9 " 1885	31 " 1886
2764	5 Aug., 1885	24 " 1886	2854	6 July, 1885	10 " 1886	2942	11 Nov., 1885	28 " 1886
2765	5 " 1885	24 " 1886	2855	6 " 1885	6 " 1886	2943	11 " 1885	28 " 1886
2766	22 Sept., 1885	30 " 1886	2856	15 Sept., 1885	5 " 1886	2944	13 Feb., 1886	5 Jan., 1887
2767	22 " 1885	30 " 1886	2857	15 " 1885	5 " 1886	2945	13 " 1886	5 " 1887
2768	7 Oct., 1885	27 " 1886	2858	22 " 1885	10 " 1886	2946	13 " 1886	5 " 1887
2770	3 June, 1885	13 " 1886	2859	22 " 1885	10 " 1886	2947	24 June, 1885	3 " 1887
2771	4 " 1885	12 " 1886	2860	24 " 1885	25 Oct., 1886	2948	20 Mar., 1885	18 " 1887
2772	28 July, 1885	12 " 1886	2861	13 Oct., 1885	10 Nov., 1886	2949	8 " 1886	21 Dec., 1886
2773	23 Sept., 1884	5 Aug., 1886	2862	19 May, 1884	19 " 1886	2950	21 July, 1886	25 Jan., 1887
2774	1 May, 1885	4 " 1886	2863	25 Jan., 1886	19 " 1886	2951	21 " 1886	25 " 1887
2775	20 Jan., 1885	9 " 1886	2864	17 May, 1884	17 " 1886	2952	21 " 1886	25 " 1887
2776	13 Feb., 1885	9 July, 1886	2865	26 " 1885	6 " 1886	2953	10 Sept., 1885	17 " 1887
2777	13 " 1885	9 " 1886	2866	7 Aug., 1885	18 " 1886	2954	2 Nov., 1885	5 " 1887
2778	13 " 1885	9 " 1886	2867	7 " 1885	18 " 1886	2955	16 Jan., 1886	13 " 1887
2779	13 " 1885	9 " 1886	2868	23 Sept., 1885	18 " 1886	2956	28 " 1886	22 " 1887
2780	4 June, 1885	1 Sept., 1886	2869	26 " 1885	16 " 1886	2957	24 Mar., 1886	21 " 1887
2781	4 May, 1885	7 " 1886	2870	17 Oct., 1885	18 " 1886	2958	20 Feb., 1885	2 Feb., 1887
2782	1 Oct., 1885	25 " 1886	2871	17 " 1885	18 " 1886	2959	11 Mar., 1885	18 Jan., 1887
2783	23 Dec., 1884	13 " 1886	2872	5 Dec., 1885	19 " 1886	2960	1 Sept., 1885	24 " 1887
2784	23 " 1884	13 " 1886	2873	3 " 1885	23 " 1886	2961	15 " 1885	29 " 1887
2785	18 Sept., 1885	17 " 1886	2874	27 " 1884	26 " 1886	2962	15 " 1885	29 " 1887
2786	16 Dec., 1885	23 " 1886	2875	18 Jan., 1886	12 " 1886	2963	15 " 1885	29 " 1887
2788	30 May, 1884	30 Aug., 1886	2876	10 Oct., 1885	30 " 1886	2964	13 April, 1886	25 " 1887
2789	7 June, 1884	17 Sept., 1886	2877	20 Mar., 1886	1 Dec., 1886	2965	13 " 1886	25 " 1887
2790	7 " 1884	17 " 1886	2878	7 Aug., 1885	1 " 1886	2966	18 Sept., 1885	4 Feb., 1887
2791	7 " 1884	17 " 1886	2879	7 " 1885	1 " 1886	2967	12 Oct., 1885	13 Oct., 1886
2792	22 July, 1884	7 " 1886	2880	21 Sept., 1885	27 Nov., 1886	2968	7 Aug., 1885	17 Feb., 1887
2793	22 " 1884	7 " 1886	2881	3 Oct., 1885	30 " 1886	2969	11 Sept., 1884	12 " 1887
2794	10 Sept., 1884	20 " 1886	2882	30 July, 1884	20 " 1886	2970	11 " 1884	12 " 1887
2795	22 " 1884	18 " 1886	2883	3 Nov., 1884	1 Dec., 1886	2971	9 " 1885	7 " 1887
2796	7 Oct., 1884	18 " 1886	2884	10 Mar., 1885	24 Nov., 1886	2972	9 " 1885	7 " 1887
2797	7 " 1884	18 " 1886	2885	15 Sept., 1885	23 " 1886	2973	9 " 1885	7 " 1887

## MINERAL LEASES—continued.

No. of Lease.	Date of Application.	Date of issue.	No. of Lease.	Date of Application.	Date of issue.	No. of Lease.	Date of Application.	Date of issue.
2974	7 Oct., 1885	3 Feb., 1887	3062	20 April, 1886	10 May, 1887	10	10 Oct., 1884	17 Aug., 1885
2975	7 " 1885	3 " 1887	3063	2 Nov., 1886	7 " 1887	11	7 Jan., 1885	17 " 1885
2976	9 " 1885	3 " 1887	3064	23 Dec., 1886	7 " 1887	12	9 Oct., 1884	25 " 1885
2977	14 April, 1886	4 " 1887	3065	28 Sept., 1885	28 " 1887	13	9 " 1884	21 " 1885
2978	14 " 1886	4 " 1887	3066	28 " 1885	28 Mar., 1887	14	11 Sept., 1884	5 Sept., 1885
2979	20 " 1886	9 " 1887	3069	12 April, 1886	20 May, 1887	15	21 Nov., 1884	4 " 1885
2980	20 " 1886	9 " 1887	3070	19 " 1886	20 " 1887	16	26 " 1884	9 " 1885
2981	18 June, 1886	22 " 1887	3071	13 Nov., 1886	3 June, 1887	17	9 Oct., 1884	22 " 1885
2982	16 Dec., 1884	24 " 1887	3072	23 July, 1886	6 " 1887	18	4 Dec., 1884	12 " 1885
2983	16 Mar., 1886	23 " 1887	3073	23 " 1886	6 " 1887	19	5 Nov., 1884	10 " 1885
2984	7 July, 1885	9 Mar., 1887	3073	14 April, 1885	8 " 1887	20	22 Feb., 1885	8 Oct., 1885
2985	24 Feb., 1886	25 Feb., 1887	3075	16 Oct., 1885	13 " 1887	21	26 Sept., 1884	10 " 1885
2986	18 Nov., 1884	15 Mar., 1887	3076	15 Sept., 1885	13 " 1887	22	12 Feb., 1885	21 " 1885
2987	19 Mar., 1886	15 Feb., 1887	3077	29 Oct., 1886	3 " 1887	23	11 Nov., 1884	20 " 1885
2988	19 May, 1885	12 Mar., 1887	3078	30 Nov., 1885	21 Dec., 1886	24	8 Jan., 1885	20 " 1885
2989	13 Aug., 1885	12 " 1887	3079	22 Jan., 1886	24 June, 1887	25	8 Oct., 1884	2 Nov., 1885
2990	7 Sept., 1886	12 " 1887	3080	28 Sept., 1886	4 July, 1887	26	16 Jan., 1885	30 Oct., 1885
2991	14 April, 1885	24 Feb., 1887	3081	30 " 1886	4 " 1887	27	9 Dec., 1884	6 Nov., 1885
2992	2 July, 1885	16 " 1887	3082	28 " 1886	4 " 1887	28	22 Jan., 1885	30 " 1885
2993	19 Sept., 1885	28 " 1887	3083	30 Dec., 1885	4 " 1887	29	29 Dec., 1884	1 Dec., 1885
2994	30 " 1885	3 Mar., 1887	3084	10 Sept., 1884	23 June, 1887	30	10 Mar., 1885	1 " 1885
2995	30 " 1885	3 " 1887	3085	1 Oct., 1885	24 " 1887	31	13 Oct., 1884	10 " 1885
2996	30 " 1885	3 " 1887	3086	3 Feb., 1886	18 " 1887	32	6 Feb., 1885	10 Nov., 1885
2997	9 Oct., 1885	3 " 1887	3087	5 May, 1886	14 July, 1887	33	7 Nov., 1884	17 " 1885
2998	4 May, 1885	18 " 1887	3088	11 Aug., 1886	23 June, 1887	34	11 Dec., 1884	15 Dec., 1885
2999	16 April, 1886	23 Feb., 1887	3089	25 Oct., 1886	9 July, 1887	35	11 " 1884	15 " 1885
3000	25 Mar., 1886	23 Mar., 1887	3090	16 Nov., 1886	13 " 1887	36	11 " 1884	15 " 1885
3001	11 Aug., 1884	14 " 1887	3091	11 Aug., 1886	14 " 1887	37	11 " 1884	15 " 1885
3002	14 Oct., 1885	3 " 1887	3092	20 Oct., 1886	16 " 1887	38	1 Oct., 1884	14 " 1885
3003	14 " 1885	19 " 1887	3093	16 Nov., 1886	18 " 1887	39	29 Dec., 1884	5 " 1885
3004	31 July, 1886	31 " 1887	3094	16 " 1886	18 " 1887	40	22 Sept., 1884	12 " 1885
3005	4 Aug., 1885	11 Feb., 1887	3095	16 " 1886	18 " 1887	41	22 " 1884	14 " 1885
3006	30 Mar., 1885	29 Mar., 1887	3096	25 June, 1886	9 " 1887	42	26 " 1884	14 " 1885
3007	22 June, 1885	22 " 1887	3097	18 July, 1885	21 " 1887	43	7 Feb., 1885	16 Feb., 1886
3008	27 Aug., 1885	29 " 1887	3098	3 Aug., 1886	9 " 1887	44	23 April, 1885	31 Jan., 1886
3009	18 Sept., 1885	18 " 1887	3099	30 " 1886	9 " 1887	45	26 Sept., 1884	2 " 1886
3010	8 May, 1886	18 " 1887	3100	16 Mar., 1886	27 " 1887	46	15 May, 1885	23 " 1886
3011	12 Dec., 1885	29 " 1887	3101	16 " 1886	27 " 1887	47	23 June, 1885	23 " 1886
3012	31 Mar., 1886	24 " 1887	3102	28 July, 1886	5 Aug., 1887	48	23 Mar., 1885	23 " 1886
3013	13 Oct., 1885	28 " 1887	3103	28 " 1886	5 " 1887	49	27 June, 1885	4 Mar., 1886
3014	6 July, 1886	30 " 1887	3104	30 " 1886	5 " 1887	50	10 Aug., 1885	4 " 1886
3015	3 " 1886	12 April, 1887	3105	30 " 1886	5 " 1887	51	29 April, 1885	2 Feb., 1886
3016	27 " 1885	12 " 1887	3106	28 " 1886	4 " 1887	52	4 July, 1885	27 " 1886
3017	22 April, 1885	22 Mar., 1887	3107	28 " 1886	4 " 1887	53	4 " 1885	27 " 1886
3018	22 " 1885	22 " 1887	3108	10 " 1886	28 July, 1887	54	4 Feb., 1885	22 " 1886
3019	17 Nov., 1885	5 April, 1887	3109	5 Nov., 1885	2 Aug., 1887	55	14 " 1885	22 " 1886
3020	12 Feb., 1886	31 Mar., 1887	3110	6 Feb., 1885	2 " 1887	56	18 " 1885	1 " 1886
3021	4 May, 1885	12 " 1887	3111	2 Mar., 1886	2 " 1887	57	8 Nov., 1884	21 Dec., 1885
3022	14 Aug., 1886	18 April, 1887	3112	23 Aug., 1886	2 " 1887	58	26 Sept., 1885	6 Mar., 1886
3023	1 Jan., 1886	18 " 1887	3113	20 Sept., 1886	30 July, 1887	59	14 Aug., 1885	9 " 1886
3024	1 " 1886	13 " 1887	3114	4 Oct., 1886	2 Aug., 1887	60	6 " 1885	10 " 1886
3025	4 " 1886	13 " 1887	3115	7 " 1886	2 " 1887	61	1 " 1885	8 " 1886
3026	1 " 1886	13 " 1887	3116	24 Nov., 1886	2 " 1887	62	31 July, 1885	10 " 1886
3027	6 July, 1886	15 " 1887	3118	18 Aug., 1886	30 July, 1887	63	29 " 1885	27 Feb., 1886
3028	12 " 1886	15 " 1887	3119	17 May, 1886	3 Aug., 1887	64	17 " 1885	5 Mar., 1886
3029	2 Feb., 1886	12 " 1887	3120	17 " 1886	3 " 1887	65	29 May, 1885	5 " 1886
3030	24 Aug., 1885	22 " 1887	3121	15 Dec., 1886	2 " 1887	66	10 Sept., 1884	6 " 1886
3031	19 Oct., 1885	22 " 1887	3122	18 " 1886	25 July, 1887	67	29 June, 1885	18 " 1886
3032	13 " 1885	14 " 1887	3123	9 Oct., 1886	3 Aug., 1887	68	29 " 1885	18 " 1886
3033	13 Sept., 1886	14 " 1887	3124	5 Aug., 1886	17 " 1887	69	11 Sept., 1884	21 Dec., 1885
3034	13 " 1886	14 " 1887	3125	6 Oct., 1886	17 " 1887	70	12 Jan., 1885	14 Jan., 1886
3035	19 Oct., 1885	14 " 1887	3126	27 July, 1886	5 " 1887	71	12 " 1885	14 " 1886
3036	19 " 1885	14 " 1887	3127	27 " 1886	5 " 1887	72	9 Mar., 1885	25 " 1886
3037	19 " 1885	14 " 1887	3128	27 " 1886	5 " 1887	73	20 " 1885	24 Mar., 1886
3039	2 Jan., 1886	12 " 1887	3129	14 Aug., 1886	17 " 1887	74	3 July, 1885	1 " 1886
3038	19 Oct., 1885	14 " 1887	3130	3 Nov., 1886	19 " 1887	75	3 " 1885	1 " 1886
3040	12 April, 1886	12 " 1887	3131	21 Oct., 1886	25 July, 1887	76	3 " 1885	9 " 1886
3041	13 May, 1886	12 " 1887	3132	30 July, 1886	8 Aug., 1887	77	4 May, 1885	23 " 1886
3042	16 June, 1886	14 " 1887	3133	13 Aug., 1885	10 " 1887	78	15 Aug., 1885	6 April, 1886
3043	3 Aug., 1886	14 " 1887	3134	21 July, 1886	23 July, 1887	79	15 " 1885	6 " 1886
3044	3 " 1886	14 " 1887	3135	20 April, 1886	7 June, 1887	80	15 " 1885	6 " 1886
3045	3 " 1886	14 " 1887	3138	1 Oct., 1886	29 Aug., 1887	81	5 Sept., 1884	8 Mar., 1886
3046	6 " 1886	14 " 1887	3139	19 Aug., 1885	25 " 1887	82	8 Jan., 1885	5 " 1886
3047	6 " 1886	14 " 1887	3145	14 Sept., 1886	31 " 1887	83	20 Mar., 1885	5 " 1886
3048	6 " 1886	14 " 1887	3149	27 Oct., 1886	31 " 1887	84	18 April, 1885	8 " 1886
3049	1 Oct., 1886	12 " 1887	3150	23 Nov., 1886	31 " 1887	85	29 " 1885	29 " 1886
3050	10 Sept., 1884	3 July, 1886	3154	13 Jan., 1887	31 " 1887	86	13 June, 1885	27 " 1886
3051	12 Nov., 1885	20 April, 1887	3157	20 July, 1886	29 May, 1887	87	1 April, 1885	10 April, 1886
3052	23 Aug., 1886	20 " 1887	3171	30 Sept., 1886	27 June, 1887	88	21 Jan., 1885	1 Mar., 1886
3053	13 " 1886	22 " 1887	1	1 " 1884	3 Dec., 1884	89	26 Sept., 1885	9 April, 1886
3054	13 " 1886	22 " 1887	2	1 " 1884	3 " 1884	90	22 Aug., 1885	9 " 1886
3055	19 July, 1886	30 " 1887	3	1 " 1884	3 " 1884	91	16 Feb., 1885	9 " 1886
3056	19 " 1886	30 " 1887	4	11 " 1884	20 May, 1885	92	14 July, 1885	19 " 1886
3057	23 " 1886	30 " 1887	5	8 Nov., 1884	14 July, 1885	93	26 Sept., 1884	27 " 1886
3058	7 Aug., 1886	30 " 1887	6	16 Sept., 1884	30 " 1885	94	19 Mar., 1885	27 " 1886
3059	20 April, 1886	10 May, 1887	7	16 " 1884	30 " 1885	95	2 Oct., 1884	6 May, 1886
3060	20 " 1886	10 " 1887	8	10 Feb., 1885	17 Aug., 1885	96	11 Sept., 1884	1 " 1886
3061	20 " 1886	10 " 1887	9	8 Oct., 1884	17 " 1885	97	29 April, 1885	5 " 1886

## MINERAL LEASES—continued.

No. of Lease.	Date of Application.	Date of Issue.	No. of Lease.	Date of Application.	Date of Issue.	No. of Lease.	Date of Application.	Date of Issue.
98	26 June, 1885	27 Jan., 1886	158	4 Nov., 1885	7 Sept., 1886	219	2 Jan., 1886	31 Mar., 1887
99	23 April, 1885	23 " 1886	159	4 " 1885	7 " 1886	220	16 Mar., 1886	5 April, 1887
100	16 Feb., 1885	14 May, 1886	160	4 " 1885	7 " 1886	221	5 Nov., 1884	20 Aug., 1886
101	25 " 1885	18 Jan., 1886	161	2 Jan., 1886	25 " 1886	222	5 " 1884	20 " 1886
102	17 April, 1885	18 " 1886	162	2 " 1886	25 " 1886	223	5 " 1884	20 " 1886
103	17 " 1885	18 " 1886	163	2 " 1886	25 " 1886	224	2 Jan., 1886	18 April, 1887
104	2 May, 1885	18 " 1886	164	15 July, 1885	27 " 1886	225	17 Aug., 1885	19 " 1887
105	17 April, 1885	26 Mar., 1886	165	29 Oct., 1885	2 Oct., 1886	226	7 " 1886	2 " 1887
106	6 Oct., 1884	29 April, 1886	166	7 Sept., 1884	4 " 1886	227	14 Sept., 1885	13 " 1887
107	7 July, 1885	20 May, 1886	167	21 Jan., 1885	22 Jan., 1886	228	14 Dec., 1885	13 " 1887
108	7 " 1885	20 " 1886	168	25 June, 1885	27 " 1886	229	20 Sept., 1885	23 " 1887
109	11 " 1885	20 " 1886	169	25 " 1885	27 " 1886	230	29 " 1885	23 " 1887
110	5 Aug., 1885	3 June, 1886	170	26 May, 1885	12 Oct., 1886	231	19 Oct., 1885	12 " 1887
111	14 Feb., 1885	18 Feb., 1886	171	22 Aug., 1885	11 " 1886	232	1 Mar., 1886	12 " 1887
112	24 Mar., 1885	22 June, 1886	172	7 Sept., 1885	2 Nov., 1886	233	19 Nov., 1885	27 " 1887
113	6 Feb., 1885	10 April, 1886	173	21 Nov., 1885	2 " 1886	234	19 " 1885	27 " 1887
114	10 Sept., 1884	11 June, 1886	174	1 Jan., 1886	8 " 1886	235	6 Mar., 1886	28 " 1887
115	17 " 1884	30 Dec., 1885	175	24 Aug., 1885	14 Oct., 1886	236	7 Oct., 1885	25 " 1887
116	26 June, 1885	16 Mar., 1886	176	8 " 1885	1 Nov., 1886	237	17 May, 1886	26 May, 1887
117	26 " 1885	16 " 1886	177	1 Feb., 1886	10 " 1886	238	5 Oct., 1885	17 " 1887
118	5 May, 1885	22 Feb., 1886	178	21 Oct., 1884	16 Jan., 1886	239	20 May, 1886	17 " 1887
119	10 June, 1885	22 " 1886	179	18 May, 1885	1 Sept., 1886	243	7 July, 1884	27 " 1887
120	22 Aug., 1885	22 July, 1886	180	4 " 1885	4 " 1886	244	7 " 1884	27 " 1887
121	8 June, 1885	22 Mar., 1886	181	11 Oct., 1885	15 Nov., 1886	245	15 June, 1886	4 June, 1887
122	19 " 1885	15 " 1886	182	2 Sept., 1885	17 " 1886	246	2 Jan., 1886	18 May, 1887
123	26 Sept., 1885	4 Aug., 1886	183	4 Jan., 1886	17 " 1886	247	12 April, 1884	9 June, 1887
124	4 Nov., 1885	2 " 1886	184	4 " 1886	1 Dec., 1886	248	13 Dec., 1886	15 July, 1887
125	3 Oct., 1884	20 " 1886	185	11 Dec., 1885	1 " 1886	250	23 " 1886	15 " 1887
126	3 " 1884	20 " 1886	186	26 Jan., 1886	1 " 1886	251	8 Sept., 1886	1 " 1887
127	3 " 1884	20 " 1886	187	8 May, 1885	23 Aug., 1886	252	24 Mar., 1886	15 " 1887
128	3 " 1884	20 " 1885	188	7 Aug., 1885	1 Dec., 1886	253	1 July, 1886	9 " 1887
129	14 Sept., 1885	16 " 1886	189	7 Oct., 1885	1 " 1886	254	7 Aug., 1886	9 " 1887
130	14 " 1885	16 " 1886	190	9 " 1885	1 " 1886	255	12 Jan., 1887	19 " 1887
131	16 " 1885	16 " 1886	191	15 July, 1885	11 " 1886	256	20 April, 1886	2 Aug., 1887
132	1 Oct., 1885	16 " 1886	192	18 June, 1885	17 Nov., 1886	257	28 June, 1886	2 " 1887
133	11 Dec., 1885	26 " 1886	193	29 April, 1885	8 " 1886	258	28 " 1886	2 " 1887
134	11 " 1885	26 " 1886	194	14 Dec., 1885	18 Dec., 1886	259	14 Sept., 1885	28 July, 1887
135	11 " 1885	26 " 1886	195	7 Oct., 1885	20 " 1886	260	5 July, 1886	1 Aug., 1887
136	11 " 1885	26 " 1886	196	12 " 1885	29 " 1886	261	18 Oct., 1886	1 " 1887
137	11 June, 1885	18 Feb., 1886	197	2 Jan., 1886	2 " 1886	262	18 " 1886	1 " 1887
138	10 Jan., 1885	30 Aug., 1886	198	11 Mar., 1886	31 Jan., 1887	263	31 Mar., 1886	22 June, 1887
139	10 " 1885	30 " 1886	199	9 Dec., 1885	27 " 1887	265	11 Aug., 1886	20 July, 1887
140	17 June, 1885	30 " 1886	200	16 Oct., 1885	31 " 1887	266	30 " 1886	2 Aug., 1887
141	23 Sept., 1885	26 " 1886	201	20 April, 1886	31 " 1887	267	30 " 1886	2 " 1887
142	30 Jan., 1885	21 Jan., 1886	202	1 May, 1886	31 " 1887	268	30 " 1886	2 " 1887
144	17 June, 1885	18 Mar., 1886	203	3 " 1886	31 " 1887	269	24 Nov., 1885	27 June, 1887
145	11 May, 1885	7 Sept., 1886	204	31 Jan., 1885	5 Feb., 1887	270	24 " 1885	27 " 1887
146	25 Aug., 1885	6 Aug., 1886	205	30 July, 1885	17 Nov., 1886	271	26 Aug., 1885	27 " 1887
147	21 April, 1885	28 " 1886	206	13 Oct., 1884	15 Sept., 1886	272	14 June, 1886	7 Aug., 1887
148	13 July, 1885	25 " 1886	207	13 " 1884	27 " 1886	273	29 " 1886	4 June, 1887
149	27 " 1885	15 Sept., 1886	208	22 " 1885	14 Feb., 1887	274	29 " 1886	4 " 1887
150	4 Aug., 1885	15 " 1886	209	15 June, 1886	7 Mar., 1887	275	2 Jan., 1886	18 May, 1887
151	4 Feb., 1885	17 " 1886	210	12 May, 1885	15 Feb., 1887	276	2 " 1886	18 " 1887
152	5 " 1885	17 " 1886	211	25 Jan., 1886	9 " 1887	280	21 Aug., 1886	27 Aug., 1887
153	8 May, 1885	23 Aug., 1886	212	7 April, 1884	11 Mar., 1887	281	20 Nov., 1886	5 " 1887
154	6 July, 1885	23 " 1886	213	17 Sept., 1885	18 Feb., 1887	282	20 Dec., 1886	22 " 1887
155	6 " 1885	23 " 1886	214	30 Oct., 1883	17 " 1887	283	7 Sept., 1886	24 " 1887
156	6 " 1885	23 " 1886	217	20 Dec., 1884	29 Mar., 1887			
157	16 Sept., 1885	7 Sept., 1886	218	18 Feb., 1885	12 April, 1887			



1888.

LEGISLATIVE ASSEMBLY.  
NEW SOUTH WALES.

**GOLD-MINING LEASE AT ARMIDALE.**

(PAPERS IN CONNECTION WITH MESSRS. DUNCAN AND WADE'S APPLICATION FOR.)

*Ordered by the Legislative Assembly to be printed, 23 July, 1888.*

LAI'D upon the Table of the Honorable the Legislative Assembly of New South Wales by the Secretary for Mines—"Copies of papers in connection with "Messrs. Duncan and Wade's application for a Gold-mining Lease at Armidale."

Application for Gold-mining Lease.

Gold-mining Lease Regulations.—Schedule 2.

To the Honorable the Secretary for Mines, Sydney,—

Sir,

Armidale, 3 May, 1887.

We hereby make application for a gold-mining lease of that piece or parcel of land situated at Hillgrove Falls, county of Sandon, containing 4 acres, of which we took possession on the 29th day of April, at the hour of twelve o'clock in the forenoon, for the purpose of mining thereon and therein for gold, for a period of fifteen years, by erecting posts and digging trenches at each angle thereof. The datum post is distant about 6 inches, adjoining the south-east corner of T. Smith & Co.'s 15 acres, between Smith's ground as surveyed and Brereton's land as pegged, about  $\frac{1}{4}$  mile north-westerly from the Eleanor mine.

Notice of our intention to make this application has been given, in accordance with the Regulations in that behalf; and we hand herewith a list of the persons who occupy or claim a right to the land aforesaid, or any part thereof, together with such contents as we have obtained. We also hand herewith the sum of £4, being the first year's rent in advance of the said land, and £1 10s. to cover the cost of survey: And we hereby request that survey may forthwith be made of the said piece or parcel of land.

We hereby acknowledge that this application is made upon the distinct understanding and condition that if we shall abandon or fail to proceed with it, or if it is refused, the Secretary of Mines for the time being may deduct from the sum of £4 deposited as aforesaid any cost to which in his opinion the Crown may have been put in or about or in respect of this application; and this application shall thereupon become and be void, and the possession aforesaid shall cease and determine. And if the lease shall be granted, we shall and will commence mining operations upon or in connection with the demised land within fourteen days from and after the granting thereof, and shall and will employ upon such land not less than two men during the first three months of the term thereby created, and not less than two men during the remainder of such term. And shall and will at any time when called upon in terms of the Regulations relating to gold-mining leases to do so, execute and take delivery of such lease, or failing therein for a period of fourteen days after being so called upon, we shall and will forfeit the said sum of £4, and all right, title, or interest in and to the said land and the possession thereof, and the said lease shall be forthwith cancelled.

We have, &c.,

JOHN MACKIE DUNCAN.  
P. WADE.

This application was received by me this 3rd day of May, 1887, at the hour of 11 o'clock in the forenoon, and is numbered 1,325.

CHARLES S. BADHAM,  
Warden's Clerk, Armidale.

## Questions to be answered by Applicants to Lease.

WHEN receiving an application to lease land for mining purposes, the Warden, Warden's clerk, or an agent, as the case may be, shall require the applicant or applicants, or his or their agent, to answer the following questions, and shall take down such answers in writing. The statement, when complete, to be read over to, and signed by, the person furnishing the answers:—

1. Were you, or each of you (applicants), the holder of a miner's right in force at the date of taking possession of the land referred to in application No. 1,325? Yes. P. Wade, No. 12, 3 January, 1887, of Beardy-street, Armidale; J. M. Duncan, No. 7, 3 January, 1887, of Beardy-street, Armidale.
2. Do you produce them? Yes.
3. What was the date and hour of the day when you took possession of the land referred to in application No. 1,325? 29 April, 1887; 12 noon.
4. Did you take possession by erecting posts and cutting trenches at each angle of the land? Yes.  
[If No. 4 be replied to in the affirmative, then 5, 6, and 7.]
5. What was the diameter of the posts? 6 inches.
6. How high did they project above the surface when fixed in the ground? 4 feet.
7. What was the length of each arm of each trench; and what was the depth of each trench? 6 feet long, 9 inches deep—each trench.
9. At which angle of the land is the datum post fixed? North-east corner.
11. What was written or painted on each board or plate? Gold lease applied for by Wade & Duncan.
12. Where did you post the notices, Schedule 1? Warden's Office, Armidale; Post Office, Hillgrove.
13. When did you post such notices? 29 April, 1887.
14. Did anybody claim or appear to be in possession of the land applied for, or any portion of it? No.

I, John Mackie Duncan, on behalf of myself and Patrick Wade, declare that the foregoing questions have been answered by me truthfully, in every particular, and the answers thereto have been read over to me and are correctly taken down in writing.

Witness to signature,—

CHARLES L. BADHAM, Warden's Clerk.

J. M. DUNCAN,  
P. WADE,  
Beardy-street, Armidale.

APPLICATION No. 1,325, at Armidale, for a gold-mining lease:—

1. By whom application was received.—The Warden's Clerk, Armidale.
2. At what place.—Armidale.
3. Date and hour when received.—3 May, 1887, 11 a.m.
4. Receipt for first year's rent, No. 8-87.—Date 3 May, 1887.
5. To whom receipt was issued.—John Mackie Duncan, of Armidale; Patrick Wade, of Armidale.
6. Date when notice to survey was sent to Surveyor.—14 May, 1887.
10. Are the applicants holders of miner's rights?—Yes. J. M. Duncan, No. 7, 3 January, 1887; P. Wade, No. 12, 3 January, 1887.
11. Is the land applied for exempted from leasing under the 34th section of the Mining Act, 1874? No.

## Gold-mining Lease Regulations.—Schedule 6.

## Notice of Application and Deposit.

Sir, Beardy-street, Armidale, 3 May, 1887.

We have the honor to inform you that I have this day deposited with the Warden's Clerk, at Armidale, the sum of £4, being the first year's rent in advance of 4 acres of land at Hillgrove Falls, for the purpose of gold-mining, and the sum of £1 10s., being the fees for survey of the said land. The number of our application is 1,325.

We have, &c.,  
J. M. DUNCAN,  
P. WADE.

The Under Secretary for Mines, Sydney.

## Mr. W. G. Brereton to The Warden, Armidale.

Sir, Armidale, 3 May, 1887.

I object to Mr. Patrick Wade and Mr. John Mackie Duncan applying for a gold-mining lease on a 10-acre block of land that I have already paid for, south, and adjoining Smith and party's 15-acre lease applied for; and I wish you to caution them.

Yours, &c.,  
W. G. BRERETON.

## Notice to make Survey.

Sir, Department of Mines, Sydney, 18 May, 1887.

An application for a gold-mining lease, particulars as per margin, having been lodged in this office, I request you will be good enough to survey, in accordance with the Regulations relating to leases, the area so applied for, and to furnish me at your earliest convenience with a plan and report.

Your attention is particularly directed to the Regulations for mineral leases numbered respectively, 2, 3, 12, 13, and 14 [or to the Regulations relating to gold-mining leases, numbered respectively, 1, 2, 3, 4, 5, 14, and 15].

I have, &c.,  
EDWD. F. PITTMAN,  
Chief Mining Surveyor.

J. H. McEwen, Mining Surveyor.

Copy of description of the land, as given in the application:—County of Sandon, parish of Metz, 4 acres, at Hillgrove Falls; datum 6 inches distant and adjoining the south-east corner of T. Smith & Co.'s 15 acres; between Smith's ground, as surveyed, and Brereton's Camp, as pegged; about  $\frac{1}{4}$  mile north-westerly from the Eleanora mine.—CHARLES S. BADHAM, Warden's Clerk, Armidale, 14th May, 1887.

Mr.

Mr. Warden Smith to the Under Secretary for Mines.

Sir,

Armidale, 3 June, 1887.

With respect to question 7 and the answer thereto, as at first written in was a clerical error, and has been altered to 6 feet long and 9 inches deep.

The address of each applicant is now inserted, viz., Beardy-street, Armidale.

As regards the objection to the lease by W. G. Brereton, that Brereton declined to lodge an objector's fee (£5) with the Warden's Clerk when he handed in the document, so I could not treat the objection as a formal one; so I merely ordered it to be placed with the papers so that it might come under the notice of the Mining Surveyor.

C. E. SMITH,

Warden.

Notice to make Survey.

Sir,

Department of Mines, Sydney, 26 September, 1887.

An application for a gold-mining lease, particulars as per margin, having been lodged in this office, I request you will be good enough to survey, in accordance with the Regulations relating to leases, the area so applied for, and to furnish me at your earliest convenience with a plan and report.

Your attention is particularly directed to the Regulations for mineral leases numbered respectively 2, 3, 12, 13, and 14 [or to the Regulations relating to gold-mining leases, numbered respectively, 1, 2, 3, 4, 5, 14, and 15].

I have, &c.,

EDWD. F. PITTMAN,

Chief Mining Surveyor.

No. of application, 1325; lodged at Armidale; area, 4 acres; names and addresses of applicants—John Mackie Duncan, Patrick Wade, Armidale.

H. B. Sullivan, Mining Surveyor.

Copy of description of the land, as given in the application:—At Hillgrove Falls, county of Sandon. The datum post is distant about 6 inches, adjoining the south-east corner of T. Smith & Co's 15 acres; between Smith's ground, as surveyed, and Brereton's land, as pegged; about  $\frac{1}{4}$  of a mile north-westerly from the Eleanora mine.

Transmitted to the Chief Mining Surveyor with plan of survey.—H. B. SULLIVAN, 14/11/87.

Mr. W. G. Brereton to Mr. Mining-Surveyor Sullivan.

Sir,

Hillgrove Falls, 19 October, 1887.

I wish to inform you that I object to the survey of a portion of a 4-acre lease, applied for by Patrick Wade and J. M. Duncan, as about  $2\frac{1}{2}$  acres encroaches on a 10-acre lease applied for by me previous to the application of the abovenamed, in accordance with the Gold-mining Act of 1874.

Yours, &c.,

WILLIAM GORDON BRERETON.

[No. 87-173.]

Gold-mining Lease.

Sir,

Bingara, 14 November, 1887.

I have the honor to transmit herewith the plan of one portion of land, containing 4 acres, numbered G.L. 167, in the parish of Cooney, in the county of Sandon, applied for by Duncan & Wade, under the Mining Act of 1874, measured by me on October 6th, 1887, in accordance with instructions.

W. G. Brereton objects to this survey, as he claims part of the land under application 1,324 (measured as G.L. 1,325).

I have, &c.,

H. B. SULLIVAN,

Mining Surveyor.

The Chief Mining Surveyor, Sydney.

Gold-mining Lease Regulations.—Schedule 1.

Notice of intention to apply for a Gold-mining Lease.

NOTICE is hereby given, that the undermentioned persons intend applying for a gold-mining lease of 4 acres of land, situated at Hillgrove Falls, county of Sandon, parish of Metz.

Possession of the said land was taken by post and trenches at each angle thereof on the 17th day of December, 1887, at the hour of five o'clock in the forenoon, and the datum post is distant 6 inches in an easterly direction from the eastern angle of Smith & Co.'s lease of 15 acres.

Application for the said lease will be lodged with Warden at Armidale on the 23rd day of December, 1887.

Dated at Hillgrove, this 17th day of December, 1887.

J. M. DUNCAN.

P. WADE.

[THIS ground has already been surveyed to Duncan and Wade, but has been re-pegged by them, it being numbered G.L. 167. 4 acres.]

Gold-mining Lease Regulations.—Schedule 2.

Application for Gold-mining Lease.

To the Honorable the Secretary for Mines, Sydney,—

Sir,

Armidale, 23 December, 1887.

We hereby make application for a gold-mining lease of that piece or parcel of land situated at Hillgrove Falls, county of Sandon, parish of Metz, containing 4 acres, of which we took possession on the 17th day of December, at the hour of five o'clock in the forenoon, for the purpose of mining thereon and therein for gold, for a period of fifteen years, by erecting posts and trenches at each angle thereof. The datum post is distant 6 inches in an easterly direction from the eastern angle of Smith & Co.'s lease of 15 acres.

Notice of intention to make this application has been given, in accordance with the Regulations in that behalf, and we hand herewith a list of the persons who occupy or claim a right to the land aforesaid, or any part thereof, together with such contents as we have obtained. We also hand herewith £4, being the first year's rent in advance of the said land, and £2 to cover the cost of survey: And we hereby request that survey may forthwith be made of the said piece or parcel of land.

We

We hereby acknowledge that this application is made upon the distinct understanding and condition that if we shall abandon or fail to proceed with it, or if it is refused, the Secretary for Mines for the time being may deduct from the sum of £4 deposited as aforesaid any cost to which in his opinion the Crown may have been put in or about or in respect of this application; and this application shall thereupon become and be void, and the possession aforesaid shall cease and determine. And if the lease shall be granted, we shall and will commence mining operations upon or in connection with the demised land forthwith from and after the granting thereof, and shall and will employ upon such land not less than two men during the first period of the term thereby created, and not less than two men during the remainder of such term. And shall and will at any time, when called upon in terms of the Regulations relating to gold-mining leases to do so, execute and take delivery of such lease, or failing therein for a period of fourteen days after being so called upon, we shall and will forfeit the said sum of £6, and all right, title, or interest in and to the said land and the possession thereof, and the said lease shall be forthwith cancelled.

We have, &c.,  
J. M. DUNCAN.  
P. WADE.

This application was received by me this 23rd day of December, 1887, at the hour of 2 o'clock in the afternoon, and is numbered 1,343.

C. H. BADHAM,  
Warden's Clerk.

Questions to be answered by Applicants to Lease.

WHEN receiving an application to lease land for mining purposes, the Warden, Warden's clerk, or an agent, as the case may be, shall require the applicant or applicants, or his or their agent, to answer the following questions, and shall take down such answers in writing. The statement, when complete, to be read over to, and signed by, the person furnishing the answers:—

1. Were you, or each of you (applicants), the holder of a miner's right in force at the date of taking possession of the land referred to in application No. 1,343? Yes. J. M. Duncan, No. 7, 1st January, Armidale; P. Wade, No. 11, 1st January, Armidale.
2. Do you produce them? Yes.
3. What was the date and hour of the day when you took possession of the land referred to in application No. 1,343? 17th December, 1887, at 5 o'clock in the forenoon.
4. Did you take possession by erecting posts and cutting trenches at each angle of the land? Yes.

[If No. 4 be replied to in the affirmative, then 5, 6, and 7.]

5. What was the diameter of the posts? 6 inches in diameter.
6. How high did they project above the surface when fixed in the ground? 4 feet.
7. What was the length of each arm of each trench; and what was the depth of each trench? 7 feet long, 9 inches deep.
9. At which angle of the land is the datum post fixed? North-east.
10. Did you affix a board or metal plate to the datum post? Yes.
11. What was written or painted on each board or plate? Applied for by us as a gold-mining lease by J. M. Duncan and P. Wade.
12. Where did you post the notices, Schedule 1? At Hillgrove Post Office, and Court House, Armidale, and on a tree adjoining the datum post.
13. When did you post such notices? 17th December, 1887.
14. Did anybody claim or appear to be in possession of the land applied for, or any portion of it? No.
15. Did you serve notice, in the form Schedule 1, upon every such person; and when? No.

I, J. M. Duncan, on behalf of J. M. Duncan and P. Wade, do declare that the foregoing questions have been answered by me truthfully in every particular, and the answers thereto have been read over to me and are correctly taken down in writing.

J. M. DUNCAN.  
P. WADE.

Witness to signature,—

CHARLES H. BADHAM, Warden's Clerk.

Gold-mining Lease Regulations.—Schedule 6.

Notice of Application and Deposit.

Sir,

We have the honor to inform you that we have this day deposited with the Warden's Clerk at Armidale the sum of £4, being the first year's rent in advance of 4 acres of land at Hillgrove Falls, for the purpose of gold-mining, and the sum of £2, being the fees for survey of the said land. The number of my application is 1,343.

We have, &c.,  
J. M. DUNCAN.  
P. WARD.

The Under Secretary for Mines, Sydney.

The above 4 acres has already been surveyed to us, and is numbered portion G.L. 167, but has been re-pegged.

Memo. from The Warden's Clerk, Armidale, to The Under Secretary for Mines.

Armidale, 4 January, 1888.

Gold-lease 1,343.—Wade & Duncan.

THE Warden handed me a telegram between the Christmas and New Year holidays, asking that this application might be sent down. The telegram I have mislaid, but the lease application is herewith enclosed for inspection. Please return it for Warden's report, which is due on the 7th inst.

CHARLES H. BADHAM,  
Warden's Clerk.

This application may be refused, the land not being available at date of taking possession.—  
H.W., 11/11/88. Submitted. Approved.—F.A., 12/1/88.

Notice

## Notice to make Survey.

Sir,

Department of Mines, Sydney, 12 January, 1888.

An application for a gold-mining lease, particulars as per margin, having been lodged in this office, I request you will be good enough to survey, in accordance with the Regulations relating to leases, the area so applied for, and to furnish me at your earliest convenience with a plan and report.

Your attention is particularly directed to the Regulations for mineral leases numbered respectively, 2, 3, 12, 13, and 14 [or to the Regulations relating to gold-mining leases, numbered respectively, 1, 2, 3, 4, 5, 14, and 15].

I have, &amp;c.,

EDWARD F. PITTMAN,

Chief Mining Surveyor.

J. H. M'EWEN, Mining Surveyor.

Copy of description of land as given in the application.—At Hillgrove Falls, county of Sandon. The datum post is 6 inches in an easterly direction from Smith and party's gold lease of 15 acres.

This application is for surveyed portion G.L. 167, previously applied for by Wade and Duncan.—  
J. H. M'EWEN, 4/2/88.

No. of application, 1,343; lodged at Armidale; area, 4 acres; names and addresses of applicants—J. M. Duncan, P. Wade, Armidale.

## Minute for The Governor and Executive Council.

Recommending the refusal of certain applications for Gold-mining Lease.

Department of Mines, Sydney, 18 January, 1888.

It is recommended to His Excellency the Governor and the Executive Council that the applications for the gold-mining leases, of Crown Lands specified in the annexed Schedule be refused, the land not being available at date of taking possession.

FRANCIS ABIGAIL.

## SCHEDULE ALLUDED TO.

## Peel and Uralla Mining District.

No.	Name.	Locality.	Area.	Date of application.
Armidale. 1,325	J. M. Duncan and another.....	Hillgrove Falls .....	acres. 4	1887. 3 May.
1,343	" .. .. .	" .. .. .	4	23 December.

The Executive Council advise that the recommendation herein set forth be approved.—A. C. BUDGE, Clerk of the Council. Min. 88/4, 6/2/88. Confirmed, 14/2/18. Approved.—CARRINGTON, 6/2/88.

## Gazette Notice.

Department of Mines,  
Sydney, 18th June, 1888.

## NOTICE TO APPLICANTS FOR GOLD-MINING LEASES.

NOTICE is hereby given that the undermentioned applications for Gold-mining leases of Crown Lands have been refused.

[88-2,640 ; 13,858]

FRANCIS ABIGAIL.

## PEEL AND URALLA MINING DISTRICT.

No.	Name	Portion No.	Locality.	Area.	Date of Application.
Armidale 1,325	J. M. Duncan and another	.....	Hillgrove Falls .....	a. r. p. 4 0 0	3 May, 1887
" 1,343	Do.	.....	do. ....	4 0 0	23 Dec., "

## The Under Secretary for Mines, to Messrs. Duncan and Wade.

Gentlemen,

Department of Mines, Sydney, 19 June, 1888.

I am directed by the Secretary for Mines to inform you that your application for the gold-mining lease 1,325-1,343, Armidale, has been refused, the land not being available at date of taking possession.

I have, &c.,  
GERARD E. HERRING,  
(For the Under Secretary for Mines.)

[One plan.]

Sydney: Charles Potter, Government Printer.—1888.

[9d.]



PLAN

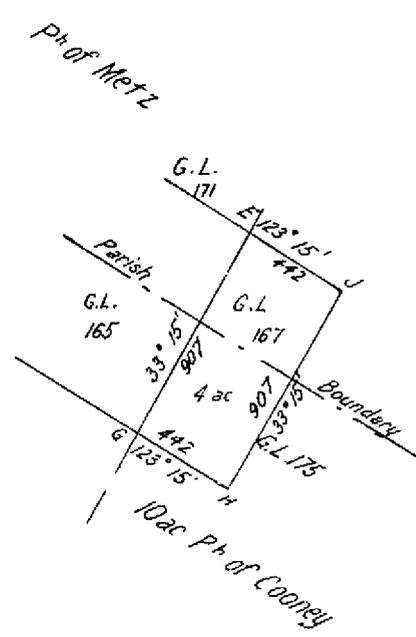
of Portion N<sup>o</sup> G.L.167

PARISH OF COONEY, COUNTY OF SANDON,

Applied for under the Mining Act 1874, by Duncan and Wade.

Forwarded to M<sup>o</sup> Dis<sup>t</sup> Sur. Finlay, on the 15<sup>th</sup> November, 1887.

Scale.



According to the maps in this office, the land is available for Mining purposes

Sig<sup>d</sup> G. Elwin  
for the District Surveyor.  
21<sup>st</sup> Nov<sup>r</sup> 1887.

REFERENCE TO CORNERS.				
Corner	Bearing	FROM	Links	N <sup>o</sup> on Tree
E	75° 0'	GUM	32	G.L. 167. (165, 171, 165)
G		NUMBERED STAKE		
H	84° 50'	S <sup>t</sup> Bark	8 1/4	
J	220° 40'	BOX	64	

(Sig 1071--)

NOTE - The boundaries of the portions shown on this plan have not been examined or survey approved by the Mining Department, and therefore are subject to objection, modification & remeasurement

Date of Survey 6<sup>th</sup> Oct<sup>r</sup> 1887.

Sig<sup>d</sup> H.B. Sullivan.  
Licensed Surveyor.

1887-8.

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LEGISLATIVE ASSEMBLY.  
NEW SOUTH WALES.

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REPORT FROM THE SELECT COMMITTEE

ON

MESSRS. HUGH M'NEILL & PARTY—MINERAL  
LEASE AT CAPTAIN'S FLAT;

TOGETHER WITH THE

PROCEEDINGS OF THE COMMITTEE,

MINUTES OF EVIDENCE,

AND

APPENDIX.

---

ORDERED BY THE LEGISLATIVE ASSEMBLY TO BE PRINTED,  
12 July, 1888.

---

SYDNEY: CHARLES POTTER, GOVERNMENT PRINTER.

1888

1887-8.

EXTRACTS FROM THE VOTES AND PROCEEDINGS OF THE  
LEGISLATIVE ASSEMBLY.

VOTES No. 81. TUESDAY, 24 APRIL, 1888.

8. MESSRS. HUGH McNEILL AND PARTY—MINERAL LEASE AT CAPTAIN'S FLAT:—Mr. O'Sullivan moved, pursuant to Notice (*as amended by consent*):—
- (1.) That a Select Committee be appointed, with power to send for persons and papers, to inquire into and report upon the claims (if any) of Hugh McNeill and party to compensation for loss sustained through the neglect of the Mining Department to issue them a mineral lease at Captain's Flat.
- (2.) That such Committee consist of Mr. Abigail, Mr. Ryrie, Mr. Lees, Mr. Hassall, Mr. Hawken, Mr. Walker, Mr. Dowel, Mr. Gale, Mr. Garland, and the Mover.
- Debate ensued.  
Question put and passed.

VOTES No. 98. TUESDAY, 6 JUNE, 1888.

2. MESSRS. HUGH McNEILL AND PARTY—MINERAL LEASE AT CAPTAIN'S FLAT:—Mr. Dibbs presented a Petition from Hugh McNeill, William Edwards, and John Huxham-Blatchford, of Captain's Flat, referring to the appointment of the Select Committee on the subject of the claims (if any) of Hugh McNeill and party to compensation for losses sustained through the neglect of the Mining Department to issue them a mineral lease at Captain's Flat; and praying for leave to be heard by Counsel or Solicitor before the said Select Committee, with liberty to adduce evidence, and examine and cross-examine such witnesses as may give evidence at such inquiry.
- Petition received.  
Mr. Dibbs (*by consent*) moved, without Notice, That the prayer of the Petition be granted.  
Question put and passed.

VOTES No. 115. THURSDAY, 12 JULY, 1888.

3. MESSRS. HUGH McNEILL AND PARTY—MINERAL LEASE AT CAPTAIN'S FLAT:—Mr. O'Sullivan, as Chairman, brought up the Report from, and laid upon the Table the Minutes of Proceedings of, and Evidence taken before, the Select Committee for whose consideration and report this subject was referred on 24th April, 1888, together with Appendix.
- Mr. O'Sullivan moved, That the document be printed.  
Debate ensued.  
Question put and passed.

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1887-8.

**MESSRS. HUGH M'NEILL AND PARTY—MINERAL LEASE AT  
CAPTAIN'S FLAT.**

**REPORT.**

THE SELECT COMMITTEE of the Legislative Assembly, appointed on the 24th April, 1888,—“with power to send for persons and papers to inquire into and report upon the claims (if any) of Hugh M'Neill and party to compensation for loss sustained through the neglect of the Mining Department to issue them a mineral lease at Captain's Flat,” and to whom was referred on the 6th June, 1888; the “Petition from Hugh M'Neill, William Edwards, and John Huxham Blatchford,”—have agreed to the following Report:—

Your Committee find from the evidence (appended hereto) that M'Neill and party took possession and made application for a mineral lease of 20 acres at Captain's Flat, on 9th August, 1884.

That the evidence given by Mr. Capper, of the Lands Department, and the *Gazette* Proclamation, prove that at the date of application portion (about one-half) of the land applied for was embraced in a reserve, known as the Quarry Reserve, and the other portion (about one-half) was included in a mineral conditional purchase of one Jason Irving.

That in accordance with a minute of Mr. J. P. Abbott, as Minister for Mines, M'Neill and party were informed, on 6th January, 1885, that their application was refused, the land applied for being a reserve, and that they could take possession and apply afresh under the Further Amendment Act.

That the application was formally gazetted refused on the 13th January, 1885.

That in so informing M'Neill and party that the land was a reserve clearly incorrect information was given.

That the minute of the Minister (Mr. Abbott) undoubtedly implied that an application, made in accordance with the minute, by M'Neill and party, would be granted.

That in accordance with the Minister's minute M'Neill and party made a fresh application, with all formalities, on 29th January, 1885.

That for a year and ten months from the date of this second application M'Neill and party held possession of the land, believing that their application would be granted.

That on the 12th November, 1886, M'Neill and party were informed that their application of 29th January, 1885, was refused, the land being unavailable.

That the evidence of Mr. Stephen, of the Mines Department, and the production of papers in similar cases, show that the application might have been granted as to one half of the land upon the Quarry Reserve which was clearly available for mineral lease at the date of application.

That the delay in the Mines Department in dealing with the application was excessive, and operated to the prejudice of M'Neill and party.

That as the other half of the land formed portion of a mineral conditional purchase application at the date of application, and an application made by Messrs. Lewis and Holtermann on the 16th February, 1885, for mineral lease of 20 acres of land, also embraced in this mineral conditional purchase application, was granted on the 31st August, 1885, before the lapse or cancellation of the mineral conditional purchase application, M'Neill and party had strong claims to have their application granted as to this half as well.

That

That prior to the refusal of their application of 29th January, 1885, the mineral conditional purchase application was refused, but no notice whatever was sent to M'Neill and party either of this fact or that this mineral conditional purchase application clashed as to portion of the land with their mineral lease application.

That on the refusal of their application of 29th January, 1885, M'Neill and party according to the practice of the Department were entitled to a beforehand notice to enable them to take up the land in respect of which their application was refused, and apply afresh.

That the then Minister for Mines, Mr. J. P. Abbott, in refusing the application, made the following minute:—

“It is recommended that the application be refused, the land not having been available at date of applying, and the applicants be informed that they may reapply.”

That no such notification, in accordance with the Minister's minute, was sent to M'Neill and party.

That the evidence proves that, on the 12th November, 1886, the land was available, and therefore the letter of that date, notifying to M'Neill and party that their application of 29th January, 1885, had been refused, the land being unavailable, is distinctly wrong and misleading.

That the land was then open for application by any party for a period of five months, and was afterwards granted as a mineral lease to Garland and party.

That Garland and party were subsequently granted a mineral lease of the said land upon an application made on the 25th April, 1887, approved on 3rd January, 1888, and issued on 31st January, 1888, and sold it for £7,000 to a syndicate consisting of seven persons, including some members of Garland and party.

That the said syndicate shortly afterwards sold the property to a mining company called “The Vanderbilt,” at a price to the vendors, in excess of £30,000.

That the capital of the Vanderbilt Company is £100,000, and the shares therein have had a market value of at least 25s. each.

That it is clear, from the evidence, that the Mines Department erred (firstly) in informing M'Neill and party, on 6th January, 1885, that the land applied for was on a reserve, when one-half thereof indisputably was embraced in a mineral conditional purchase application; (secondly), in informing the applicants on 12th November, 1886, that their application was refused, the land not being available, as the evidence shows it was available; (thirdly), in not sending an intimation in accordance with the Minister's minute in November, 1886; (fourthly), in not sending a beforehand notice in accordance with the practice of the Department; and (fifthly), in granting the application of Lewis & Holtermann for mineral lease of a portion of the land embraced in the mineral conditional purchase application, while refusing the application of M'Neill and party for mineral lease of lands, half of which were indisputably available, and the other half embraced in the mineral conditional purchase application.

That in consequence of these errors of the Mines Department, M'Neill and party have been made seriously to suffer by the loss of a most valuable mining property.

That your Committee are of opinion that M'Neill and party have a clear and distinct claim on all grounds in respect of the 10 acres, forming part of the Quarry Reserve; and also, in respect of the other 10 acres, which, through the blunders and neglect of the Mines Department, and the misleading information given by that Department, M'Neill and party have been wrongly deprived of. And your Committee therefore recommend their claim to the favourable consideration of your Honorable House.

E. W. O'SULLIVAN,  
Chairman.

No. 2 Committee Room,  
Sydney, 4th July, 1888.

## PROCEEDINGS OF THE COMMITTEE.

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THURSDAY, 17 MAY, 1888.

MEMBERS PRESENT:—

Mr. O'Sullivan,		Mr. Gale,
Mr. Hawken,		Mr. Garland.

Mr. O'Sullivan called to the Chair.

Entry from Votes and Proceedings appointing the Committee, *read* by the Clerk.  
Committee deliberated.

Reassembling of the Committee to be arranged by the Chairman.

[Adjourned.]

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WEDNESDAY, 30 MAY, 1888.

MEMBERS PRESENT:—

Mr. O'Sullivan in the Chair.

Mr. Dowcl,		Mr. Ryrie,
	Mr. Gale.	

Mr. Hugh M'Neill called in, sworn, and examined.

Witness *handed in* plan of Captain's Flat Gold Field. [*Appendix A.*]

Witness withdrew.

Evelyn Stephen, Esq. (*Clerk, Mines Department*), called in, sworn, and examined.Witness *produced* M'Neill and Party's first application for a Mineral Lease at Captain's Flat.

Witness withdrew.

[Adjourned to To-morrow, at *Eleven o'clock.*]

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THURSDAY, 31 MAY, 1888.

MEMBERS PRESENT:—

Mr. O'Sullivan in the Chair.

Mr. Dowcl,		Mr. Garland,
Mr. Gale,		Mr. Ryrie.

Evelyn Stephen, Esq., called in and further examined.

Witness withdrew.

John Huxham Blatchford, Esq., called in, sworn, and examined.

Witness withdrew.

Evelyn Stephen, Esq., recalled and further examined.

Witness withdrew.

[Adjourned to *half-past Two o'clock.*]

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2:30 p.m.

MEMBERS PRESENT:—

Mr. O'Sullivan in the Chair.

Mr. Ryrie,		Mr. Gale,
Mr. Garland,		Mr. Walker.

Mr. William Edwards called in, sworn, and examined.

Witness withdrew.

Mr. Hugh M'Neill called in and further examined.

Room cleared.

Committee deliberated.

[Adjourned to Wednesday next, at *half-past Eleven o'clock.*]

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WEDNESDAY, 6 JUNE, 1888.

MEMBERS PRESENT:—

Mr. O'Sullivan in the Chair.

Mr. Gale,		Mr. Garland,
Mr. Ryrie,		Mr. Hawken.

Entry from Votes and Proceedings referring the Petition from Hugh M'Neill, William Edwards, and John Huxham Blatchford, *read* by the Clerk.Copies of Petition *referred* before the Committee.Present:—G. C. Waldron, Esq. (*Solicitor*), for M'Neill and party.

At

At the request of Mr. Waldron, the Committee directed the Clerk to furnish him with a copy of the evidence as printed.

Evelyn Stephen, Esq., called in and further examined.

Witness withdrew.

William Garland, Esq., called in, sworn, and examined.

Cross-examined by Mr. Waldron.

Witness withdrew.

W. H. Capper, Esq. (*Clerk in charge, Conditional Sales Branch, Lands Department*), called in, sworn, and examined.

Cross-examined by Mr. Waldron.

Room cleared.

Committee deliberated.

[Adjourned to To-morrow, at *half-past One o'clock.*]

**THURSDAY, 7 JUNE, 1888.**

MEMBERS PRESENT:—

Mr. O'Sullivan in the Chair.

Mr. Ryrie,

Mr. Garland.

Present:—G. C. Waldron, Esq. (*Solicitor*), for M'Neill and party.

Mr. Edward Holehan called in, sworn, and examined.

Cross-examined by Mr. Waldron.

Witness withdrew.

Evelyn Stephen, Esq., appeared before the Committee, and requested that several inaccuracies in his printed evidence might be corrected.

Committee directed the Clerk to make corrections as requested.

Room cleared.

Committee deliberated.

*Ordered*,—That the Under Secretary for Mines, and W. H. J. Snee, Inspector of Mines, be summoned to give evidence next meeting.

[Adjourned to Tuesday next, at *half-past One o'clock.*]

**TUESDAY, 12 JUNE, 1888.**

MEMBERS PRESENT:—

Mr. O'Sullivan in the Chair.

Mr. Abigail,

Mr. Gale,

Mr. Garland,

Mr. Hawken.

Present:—G. C. Waldron, Esq. (*Solicitor*), for M'Neill and party.

W. H. J. Snee, Esq. (*Inspector of Mines*), called in, sworn, and examined.

Witness withdrew.

Evelyn Stephen, Esq., called in and further examined.

Witness *produced* papers respecting applications from W. Garland, Lewis and Holtermann, J. H. Blatchford and Hugh M'Neill and others, for mineral leases at Captain's Flat.

Cross-examined by Mr. Waldron.

Witness withdrew.

[Adjourned to To-morrow, at *half-past One o'clock.*]

**WEDNESDAY, 13 JUNE, 1888.**

MEMBERS PRESENT:—

Mr. O'Sullivan in the Chair.

Mr. Gale,

Mr. Garland,

Mr. Ryrie.

Present:—J. C. Waldron, Esq. (*Solicitor*), for M'Neill and party.

Evelyn Stephen, Esq., called in and further examined.

Witness *handed in* papers respecting applications from William Garland, and Lewis and Holtermann, for mineral leases at Captain's Flat. [*Appendices B 1 and 2.*]

Mr. William Harkness called in, sworn, and examined.

Witness withdrew.

C. L. Garland, Esq., M.L.A. (*a Member of the Committee*), sworn and examined in his place.

Committee deliberated.

[Adjourned to Wednesday next, at *half-past One o'clock.*]

**WEDNESDAY, 20 JUNE, 1888.**

MEMBERS PRESENT:—

Mr. O'Sullivan in the Chair.

Mr. Ryrie,

Mr. Gale.

Present:—G. C. Waldron, Esq. (*Solicitor*), for M'Neill and party.

Mr. Waldron requested the Committee to secure the attendance of C. L. Garland, Esq., M.P., at the next meeting, to be further examined.

Room cleared.

Committee deliberated.

*Ordered*,—That C. L. Garland, Esq., M.P., be requested to attend to-morrow to be further examined.

[Adjourned to To-morrow, at *One o'clock.*]

**THURSDAY,**

THURSDAY, 21 JUNE, 1888.

MEMBERS PRESENT:—

Mr. O'Sullivan, | Mr. Hawken.

In the absence of a quorum the meeting called for this day lapsed.

WEDNESDAY, 27 JUNE, 1888.

MEMBERS PRESENT:—

Mr. O'Sullivan in the Chair.

Mr. Ryrie, | Mr. Garland,  
Mr. Abigail.

Present:—G. C. Waldron, Esq. (*Solicitor*), for M'Neill and party.

C. L. Garland, Esq., M.L.A. (*a Member of the Committee*), further examined in his place.

Room cleared.

Committee deliberated.

[Adjourned to To-morrow, at Two o'clock.]

THURSDAY, 28 JUNE, 1888.

MEMBERS PRESENT:—

Mr. O'Sullivan in the Chair.

Mr. Ryrie, | Mr. Hawken.

Present:—G. C. Waldron, Esq. (*Solicitor*), for M'Neill and party.

Mr. Waldron addressed the Committee and handed in Prospectus of the "Vanderbilt Silver Mining Company [Limited]," Captain's Flat. [*Appendix C.*]

[Adjourned to Wednesday next, at half-past One o'clock.]

WEDNESDAY, 4 JULY, 1888.

MEMBERS PRESENT:—

Mr. O'Sullivan in the Chair.

Mr. Gale, | Mr. Ryrie,  
Mr. Garland.

Chairman submitted Draft Report as follows:—

"THE Select Committee of the Legislative Assembly, appointed on the 24th April, 1888,—'with power to send for persons and papers to inquire into and report upon the claims (if any) of Hugh M'Neill and party to compensation for loss sustained through the neglect of the Mining Department to issue them a mineral lease at Captain's Flat,' and to whom was referred on the 6th June, 1888, the 'Petition from Hugh M'Neill, William Edwards, and John Huxham Blatchford,'—have agreed to the following Report:—

"Your Committee find from the evidence (appended hereto) that M'Neill and party took possession and made application for a mineral lease of 20 acres at Captain's Flat, on 9th August, 1884.

"That the evidence given by Mr. Capper, of the Lands Department, and the *Gazette* Proclamation, prove that at the date of application portion (about one-half) of the land applied for was embraced in a reserve, known as the Quarry Reserve, and the other portion (about one-half) was included in a mineral conditional purchase of one Jason Irving.

"That in accordance with a minute of Mr. J. P. Abbott, as Minister for Mines, M'Neill and party were informed, on 6th January, 1885, that their application was refused, the land applied for being a reserve, and that they could take possession and apply afresh under the Further Amendment Act.

"That the application was formally gazetted refused on the 13th January, 1885.

"That in so informing M'Neill and party that the land was a reserve clearly incorrect information was given.

"That the minute of the Minister (Mr. Abbott) undoubtedly implied that an application, made in accordance with the minute, by M'Neill and party, would be granted.

"That in accordance with the Minister's minute M'Neill and party made a fresh application, with all formalities, on 29th January, 1885.

"That for a year and ten months from the date of this second application M'Neill and party held possession of the land, believing that their application would be granted.

"That on the 12th November, 1886, M'Neill and party were informed, 'to their great surprise,' that their application of 29th January, 1885, was refused, the land being unavailable.

"That the evidence of Mr. Stephen, of the Mines Department, and the production of papers in similar cases, show that the application 'should at least' have been granted as to one half of the land upon the Quarry Reserve, which was clearly available for mineral lease at the date of application.

"That the delay in the Mines Department in dealing with the application was 'most extraordinary and wrongful.'

"That as the other half of the land formed portion of a mineral conditional purchase application at the date of application, and an application made by Messrs. Lewis and Holtermann on the 16th February, 1885, for mineral lease of 20 acres of land, also embraced in this mineral conditional purchase application, was granted on the 31st August, 1885, before the lapse or cancellation of the mineral conditional purchase application, M'Neill and party had strong claims to have their application granted as to this half as well.

"That prior to the refusal of their application of 29th January, 1885, the mineral conditional purchase application was refused, but no notice whatever was sent to M'Neill and party either of this fact or that this mineral conditional purchase application clashed as to portion of the land with their mineral lease application.

"That

"That on the refusal of their application of 29th January, 1885, M'Neill and party, according to the practice of the Department, were entitled to a beforehand notice to enable them to take up the land in respect of which their application was refused, and apply afresh.

"That the then Minister for Mines, Mr. J. P. Abbott, in refusing the application, made the following minute:—

"It is recommended that the application be refused, the land not having been available at date of applying, and the applicants be informed that they may reapply."

"That no such notification, in accordance with the Minister's minute, was sent to M'Neill and party.

"That the evidence proves that, on the 12th November, 1886, 'the whole of' the land was available, and therefore the letter of that date, notifying to M'Neill and party that their 'application' had been refused, the land being unavailable, is distinctly wrong and misleading.

"That the 'land' was afterwards granted as a mineral lease to Garland and party, 'and M'Neill and party were not informed till after Garland and party's application had been made either the reason their (M'Neill and party's) application was refused, or that the land was available for mineral lease.'

"That Garland and party were subsequently granted a mineral lease of the said 'land,' and sold it for £7,000 to a syndicate, consisting of seven persons, including some members of Garland and party.

"That the said syndicate shortly afterwards sold the property to a mining company called 'The Vanderbilt,' at a price to the vendors in excess of £30,000.

"That the capital of the Vanderbilt Company is £100,000, and the shares therein have had a market value of at least 25s. each.

"That it is clear, from the evidence, that the Mines Department erred (firstly) in informing M'Neill and party, on 6th January, 1885, that the land applied for was on a reserve, when one-half thereof indisputably was embraced in a mineral conditional purchase application; (secondly) in informing the applicants on 12th November, 1886, that their application was refused, the land not being available, as the evidence shows it was available 'on that date;' (thirdly) in not sending an intimation in accordance with the Minister's minute in November, 1886; (fourthly) in not sending a beforehand notice, in accordance with the practice of the Department; and (fifthly) in granting the application of Lewis & Holtermann for mineral lease of a portion of the land embraced in the mineral conditional purchase application, while refusing the application of M'Neill and party for mineral lease of lands, half of which were indisputably available, and the other half embraced in the mineral conditional purchase application.

"That in consequence of these errors of the Mines Department M'Neill and party have been made seriously to suffer by the loss of a most valuable mining property.

"That your Committee are of opinion that M'Neill and party have a clear and distinct claim on all grounds in respect of the 10 acres forming part of the Quarry Reserve, and also in respect of the other 10 acres, which, through the blunders and neglect of the Mines Department, and the misleading information given by that Department, M'Neill and party have been wrongly deprived of. And your Committee therefore recommend their claim to the favourable consideration of your Honorable House."

Paragraphs 1 to 8 read and *agreed to*.

Paragraph 9 read and considered.

Amendment proposed (*Mr. Gale*), line 25. *Omit* "to their great surprise."

Amendment put and *agreed to*.

Paragraph as amended *agreed to*.

Paragraph 10 read and considered.

Amendment proposed (*Mr. Gale*), line 28. *Omit* "should at least." *Insert* "might."

Amendment put and *agreed to*.

Paragraph as amended *agreed to*.

Paragraph 11 read and considered.

Amendment proposed (*Mr. Gale*), lines 30 and 31. *Omit* "most extraordinary and wrongful."

*Insert* "excessive and operated to the prejudice of M'Neill and party."

Amendment put and *agreed to*.

Motion (*Mr. Gale*), and Question,—“That paragraph as amended be agreed to”—put.

Committee divided.

Ayes, 2.

Noes, 1.

Mr. Gale,  
Mr. Ryrie.

Mr. Garland.

And so it was resolved in the affirmative.

Paragraphs 12 to 16 read and *agreed to*.

Paragraph 17 read and considered.

Amendments proposed (*Mr. Gale*), line 50. *Omit* "the whole of." And line 51, *after* "application" *insert* "of 29th January, 1885."

Amendments put and *agreed to*.

Motion made (*Mr. Gale*), and Question,—“That paragraph as amended be agreed to”—put.

Committee divided.

Ayes, 2.

Noes, 1.

Mr. Gale,  
Mr. Ryrie.

Mr. Garland.

And so it was resolved in the affirmative.

Paragraph 18 read and considered.

Amendments proposed (*Mr. Gale*), line 53, *after* "land," *insert* "was then open for application by any party for a period of five months and," and lines 53 to 55, *omit* "and M'Neill and party were not informed till after Garland and party's application had been made, either the reason their (M'Neill and party's) application was refused, or that the land was available for mineral lease."

Amendments put and *agreed to*.

Paragraph, as amended, *agreed to*.

Paragraph 19 read and considered.

Amendment proposed (*Mr. Garland*), line 56, *after* "land" *insert* "upon an application made on the 25th April, 1887, approved on 3rd January, 1888, and issued on 31st January, 1888."

Amendment

Amendment put and *agreed* to.

Paragraph, as amended, *agreed* to.

Paragraphs 20 and 21 read and *agreed* to.

Paragraph 22 read and considered.

Amendment proposed (*Mr. Gale*), line 65, *omit* " on that date."

Amendment put and *agreed* to.

Paragraph, as amended, *agreed* to.

Paragraphs 23 and 24 read and *agreed* to.

Motion made (*Mr. Ryrie*), " That Draft Report as amended be the Report of the Committee."

Amendment proposed (*Mr. Garland*) to *omit* all the words after the word "That," with a view to the insertion instead thereof of the words "in view of there being only a minority of the Committee present, and the Report never having been submitted to the absent majority, it is not desirable to adopt this Report till another meeting is called."

Question,— "That the words proposed to be omitted stand part of the question,"—put.

Committee divided.

Ayes, 2.

Noes, 1.

Mr. Gale,

Mr. Garland.

Mr. Ryrie.

And so it was resolved in the affirmative.

Question then,— "That Draft Report as amended be the Report of the Committee,"—put and *agreed* to.

Chairman to report to the House.

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LIST OF WITNESSES.

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1. The first part of the text discusses the importance of maintaining accurate records of all transactions and activities related to the business. It emphasizes the need for transparency and accountability, particularly in the context of tax reporting and financial audits.

2. The second part of the text addresses the challenges of managing a large volume of data and the need for efficient data management systems. It highlights the importance of data security and the role of technology in streamlining operations and reducing errors.

3. The third part of the text focuses on the importance of regular communication and reporting to stakeholders. It discusses the need for clear and concise communication, as well as the importance of providing timely and accurate information to investors, customers, and other interested parties.

4. The fourth part of the text discusses the importance of maintaining a strong relationship with the community and other stakeholders. It emphasizes the need for transparency and accountability, particularly in the context of environmental and social issues.

5. The fifth part of the text discusses the importance of maintaining a strong relationship with the government and other regulatory bodies. It emphasizes the need for transparency and accountability, particularly in the context of tax reporting and financial audits.

1887-8.

LEGISLATIVE ASSEMBLY.

NEW SOUTH WALES.

## MINUTES OF EVIDENCE

TAKEN BEFORE

THE SELECT COMMITTEE

ON

MESSRS. HUGH M'NEILL AND PARTY—MINERAL LEASE  
AT CAPTAIN'S FLAT.

WEDNESDAY, 30 MAY, 1888.

Present:—

MR. O'SULLIVAN,  
MR. DOWEL,MR. GALE,  
MR. RYRIE.

E. W. O'SULLIVAN, ESQ., IN THE CHAIR.

Mr. Hugh M'Neill called in, sworn, and examined:—

1. *Chairman.*] What are you? A miner.
2. Where? On Captain's Flat, district of Queanbeyan.
3. Did you, in August, 1884, mark out in virtue of a mineral license a mineral prospecting claim on Captain's Flat? I did.
4. After prospecting the land for some time did you discover a payable lode of silver and copper ore? Yes, with gold.
5. And on the 20th August, 1884, did you apply for a 20-acre mineral lease, supposing it to be Crown land? I did.
6. Did you afterwards discover that about 10 acres were unoccupied Crown land? Yes, after I took possession of the land.
7. As portion of a proclaimed gold-field? Yes.
8. And what was the remainder of the land? A mineral conditional purchase.
9. Occupied by whom? Jason Irving.
10. Did he abandon it? He never did anything to it.
11. He was not residing on it? He was doing some trifling work on this mineral conditional purchase, but he did not pay the men who were working for him, and they abandoned it.
12. From that time to the present has anyone ever asserted a right to this mineral conditional purchase? No one ever asserted a right to it, but Mr. Garland applied for a lease of it, and got it.
13. Has this mineral conditional purchase been declared void by the Government? Yes.
14. Did you ever receive notice from the Mines Department that your application was refused, as the land applied for was in a reserve? I did.
15. Was it a reserve? It was not. The land was a mineral conditional purchase, not a reserve.
16. What led you to believe it was not a reserve? I could show you the pegs. The man had the land marked and applied for as a mineral conditional purchase.
17. You put in this plan of Captain's Flat as documentary evidence? Yes. [*Vide Appendix A.*]
18. Will you kindly show us on this plan which is your claim? Number 81, mineral lease.
19. That was supposed to be upon the reserve? Yes.
20. But in point of fact the map shows it is not on the reserve? Yes.
21. Was any portion of this reserve cancelled before the map was drawn? I do not think so; it may have been cancelled since.
22. But, in point of fact, when you took up the land according to this map you believed that this was Crown land? Some 10 chains was a part of the gold-field, and the other a mineral conditional purchase, applied for by Jason Irving.

Mr.  
H. M'Neill.  
30 May, 1888.

- H. M'Neill. 23. Then he had applied for a mineral conditional purchase on the reserve? Yes; on what I was informed was a reserve, but actually Mr. Irving's mineral conditional purchase.
- 30 May, 1888. 24. That was disallowed? Yes.
25. Your application for a mineral lease was outside the reserve? Yes. Part on Crown Lands and part on an abandoned mineral conditional purchase.
26. Can you point out on the map where the lease applied for by Holtermann and Lewis stands? Yes; to the south-west, 20 acres on this mineral conditional purchase.
27. These 20 acres applied for by Holtermann and Lewis were granted? Yes.
28. And their claim adjoins yours, and was found to be on the mineral conditional purchase? Yes.
29. You applied for a mineral lease on a portion of the gold-field marked 81? Yes; a portion of the proclaimed gold-field.
30. That was refused? Yes.
31. Holtermann and Lewis applied for a mineral lease on the portion adjoining you on the gold-fields? On this mineral conditional purchase of Jason Irving's.
32. Holtermann and Lewis applied for the piece of land next to you? Yes.
33. Which is found to be on the gold field's reserve? Yes; only it is right in the heart of this mineral conditional purchase.
34. But the land adjoined you, and by the map is not on the reserve? By the map it is not.
35. This was granted to them? Yes.
36. Although their application was made two years later than yours? Yes.
37. *Mr. Gale.*] Was the land so granted to them of the same character as yours—on a similar reserve? No difference. Both on the same mineral conditional purchase.
38. Do I understand that a portion of land was applied for by you at a certain period, and refused, and subsequently applied for by them—if not the same portion, an area on the same reserve—and granted to them? Yes; I swear positively that this is a part of the mineral conditional purchase; and this is more in the middle of the mineral conditional purchase. This mineral conditional purchase is right in the middle of the mineral conditional purchase, and mine was a part of the portion of the proclaimed gold-field adjoining the private property, portion 3, and partly on the mineral conditional purchase.
39. *Chairman.*] When was the first intimation you received from the Under Secretary for Mines that this land was on a reserve? I got a letter after my application had been in for a long time—some twelve months—previous to Garland applying for the land. The Under Secretary wrote back to tell me that the land was unavailable. He did not tell me that it was on a reserve.\*
40. Did he recommend you to make a fresh application? The Under Secretary wrote a letter instructing me how to apply for the land, and the Acts and Regulations I should take it up under.
41. Under the Amending Mining Act, 48 Victoria, No. 10? Yes.
42. And you applied, according to instructions, on the 29th January, 1885? I did.
43. Having thus acted on the advice of the Under Secretary for Mines, did you feel secure of getting the lease? I was quite confident that I would get the lease; by the way I held the land under a mineral license.
44. Did you make any improvements? Yes; I built a house and made a garden. I put between £150 and £200 worth of improvements upon the land.
45. Did you build your house and make your garden on the land you applied for, which is now the subject matter for investigation? Yes.
46. *Mr. Gale.*] And only on the faith of your application? I held a mineral license too, which allowed me to work and hold a mineral lease; but I was too poor. I sent assays to Sydney which went 2½ ounces of gold to the ton; but still, in the face of that, I was afraid the Government might take it from me any day, because they did something of the kind before.
47. *Chairman.*] Was this map charted before you sent in your application? I applied some two years or eighteen months before this map was made.
48. On the 12th November, 1886, after a lapse of two years and three months from the date of the first application, did you receive notice from the Under Secretary for Mines that this second application which he himself had recommended was refused, on the ground that the land was not available on the date of taking possession? Yes, I got a letter to say that.
49. After two years and three months? Yes; he sent me a letter to say that the land was unavailable, and said that I had no reason for complaint.
50. This occurred after you had acted upon the advice of the Under Secretary and made fresh application? Yes.
51. *Mr. Dowel.*] In writing? Yes.
52. *Chairman.*] So that after occupying the land for two years and three months, making valuable improvements, discovering a lode, recently sold for a large sum of money, and applying for it as recommended by the Under Secretary for Mines, you were told that it was unavailable on the date of taking possession? Yes.
53. And do you contend that it was available on the date of taking possession? It was available for me when I first took possession; I had possession for two years and eight months before. I was still in possession of the land, and doing a certain amount of prospecting under a mining license.
54. *Mr. Ryrie.*] Before it was proclaimed a gold-field? No, not before it was proclaimed a gold-field, but this mineral conditional purchase was taken up before it was proclaimed a gold-field.
55. *Mr. Dowel.*] In what year was it proclaimed a gold-field? I am not sure—I think in 1884 we applied to have it proclaimed a gold-field in Queanbeyan.
56. *Chairman.*] What led you to believe that the land was available at the time you first made application for it? There was no one in possession of the land. It is all bare rocks, and I was prospecting about, thinking it a very likely place for minerals, and I discovered this lode.
57. *Mr. Gale.*] At that time it was some one's leasehold area—Mr. Osborne's? It might have been. When I applied for the land the Warden's clerk told me that no one had anything to do with it.
58. *Chairman.*] What further proof have you that the act of the Department led you to believe that this was not a reserve? There was another act of the Department. They could not have known exactly where the land was situated, because they made it a reserve after I applied for it.
59. Did the granting of Holtermann and Lewis's application for 20 acres adjoining, on the south of Jason Irving's mineral conditional purchase, lead you to believe that your land was also a portion of the gold-field?

\*NOTE (on revision).—This is an error; he did tell me it was on a reserve.

gold-field? I thought my land was quite secure. I asked Mr. Holtermann to get me this lease granted, and I would try the land. It took two men to do anything in the land; it was very hard and had to be blasted; one man with a hammer could make no headway at all.

H. McNeill.

30 May, 1888.

60. If the land selected by Jason Irving, and afterwards granted to Holtermann and Lewis, was allowed to be open for mineral selection or mineral lease, I suppose you naturally thought the piece adjoining, which you selected, was also available? I made sure that the Government would never think of reserving a piece of land between a private property.

61. *Mr. Gale.*] What was the area? 20 acres. I thought that, having granted Holtermann and Lewis a lease out of the middle of this portion which they said was the reserve, they could not refuse my application, and that I had as good a right as Holtermann.

62. *Chairman.*] As the map shows that the land is not on the quarry reserve, and the Government granted a piece adjoining you to Holtermann and Lewis, there was every indication to show that the land you applied for was open to mineral lease? Yes, every indication. Beyond doubt that is very plain.

63. And you submit that you are still entitled to the land? I still say that the land is mine, because my pegs are in the land to the present time, with the No. 81 and M.L. on them. The Government holds my money for the land applied for. They hold the first year's rent.

64. Do you hold that at least the portion of land outside the measured conditional purchase is yours? I maintain that that was a part or portion of the gold-field which any man could take up.

65. What was the area? 7 chains, from portion No. 3. Jason Irving applied for land to start 7 chains from portion No. 3. Thinking there was going to be a road, he did not want to take up the road. His area was 40 acres. That left 7 chains along portion No. 3, which was a part or portion of the proclaimed gold-field, where anybody could take up a living.

66. What led you to believe that—the mineral lease registration? Under a mineral lease you could take up a prospecting right to hold any land until you found anything payable in it. You need not lease it, provided you complied with the labour conditions.

67. Mineral lease regulation II provides that an application for a mineral lease, which shall comprise the whole or part of the land held under a mineral license, the interest of the applicant shall be in no wise affected by its refusal or abandonment or failure? The Act specifies that distinctly.

68. And you contend that under that provision those 7 chains are indisputably yours? Those 7 chains are my property.

69. Consequently, with all these facts before you, you believe the Government has acted illegally in granting the lease of land held by you under a mineral license to others? It has.

70. *Mr. Gale.*] Is that portion held by Holtermann and Lewis a portion of that you originally applied for? No; mine is adjoining. Mine is between private property and Holtermann's portion.

71. With regard to the question put to you by the Chairman, that certain land granted by the Department to certain persons was illegally granted—if so, would not this grant for which you applied be likewise illegally granted? No; through the land being in my possession.

72. *Chairman.*] There is one point I would like to bring out. What reason have you for splitting this in two, saying that the 7 chains are indisputably yours, and admitting there is a haze of doubt about the other? This land of mine was on Jason Irving's conditional purchase. I saw the man was not fulfilling the labour conditions on it, and I said I would have 20 acres.

73. And you overlapped him? Yes. They would not have granted me 10 acres on mineral lease if I had applied for them.

74. These 7 chains of your area overlapped Jason Irving's? Fourteen chains. The 7 chains were on it. Seven chains were on Jason Irving's mineral conditional purchase, and the other 7 chains are undoubtedly my property.

75. The remaining 7 chains were free and unencumbered Crown lands open to mineral selection? Yes.

76. *Mr. Dowel.*] You could only take that by application for a gold lease. You could not take less than 20 acres? By my applying for 20 acres I was quite sure that if they came to measure it I could have got 20 acres to go further back. I would have to pay the rent and fee for 20 acres.

77. *Chairman.*] Do you still hold a mineral license? Yes.

78. And you continued to do so from the date of application to the present time? Yes.

79. Have you anything further to say, or any document to put in? I have the dates of Lewis and Holtermann's application for the land to prove very clearly that at the time they applied for the land the Department held my application.

80. You produce them to corroborate what you say about the dates? Yes; to show the date of my application applying for this land.

81. What date is that? That is the second application, January 29th, 1885, and signed by three parties, Hugh McNeill, William Edwards, and B. O. Holtermann.

82. Holtermann was in with you in the original application? Yes.

83. He was a sleeping partner, I suppose? No; he was paying the same as I was.

84. What is this other document? That is the same.

85. To show the later application? No; that is the older application.

86. This document is to show what? The first application for a mineral lease at Captain's Flat.

87. Dated August 11, 1884? Yes.

88. *Mr. Dowel.*] This is an application for five people? Yes. I was the principal in the application. That will give the correct dates. On the 9th of August I took possession of the land, and applied for it on the 11th at Queanbeyan.

89. What made you put in a fresh application after this of the 11th August, 1884? The Under Secretary for Mines wrote a letter to me, stating that the land was unavailable.

90. *Mr. Gale.*] And instructing you to apply in another form? In another form for the land, writing the form of application on the letter he sent me.

91. *Mr. Dowel.*] Have you that letter? Yes; I can get it.

92. *Chairman.*] And that you complied with in making the second application? I did.

93. And yet found after all that, though acting under the instructions of the Under Secretary for Mines, your application was disallowed? Yes.

94. While the adjoining piece was granted to Holtermann and Lewis? The piece which I should think in a worse position than mine was granted.

95.

\* NOTE (on revision) :—No, only in the second.

- H. M'Neill, 95. *Mr. Ryrie.*] The Government still hold the money you paid? The Government hold my rent for the land, and the survey fee.
- 30 May, 1889. 96. *Mr. Gale.*] Your contention is that the land granted to Holtermann and party was illegally granted? I am alluding to the land granted to Messrs. William Garland and party being illegal. Garland and party bought out Holtermann and Lewis.
97. *Mr. Dowel.*] Did I not understand you to say that you consider you have a right to this application in consequence of Holtermann and party having theirs granted? Yes.
98. *Mr. Ryrie.*] And that portion has never been cancelled? It has never been cancelled. One portion of this reserve is unavailable for me, but it is available for every one else. Holtermann and Lewis got 20 acres out of the reserve, and yet my application is unavailable.
99. *Mr. Gale.*] Your argument is that if you are not entitled to the land neither are they? Yes.
100. But the fact of their having been granted the land is presumptive evidence that yours should be granted? I cannot understand the answer of the Minister for Mines when the honorable member for Queanbeyan asked the question in the House—as this lease was granted to a party on a reserve, why should not M'Neill get his. He said the land was void.
101. *Chairman.*] You hold that the fact that the Department granted Holtermann and Lewis this piece adjoining is evidence that Holtermann and yourself were not on the reserve, and that it was granted to them without the reserve being cancelled? I could not say in what way B. O. Holtermann got permission; but I do not think he could have got any permit to take up a lease. He must have gone through the same course and complied with the same instructions as I did to get a mineral lease.
102. You swear positively that you complied faithfully with the instructions of the Under Secretary for Mines, and that you found after all that your application was not granted, while an adjoining piece of similar land was granted to Holtermann and Lewis? Yes.
103. *Mr. Ryrie.*] After your application? Yes; I was before them.
104. Was that before any cancellation of any portion of the reserve? Yes, before anything was done. This mineral conditional purchase was void all the time that the man was not legally in possession of the land.
105. Jason Irving? Yes; he did not fulfil the labour conditions.
106. *Mr. Gale.*] Is there anything to show that that reserve, as a reserve has been subsequently cancelled? Nothing that I can see, only by these parties taking possession of the land.
107. You are not aware of any notification? No. I swear positively that the Department gave me no notification. No notice was given me by the Department that Garland was taking possession of that land. This was run through in a day or two. Approved of and granted the day after, I think.
108. *Chairman.*] You now swear that you never received any notification from the Mines Department that you were on a reserve after you had complied with the Under Secretary for Mines instructions? I never did. I got this letter saying that the land was unavailable, and that I had no cause of complaint. It went under some revolution that I did not know of. He said in his letter that the land was lying idle for two months, but I never got notice of the land being available for anyone but myself.
109. Then, without knowing that this land had been declared open for mineral lease, you were fully under the impression that your application would be granted by the Mines Department? I still thought my application was good.
110. And for that reason did not attempt to peg out again? Yes. My pegs are in the ground now; they were put in by the surveyor, Raymond.
111. Do you hold that this neglect on the part of the Mines Department to acquaint you with the fact that your application was void led you into the belief that your application was good, and by that means prevented you from taking the land up when it was open to selection? I thought my application was still good because I never got notice of anything. To prove the fact that my title to the land was good, and a genuine title, the Government after taking this land from me, this 20 acres, sent a surveyor from Sydney to excise nearly 2 acres out of it, where my house and garden stands.
112. As a proof of your *bona fide* application the Department have since granted you 2 acres of this very land in dispute? Yes, very nearly. They have not measured it; but they sent the surveyor to peg me in and see that my rights were protected. After taking the flesh they leave me the bone.
113. *Mr. Ryrie.*] How long is it since Garland took possession of that land? I could not say how long; I do not know whether he ever took possession at all, except by using my pegs. My pegs are the only ones holding the land. They have others; but mine appear to be standing in the ground with the old numbers.
114. *Mr. Dowel.*] When you applied in the first instance for mineral lease S1, who was supposed to be the holder of it? Jason Irving had a portion of it.
115. *Chairman.*] Seven chains of it? Yes.
116. *Mr. Dowel.*] You then, as I understand, made an application for it, believing that they had abandoned it, that they had not complied with the labour conditions, and pegged it out as a prospecting area? Yes, under a mineral license.
117. That is your title to it? Yes.
118. The land was not granted to anyone then? To nobody. It is granted now, but not to me.
119. But at the time it had not been granted to Irving even? No; Irving's was a mineral conditional purchase.
120. *Chairman.*] The first intimation that you got that the land was open for selection was some time after it had been granted to another person? Yes.
121. To whom? Garland and party.
122. And then you were told that the land had been open for two months to the public, and you had not pegged it out? And that I had no reason for complaint.
123. That was the first intimation you received that the land was open to the public? Yes. I thought I had a good claim, and would rest and wait until such time as I could get a title and put men on to work.
124. *Mr. Ryrie.*] Was there any person in authority that ever saw you working or in occupation of that ground? Yes.
- 124½. A Government official? Yes, Mr. Slee. He said to me, "M'Neill, you have a nice bit of silver lode there; stick to it and it will be real good."

Evelyn Stephen, Esq., called in, sworn, and examined:—

125. *Chairman.*] What are you? Clerk in the Department of Mines.
126. In what particular department? The lease branch.
127. Do you produce papers and documents in this case? Yes, I have all the papers here.
128. Do you know the date of M'Neill and party's first application for this land? I produce the application—9th August, 1884.
129. That is the first application for this land? That is the first application. It is by Hugh M'Neill, William Edwards, Thomas Edwards, James Geary, and Edward Polehan.
130. That was refused? This application was refused because the land was situated on a quarry reserve, and at that time reserves were not open to lease. That was why the Act 48 Victoria, No. 10, "The Mining Act Further Amendment Act" was passed to make them available. But when this further amending Act was passed M'Neill and party took up the land again, and in dealing with the second application it was found that it clashed with a conditional purchase so that the land was not available at the time, although that conditional purchase was forfeited afterwards, and M'Neill's application was refused in consequence, in November, 1885. Then the land was open for anyone to take up for about four months. In April, 1886, the land was applied for by William Garland, but from November, 1885, until April, 1886, the land was open for selection.
131. *Mr. Gale.*] It was so open because of the cancellation or the forfeiture of the conditional purchase? Yes, the forfeiture of the conditional purchase and the refusal of M'Neill's application.
132. M'Neill's application was refused because of the conditional purchase? Yes.
133. Then afterwards the conditional purchase became forfeited? The conditional purchase was forfeited prior to the refusal of M'Neill's application. M'Neill's second application was made on the 29th January, 1885. The conditional purchase lapsed on the 27th February, 1886, so that when M'Neill and party applied in 1885 for that land it was really held under this mineral conditional purchase. This mineral conditional purchase lapsed on the 27th February, 1886, but the application was gazetted refused on the 12th November, 1886, and was refused because the land was not available at the date of taking possession.
134. *Mr. Dowel.*] It was held by a mineral conditional purchase? At the date of taking possession, not at the date of refusal.
135. *Chairman.*] But Mr. M'Neill's application covers 7 chains outside of Jason Irving's mineral conditional purchase; why was that 7 chains not granted? Well, the piece coloured blue is the measured portion which they applied for.
136. The total area comes over into Irving's area for 7 chains? Yes.
137. What I want to arrive at is this: Putting out of sight Jason Irving's application as if it never existed, was this land a portion of the quarry reserve, or was it Crown land in the gold-field? Part of it was in the quarry reserve and part it appears was not.
138. Which part was not? This dotted line is the quarry reserve. You ask me why they did not grant that. That would have been less than 20 acres, and we do not grant leases for less than 20 acres unless permission is obtained from the Minister before applying.
139. *Mr. Dowel.*] A special lease? Well, we do not call them special leases. The special leases are gold-leases.
140. *Mr. Ryrie.*] What was the cause of the lapsing of the mineral conditional purchase? Non-fulfilment of various conditions. This mineral conditional purchase was cancelled on the 27th February, 1886, for non-receipt of declarations and non-payment of instalments.
141. Had it virtually lapsed before that notice? No.
142. *Chairman.*] Can you tell us whether this quarry reserve was declared before or after Jason Irving's application for a mineral conditional purchase? The quarry reserve was notified on the 20th September, 1882.
143. What was the area of that reserve. Did it cover the land that Jason Irving's mineral conditional purchase afterwards covered? No; because the reserve boundaries only include unalienated lands.
144. The reserve surrounded the purchase? Yes.
145. Instead of the purchase being taken out of the quarry reserve? I should say the conditional purchase was prior to the quarry reserve.
146. Can you tell us the date of Jason Irving's application for the mineral conditional purchase? No, I could not tell you that; that is a matter for the Lands Department.
147. *Mr. Gale.*] What is the date of the quarry reserve? The 20th September, 1882.
148. Did the quarry reserve ever come up to the river frontage? Only a portion of it.
149. *Chairman.*] It seems to me that there must have been some reason for giving this reserve the extraordinary shape it has? But Jason Irving's was no part of that quarry reserve.
150. Can you tell us this: Was Jason Irving's mineral conditional purchase good. If he had complied with all the conditions would his application have been granted. Was there any other bar to his application beyond what you say there? Nothing that I can see. It is not a matter for our Department to deal with. The Lands Department deals with mineral conditional purchases, and I should not like to make any statement with regard to their action.
151. *Mr. Dowel.*] The ground of refusal, as I understand, was that it was not available as it was on the reserve? Yes.
- [Witness here explained the position of the land on the map.]
152. *Chairman.*] You said just now that if this Jason Irving had complied with all the conditions his application would have been granted? I could not say, because mineral conditional purchases are dealt with in the Lands Department, and I know nothing of them at all.
153. *Mr. Gale.*] The mineral lease could have been granted if there had been no mineral conditional purchase there. The second application of Hugh M'Neill and party could have been granted, because a quarry reserve is open to lease under 48 Victoria No. 10? Yes.
154. And the mineral conditional purchase? I cannot say about the mineral conditional purchase; it is a question for the Lands Department.
155. *Chairman.*] If that mineral conditional purchase had not been there Hugh M'Neill's application would have been granted? Yes, the second one, but as that was there at the time we had to refuse the application, although the mineral conditional purchase had been cleared away prior to the gazetting of the refusal of M'Neill's application.

E. Stephen,  
Esq.

30 May, 1888.

E. Stephen, Esq.  
30 May, 1888. 156. But how did you come to grant the lease to Holtermann and Lewis, from whom Garland bought? I have not the papers in that case. I suppose they took it up after the cancellation of the conditional purchase.

157. *Mr. Ryrie.*] I think it was taken up before the cancellation of the quarry reserve? You ask me about a case that I have not looked at; but I presume that the date of Holtermann and Lewis's application was after the cancellation of the mineral conditional purchase. The quarry reserve might have been still in force, but that would not matter a bit, because now the Mining Act Further Amendment Act has been passed we can grant mineral leases on reserves. That Act was passed specially for the purpose of throwing open reserves to lease, because there was only one clause in the Mining Act under which we could allow people to mine, that is the 28th section of the Mining Act.

158. *Mr. Dowel.*] It is still in existence now? It is still in existence now, but in order to enable people to get leases, they passed that Act specially.

159. *Chairman.*] Are you aware that Holtermann and Lewis's application was nearly two years after that of M'Neill and party's and was granted when the other was refused? Yes. It was granted, but I don't know the date of their application.

160. Why did you not give notice to M'Neill and party that the conditional purchase had been cancelled? We have nothing to do with the mineral conditional purchases: that is a question for the Lands Department. We refused the application because the land was not available upon date of application, and it is for Mr. M'Neill himself to find out whether there is anything in the Lands Department blocking the lease.

161. Did you detain Hugh M'Neill's money all this time, giving him to understand that the application was good? We do not refund such moneys under any circumstances. If a man's application is refused his money will stay in the Treasury for ever, unless he applies for it.

162. *Mr. Dowel.*] When you found this application overlapped a portion of this mineral conditional purchase, why was not it measured to him in another shape—There was nothing to prevent the Department giving him his 20 acres then? Certainly, if he had pegged it out, but he did not peg it out. He pegged out a certain block, and we gave it according to the pegs. If he put pegs in, not a square, then we should measure according to that position, and then submit to the Minister whether he would grant it. If M'Neill had pegged out his portion like this, it would not have been in accordance with the Act, because a man has to peg out a square. But he might have pegged out and asked the Minister specially to be allowed to have it, and it would be in the power of the Minister to grant it. In a case like this where a square is pegged out the portion is measured in accordance with the applicant's peg. He puts a peg in each corner and the land is measured. If we find that there is something blocking half of it, leaving only 8 or 9 acres, it is not usual to grant that portion as a lease when by refusing the application the whole area is available.

163. Is it a hard and fast rule that a lease is never granted in any other form but a square? If Mr. M'Neill had pegged out that portion to make 20 acres, then it would have been a question for the Minister to decide whether he should have it in that shape.

164. *Chairman.*] Are you aware that the second application of Hugh M'Neill was made under specific instructions from the Under Secretary for Mines himself? Yes; certainly.

165. If that was done, apparently in compliance with the law and the regulations, why was it not granted at once? Because it was discovered afterwards that there was a mineral conditional purchase there. At the time of the refusal of the first application by M'Neill's party it was not known that the mineral conditional purchase was there.

166. And you discovered this between the two applications? No; after the second application was made. The first application was dealt with straight away. Directly they found that it was on a quarry reserve they saw that it was not open to lease, and it was refused on the grounds of not being available because of this reserve. Then, an Act of Parliament having passed to enable us to throw open reserves, we wrote to give notice that they could apply again. When they applied the second time for the land the district surveyor reported the conditional purchase.

167. *Mr. Ryrie.*] Does the Department not often inform applicants that their application is wrong, but that they can take up in such and such a manner? If there had been no other land available than that little portion that was outside the conditional purchase, and was in the reserve, about 10 acres—if there had been no other land available, then a lease of that might have been granted; but there was the whole of the quarry reserve available, and not only that. The conditional purchase at the date of the second application had been cancelled, consequently it was no use granting that small portion, because the whole of the other was available. We could not grant the application, because at the date of possession it was not available, although at the date of the *Gazette* notice it actually was available. It has been decided that when land is not available at date of possession the application must be refused. But the land at the date of the *Gazette* notice of the refusal of M'Neill's second application was open, and if they had pegged out then they could have got the land. It was then open to anyone, and lay idle for three or four months.

168. Were they informed of the refusal? They were informed, certainly.

169. *Chairman.*] They say they never received that notice? The papers will show that they did.

170. Can you produce a copy of any document you posted to them? This is the form:—

Department of Mines, Sydney,

188

No.

I am directed by the Secretary for Mines to inform you that application for the lease has been refused.

noted in the margin, ha

I have the honor to be,

Your most obedient servant,

Under Secretary for Mines.

171. *Mr. Gale.*] Should not the cancellation of the mineral conditional purchase be gazetted? I presume it was gazetted.

172. *Chairman.*] They say that they never received this notice? There is the notation of it, "*Gazette* notice 12-11-86. Applicant and warden informed."

173. *Mr. Ryrie.*] You do not know the date of the *Gazette* notice of the forfeiture of the mineral conditional purchase? The 27th February. Being a Lands matter I cannot tell you whether it was gazetted or not.

E. Stephen,  
Esq.

30 May, 1888.

174. *Mr. Gale.*] Garland's application was granted in April, 1886? On the 23rd December, 1887. He applied for it on the 25th April, 1887. M'Neill's application was gazetted refused on the 12th November, 1886. Garland applied on the 25th April, 1887; so that from the 12th November, 1886, to the 25th April, 1887, the land was open to anyone to take it.

175. *Mr. Dowel.*] It distinctly states here that the within application may be refused, the land applied for being reserved, and the applicant can take possession and apply afresh? Yes, and he did so. After that we found that it clashed with another title to land.

176. *Mr. Ryrie.*] But it was virtually lapsed at the time? Not at the time of the second application. If it had lapsed M'Neill's application would have been granted.

177. What was it eventually refused for? The mineral conditional purchase was cancelled on the 27th February, 1886, for non-receipt of declaration as to conditions and non-payment of instalments.

178. And how long after the time allowed by law was it cancelled? I could not tell you that. I know nothing of the conditional purchase excepting the date of its being cancelled.

179. *Chairman.*] Can you draw up a *précis* of the case for us? I have a *précis* by the Under Secretary here, which I will read:—

"The facts of the case are as follow:—'On the 9th August, 1884, M'Neill and party made application to lease this land. This application was refused 13th January, 1885, the land applied for being within a reserve, and the applicants were thereupon informed they could apply again in terms of the Act 48 Vic., No. 10. Accordingly, on the 29th January, 1885, they applied again and in dealing with this application the District Surveyor reported that the application clashed with a mineral conditional purchase. This mineral conditional purchase was cancelled on the 27th February, 1886, for non-receipt of declaration and non-payment of instalments. In consequence of this clash M'Neill and party's second application was refused on the 12th November, 1886, and the applicants were informed of the fact. From the 12th November, 1886, till the 25th April, 1887, no application for land was made and during that period the land was open to the world. On the 25th April, 1887, W. Garland lodged an application for a lease of the land and then it was discovered that the land had been surveyed for a police paddock, consequently action upon this application was delayed. The Lands Department have now stated that the Minister for Lands knows of no objection to the lease being granted, and it has been decided that action upon W. Garland's application may proceed. I do not see that M'Neill and party have any valid grounds of complaint, but I would recommend that before W. Garland's application be further dealt with, the whole of the facts as stated herein be forwarded to M'Neill and party through Mr. O'Sullivan, M.P., and they be invited to say what objection, if any, they have to urge against the granting of the lease to W. Garland.' Submitted.—H.W., 18/11/87.

If the above be a true statement of the facts of this case, I cannot see any reasons for delaying the lease of Garland, and desire that the same may be proceeded with in the usual manner until completed, without further reference to M'Neill and party, who, according to what is here stated, have no rights in connection with this land.—F.A., 19/11/87."

180. *Mr. Gale.*] The application lay in the office from the date of pegging out, or some time immediately thereafter, until the 12th November, 1886, and on the 12th November, 1886, being ten months after the forfeiture of the mineral conditional purchase, M'Neill was told that the application was refused? Yes.

181. *Chairman.*] Then his application was really good? No.

182. Why, if this had been forfeited ten months before? The second application was made before the forfeiture of the mineral conditional purchase.

183. Then for ten months it would have been good if he had pegged it out? It would have been good, certainly if his second application had not been in existence.

184. *Mr. Dowel.*] There is a minute which I find written on this application by the Under Secretary, which says, "The within application may be refused, the land applied for being a reserve"—distinctly stating that it is a reserve—"and the applicant can take possession, and apply for it afresh after the F. A. Amendment Act." They did so, did they not? Yes.

185. That was approved by Mr. Abbott, and M'Neill and party as I understand put in a second application in compliance with this minute of the Minister and the Under Secretary? Yes; but that was no promise to grant the application without reference to any other Department. When we referred to the district surveyor he reported that there was a conditional purchase in force, taken up in 1882.

186. But the Under Secretary says that if the applicant does apply in this form the application will be granted. He points out the reason of the refusal? That was refused because it was on a reserve.

187. *Chairman.*] But then he complied with the information, and in accordance with instructions supplied by the Under Secretary for Mines. Then he got no notification whatever that his second application was no good. He was allowed to remain on the land all this time under the supposition that his application was a *bonâ fide* one. He built a house, cultivated a garden, and then to his great surprise he found that all this time he had no right at all, and the first intimation he got that his application was refused, was by seeing another person on the ground. You say you sent a notice, but he says he never got it. If he was not informed he lost the opportunity of pegging out when he might have made it good? We sent this notice, filled in directly the application was refused.

188. *Mr. Dowel.*] How many months after his application? It was not refused, I think, for eight or ten months.

189. *Chairman.*] In this minute it distinctly states that the only grounds for refusal were that it was on a reserve? Not the only grounds.

190. It does not refer to anything else? There might be something else. Afterwards we found out the conditional purchase on reference to the district surveyor. As far as we knew at that time the reason of the refusal was because it was on a reserve. We dealt with it as quickly as we could, and told him to apply again. On the second application we referred to the district surveyor, and he stops the application because of this conditional purchase of 1882.

191. This objection has been taken by Mr. M'Neill. On a letter stating to the Department that he finds his application is on a reserve, and asking what steps he will take, the Under Secretary writes this minute, stating that he can take possession and apply? Yes; but it does not say that he will grant that application.

**E. Stephen, Esq.** tion. It would have been granted if there had not been a prior title. It is impossible for the Department of Mines to issue a mineral lease for land which we discover has been granted as a mineral conditional purchase by another Department.

80 May, 1888.

192. It seems to me that all this trouble has arisen from the fact that the Lands Department deal with the mineral conditional purchases, and you deal with mineral leases? Yes.

193. *Mr. Ryrie.*] I thought you said that the only objection to his second application was that he had not pegged out? No; that was in answer to a question asking why the land was not granted by extending the strip of land and giving him 20 acres, but that is never done.

194. But his land was pegged out, and those pegs were never removed, they were always retained there. Then after the mineral conditional purchase was cancelled why should not those pegs be allowed to remain? It has been decided by the Supreme Court, I believe, if not by the Attorney-General, that if the land is not available at date of taking possession the application has to be refused.

195. The pegs were still kept in? Certainly; but he would have to take them up again if he wanted to make the application afresh. Supposing in November, 1886, when this application was gazetted refused he had gone to take possession again, he could never have used those pegs by not touching them. He would have had to go round and actually put those pegs in afresh, and take possession again as if the land had never been taken possession of.

196. *Chairman.*] Have you any copy in your Department of the notice that you sent to M'Neill, stating that his second application had been refused? Only this form of notice, which is just a printed notice filled in and posted in the ordinary way. We have no registered letter or anything, so that we cannot trace it. We have simply to take as evidence that it has been sent this notation on the *Gazette*, which is in my handwriting: "Applicants informed."

197. Did you send the letter yourself, or was it done by a subordinate? No, I did not send the letter myself, but I noted the action on it. I did not write the letter myself.

198. You may have given instructions for it to be done, but can you swear that you sent it, because these men say they never received it? I can only say that to the best of my belief it was done, and I feel sure that the clerk who did it would be willing to swear to it. I note these things and hand them over to him, and he immediately writes them out; it is not put off for any time at all.

199. *Mr. Gale.*] In addition to the printed form of notification, is it not usual to have that refusal likewise gazetted? It was gazetted certainly. It was published in the *Gazette*, so that if he had seen the *Gazette* he would have known it had been refused.

200. *Chairman.*] Do you keep a despatch book in your department? No, not of this sort. We have only the notation.

201. You noted that it had gone, but you have no further proof to offer that it did go, beyond the best of your belief that it was sent by a subordinate? Yes; but I feel sure that the gentleman who writes these notices would be prepared to swear that he sent it. He would be in this position. He would know that every paper in the office that was noted in that way had been sent. There are certain actions on papers, and if I saw my writing on a paper ever so long ago I would know that I had taken certain action afterwards.

THURSDAY, 31 MAY, 1888.

Present.—

MR. O'SULLIVAN,  
MR. DOWEL,  
MR. GALE,

MR. GARLAND,  
MR. RYRIE,  
MR. WALKER.

E. W. O'SULLIVAN, ESQ., IN THE CHAIR.

Evelyn Stephen, Esq., called in, sworn, and examined:—

**E. Stephen, Esq.** 202. *Chairman.*] I understand that you have certain papers which will show the case so far as the Department are concerned? The only paper I have is a copy of the *procès* by Mr. Wood, the Under Secretary, with the decision of the Minister. That you already have. Of course, if the Committee wish any further copies of papers, the Under Secretary will be very happy to supply them.

31 May, 1888.

203. I believe you have a letter from Mr. W. P. Crick, a solicitor, on behalf of M'Neill and party, to the Department? I think not. There is a letter signed by a Mr. Edwards, apparently written in a lawyer's office, with which I can supply you. It is in these terms:—

The Honorable the Minister for Mines, Sydney,—  
Sir,

Braidwood, 28 October, 1887.

I desire, on behalf of Hugh M'Neill and myself, to place before you for your consideration the reasons we urge why a lease should be granted to us for the land applied for in the lease referred to in the margin hereof.

In the year 1884 the applicants held mineral licenses, and occupied 20 acres of land (the land described in the application) in accordance with the regulations. A lease was afterwards applied for on August 9th, 1884, and this application was refused on the ground that the land applied for was on quarry reserve 163.

In this I respectfully submit that the Department was in error, as no part of the land applied for was on the said reserve as shown on the official plan containing leases on Captain's Flat.

From this it appears that not only is this land outside the reserve but also about 30 acres additional to the south thereof. In the mean time the Act 48 Vic., No. 10, was passed. A second application was put in, No. 13, dated 29th January, 1885, in accordance with advice received from your department dated 6th January, 1885.

This application was refused on the 12th November, 1886, on the ground that it clashed with a mineral conditional purchase.

On searching it appears that on the 16th February, 1885, a lease of adjoining land was granted to W. J. Lewis. On the plan referred to this lease to Lewis appears to embrace portion of the land supposed to be included in the mineral conditional purchase in the name of Jason Irving, and I cannot see why our application, which was in at the time Lewis' was granted, should be refused, there being no objection to offer to ours that could not with equal force be urged against Lewis'.

Our mineral licenses were taken out regularly and the land occupied.

The Act 48 Vic. No. 10, came into operation on the 19th August, 1884, and it will thus be seen that even if the mineral conditional purchase was a bar to the granting of the whole lease there would be at any rate 7 chains of land to the south of G. Osborne's portion 3 of 79 acres, and I respectfully submit that at the date of each application there were lands to which we were entitled. I urge nothing of the fact of our great expenditure and labour on the land, but submit the bare facts and ask that the Minister will favourably consider this application and cause a lease to be issued.

I have, &c.,

WILLIAM EDWARDS.

204.

204. *Mr. Ryrie.*] I think you said yesterday that the second application was refused on the ground that there were not 20 acres of land left? It was refused because a large portion of it was comprised in a mineral conditional purchase taken up by Irving.

E. Stephen,  
Esq.

205. But you said the applicant could not receive the surplus land because it did not amount to 20 acres? Yes.

31 May, 1888.

206. Is that one of the rules of the Department? As a rule where there are less than 20 acres involved the application is refused. It is not always the case.

207. What area was available, supposing it to be the practice of the Department in some cases to allow less than 20 acres to be taken up? If M'Neill had requested the Department to allow a lease to be taken up in respect to a smaller portion, I have no doubt that his application would have been granted. Irving's mineral conditional purchase had lapsed, and consequently the whole area was available. When M'Neill's application was gazetted as refused he had the opportunity of taking the whole portion up. Instead of that he left the matter open for four months, and the land was applied for by Mr. Garland.

208. Supposing the datum peg of the application had been in a reserve would it be possible for the Department to measure the ground, or would a fresh application require to be made embracing the spare ground? Yes.

209. *Chairman.*] Are you aware that any leases for less than 20 acres have been granted without a special application? Yes, I believe that leases have been issued for less than 20 acres. If a man applies for 20 acres and it is found that a small portion of 1 acre or so is not available, instead of the application being refused it can be granted as modified. Where half the portion applied for is concerned, however, no application in a case like this would be granted without application to the Minister. In this particular case the reason why the matter did not come before the Minister was that at the time the whole area was available, that is at the time of the gazetting of the second application. When we discovered that the mineral conditional purchase had lapsed the whole area was available. The application was refused in order that M'Neill or anyone could take up the whole area.

210. *Mr. Garland.*] In any case M'Neill's application with a mineral conditional purchase would have been gazetted as refused, inasmuch as the application was made before the land was cleared? That is the usual practice of the Department.

211. *Mr. Ryrie.*] Where was the datum peg in this case? The datum peg is about 4 chains in a south-easterly direction from the south-western corner of Mr. Osborne's 79 acres. I could not say whether the peg was in or out of the reserve, and I could not answer the question definitely as I am not a draftsman.

212. But according to the tracing and the description the datum peg would be on available ground? At the date of the first application it appears it would have been on a reserve; at the date of the second application the datum peg, judging from the tracing and description, would have been outside Irving's conditional purchase.

213. *Mr. Dowel.*] When M'Neill and party's first application was refused and a minute was made by the Under Secretary and by the Minister that M'Neill could reapply, did he reapply in the form required by the minute? He appears to have done so, but at that time we had no knowledge of the conditional purchase. It appears that the conditional purchase was not surveyed.

214. How long from the time of M'Neill and party's second application did they receive a notification that the second application was refused? M'Neill and party applied on the 29th January, 1885. Their application was gazetted as refused on the 12th November, 1886. It would be about a year and ten months after.

215. On that date the Department gave M'Neill and party notice that the application was refused? Yes.

216. *Chairman.*] You say that M'Neill and party, acting under instructions from the Department, applied in a proper manner? Yes.

217. And that a year and ten months elapsed between the date of their application according to instructions and their information that they could not have the land? Yes. There appears to have been some delay in dealing with the application. There appears to have been some error in regard to the answering of questions. The application was made on the 29th January, and it arrived in the Department of Mines on the 10th April. It was in the hands of the Warden's clerk until that time; but he had no right to keep it more than fourteen days. Then the Under Secretary decided to let the lease go on.

218. *Mr. Dowel.*] Was not that an intimation that the lease should be granted to this man? No; it amounts to saying that at that time there was nothing against it, or that the Department had not discovered anything against it. The matter then went to the chief draftsman, and the draftsman then sent a memo. to the surveyor. On the 21st July I find this memo.:—"Wait return of memo. from the surveyor." The memo. to surveyor is dated 21st December, 1885. He appears to have taken no notice of this memo.; and a reminder was sent on the 29th January, 1886. There seems to have been some need for reference to the surveyor. There was something wrong, requiring an explanation from the surveyor. He was asked two questions as regards the connection of the portions, and this delayed the case for some time.

219. Is one year and ten months an unusual length of time for the Department to decide whether the application for a mineral lease shall be granted or refused? Certainly. I have been looking at the papers, endeavouring to find out the reason for the delay. I find the delay has occurred through the reference to the surveyor and to the warden's clerk.

220. *Mr. Garland.*] Are there not cases in which delays have occurred for as long a period as four years? There are cases where applications have been kept back for, certainly, four years. The mineral conditional purchase cases at Silverton are an instance. The applications for mineral leases clashing with mineral conditional purchases were put by, waiting decision as to the means of dealing with mineral conditional purchases on gold-fields.

John Huxham Blatchford, Esq., called in, sworn, and examined:—

221. *Chairman.*] Where do you reside? At Bell's Creek.

222. What is your employment? I have no particular employment, but I own a few mines.

223. Can you give us any evidence in reference to this matter? I have come here in compliance with a request that I should attend; but I know very little about the case. I could give you evidence with reference to Irving's mineral conditional purchase, because I was in treaty with him for the purchase of it. Irving's application was made on the 13th July, 1882, and the reserve was gazetted on September 20th, 1882. The first refusal which my party got was on the ground that they had selected on a reserve, and it was consequently inaccurate. As Mr. Stephen has told you, 10 acres were available.

J. H.  
Blatchford,  
Esq.

31 May, 1883.

J. H.  
Blatchford,  
Esq.  
31 May, 1888.

224. Why do you state that the answer of the Department was inaccurate? I have a *Gazette*, and a memo. from the land agent at Queanbeyan, showing that it is so.
225. *Mr. Garland.*] On what date did M'Neill and party apply? The first application was in 1884.
226. But the reserve, you say, was gazetted in September, 1882. The answer of the Department would therefore be correct? They could not make a reserve of a mineral conditional purchase. Ten acres of the application referred to Crown lands, and 10 acres to a mineral conditional purchase. The reserve was to the eastward of this land, and had no connection with it.
227. *Chairman.*] There could have been no reserve so far as a portion of the application was concerned, because it related to a mineral conditional purchase? No.
228. The reserve never covered M'Neill and party's intended lease? No.
229. What reasons have you for making this statement? I have evidence in the shape of a memorandum from the land agent at Queanbeyan, and the *Gazette* notice. The *Gazette* notice shows that the mineral conditional purchase was taken up two months prior to the proclamation of the reserve, and it has already been explained to the Committee that the reserve was made in ignorance of the mineral conditional purchase.
230. If the mineral conditional purchase was taken up prior to the reserve, as shown by the documents, it is evident that the proclamation of the reserve in so far as it related to land covered by the mineral conditional purchase was in error? Yes.
231. The description of the reserve covers the very ground covered by the mineral conditional purchase? Yes.
232. You say that M'Neill and party's claim to the land is good because it was partly Crown land, and partly on a mineral conditional purchase which was afterwards forfeited? Yes. We claim positively in respect to the 10 acres of Crown land. We also say that the Department having granted a lease to Lewis and Holtermann of the balance of the mineral conditional purchase applied for on the 16th February, 1885, a month after our second application; if the land was available for them it was also available for us.
233. What is the date of the *Gazette* to which you have referred? The 27th February, 1886.
234. *Mr. Garland.*] At the time Lewis and Holtermann got their lease what had become of the mining conditional purchase;—had it been refused? It was in precisely the same condition as from the first. I know of this intimately, because I was in treaty with Irving for the purchase of the land. The land was taken up by Irving, a little work was done, and then it was absolutely abandoned. The land was in precisely the same state when Lewis and Holtermann applied for it as when we applied for it, and they applied only a month later. We applied a second time in January, 1885, and Lewis and Holtermann applied on the 16th February, 1885. The reserve at present in existence was in existence then, and it is distinct from the land in question. The reserve, as I have already explained, is to the eastward.
235. Can you give any documentary evidence sustaining the position which you take up with reference to the reserve? I have a memo. from the land agent at Queanbeyan in these words:—"Jason Irving's M.C.P. application No. 82-198, made 13 July, 1882, at Queanbeyan, 40 acres. Under 19 sec. C.L. Act of 1861. Description: County of Murray, parish of Ballalaba, starting at a peg on the east bank of the Molonglo River, about 7 chains south of the south-west corner of portion No. 3; then running east and south, bounded on the west by the Molonglo River."
236. *Chairman.*] Are you aware of any areas of less than 20 acres being granted under mineral lease without special application being made for it? Yes; there are three cases of mine. I cannot give the exact details now; but I applied for three 20-acre blocks at Captain's Flat, which included three or four gold leases which had been gazetted as void. They were gazetted in December, 1884, and I applied for them in June or July, 1885. I applied for mineral leases including these gold leases. When Surveyor Raymond came to measure the land, he pointed out that these leases were included within my pegs. He telegraphed down to the Department to know if the leases were void. I saw the answer; it was in the affirmative, and he included them. The claim was afterwards set up by the late Mr. Holtermann upon technical ground, namely, that the applicants for these gold leases had not been notified that the leases were ready for their acceptance. Thereupon the Mines Department took action, and cut out the gold leases from my mineral leases. Consequently one of my leases amounted only to 11 acres some perches, another to 15 acres some perches, and the third to 17 acres some perches. I made no special application in these cases. I applied for three 20-acre blocks, and I obtained 11, 15, and 17 acres.
237. Have you heard of any other parties having a lesser area granted without a special application? I never knew such a striking instance as that in my own case, but I know that it is a common thing to excise small portions. For instance, I had a lease of 32 acres; two portions were excised; one of them was the residence of a miner; that was excised at my suggestion.
238. *Mr. Garland.*] It is not usual for the applicant to state his willingness to accept a less area than applied for? Yes; if he is certain that the other persons have a right to the land.
239. *Chairman.*] You consider that as the Department reduced the area granted to you in the three instances which you have named, without your special application, it was also their duty to do the same thing for M'Neill? Yes. Instead of notifying us that there were only 10 acres available, they gave an answer in general terms that the land was not available at date of application. If they had said that there were only 10 acres available we could have applied.
240. *Mr. Dowell.*] As a rule 10-acre leases are not applied for unless specially? I know that we cannot apply for less than 20 acres as a rule; but it is in the power of the Department to grant less than that area.
241. *Mr. Gale.*] Did the Department in the three instances you have mentioned intimate to you that 20 acres were not available? I am not sure.
242. You have had considerable experience in mining matters? Thirty-four years.
243. Your experience has caused you to make a study of the mining laws? I was a private gold commissioner for seven years. I had charge of all Major's Creek, the property of Messrs. Hassall and Roberts.
244. With your experience and knowledge of the mining law do you consider that M'Neill was entitled to these 10 acres of land under the circumstances narrated? I feel sure that he was entitled to it on the ground of his holding a mineral license. A clause in the Act says that an application for a lease shall not be affected by its refusal, abandonment, or failure, if the land was previously held under a mineral license as a mineral prospecting area.
245. *Mr. Garland.*] Is it not the law that the holder of a mineral license should work from day to day upon the land? Yes.

246. Do you know, as a fact, that McNeill has worked this land from day to day? I do not know. I know that he has worked it for a long time. I saw him working it myself. He built a house upon the land, and I know that he has lived upon it, and that he is living upon it now.

247. Is he not living on an area held under a miners right? He did not hold a miners right as far as I know. He had a mineral license. He took up this land on his mineral license, and built a house upon it, and he has lived there ever since.

248. *Mr. Dowel.*] He pegged out land as a prospecting area on his mineral license? Yes; and after finding gold he applied for it as a mineral lease.

249. *Chairman.*] While he was under the impression that his application was good and that the lease was likely to be granted, did he start work and make improvements upon the land? I do not know that. I saw him working off and on for a long time. He told me that he was quite sure of getting the lease, because he had acted upon the suggestion of the Under Secretary for Mines.

250. From your knowledge of the Mining law and your experience, are you aware that it is absolutely necessary for the Department of Mines to send a notification to an applicant when his application has been refused? I know that it is a matter of courtesy only. If a man has any equitable claim they give him an early intimation of it, so that he can have an opportunity of repegging immediately after the notification is gazetted.

251. Supposing you had been in McNeill's position and had made an application according to instructions from the Under Secretary for Mines, carrying out those instructions to the letter, and you had been led to believe that your application was good, and had not received a notice that it was not good, would you remain under the impression that your lease was likely to be granted? I should have relied implicitly on any advice given me by the Under Secretary for Mines under the circumstances.

252. Whenever there is an assumed equitable claim or notice beforehand of the gazettal or the refusal of the application, is it the custom of the Department to give notice without special application? I think it is the rule of the Department to assist those whom they think have an equitable claim to the land. These persons generally get a notice in advance of the gazettal.

253. Whenever there is an equitable claim to the land, the Mining Department is in the habit of giving persons a prior notice to be first in the ground to repeg and reapply for it? Yes.

254. Do you consider that McNeill and party had an equitable claim to this land? Certainly.

255. Do you not think the Department should have given them prior notice to repeg or reapply? Yes; I never knew a stronger case for it.

256. You think that the failure of the Department to do so was a neglect of duty? It was a neglect of the usual courtesy.

257. It was a departure from their usage? Yes; as far as I know it.

258. *Mr. Ryrie.*] Is it not the case that Irving's mineral conditional purchase was taken up on the 13th July, 1882? Yes.

259. And that the reserve was gazetted, including Irving's mineral conditional purchase, on the 20th September, 1882? I do not know positively that it includes Irving's mineral conditional purchase, but the reserve was gazetted on that date.

Evelyn Stephen, Esq., recalled and further examined:—

260. *Mr. Garland.*] It is the custom of the Department to give a prior notice to anyone interested in an application for land that the land will be cancelled on a certain date, unless special application is made to the Minister for prior notice, and unless such reasons exist why such prior notice should not be given? Yes; that is, if it appears from the papers that the applicant is entitled to the land.

261. In the event of the purchase of a gold lease and the parties who purchased finding that through the non-fulfilment of labour conditions on the part of the previous holders it has gone on for cancellation, is it the custom of the Department then to give a prior notice to the purchasers? No; not unless they can place before the Minister sufficient evidence to show that they clearly own the land, and that they are not responsible for the non-fulfilment of the labour conditions.

262. It is a rule of the Department that when an application is made for a mineral lease it shall be a square block of 20 acres? Yes.

263. Is that ever departed from? In any number of cases; but is submitted to the Minister for approval.

264. Was there any difficulty in the way of McNeill taking up his 20 acres in another form? We do not measure any land outside the outermost pegs at any time. If he does not peg it out square we measure it in the form according to his pegs, and then it is submitted to the Minister to approve or not of the form in which the land is pegged out. In no cases is land granted which is not included within the applicant's pegs.

265. As a matter of fact, had McNeill pegged out a double square as it were, that is to say, a long strip of land containing 20 acres, it would have been within the regulations of the Department? It would have been in all probability granted. It would have been submitted to the Minister to decide whether he would approve of that form of measurement.

266. Is the land at the rear of the 10 acres refused to McNeill still open to mineral lease? I could not say whether the land is occupied or not.

Mr. William Edwards called in, sworn, and examined:—

267. *Chairman.*] What are you? I am an hotel-keeper at Braidwood.

268. In what way are you connected with Hugh McNeill and party? I am a shareholder. I hold a mineral license, and I was a partner with McNeill.

269. Do you supply any money to work the claim? Yes; I have found the money to take the land up.

270. How much money has been expended there altogether? I could not very well say.

271. Can you give us an estimate as nearly as possible? I know that the land has cost me alone £100.

272. How long did McNeill work the land? I could not say.

273. How long do you think? I was only there now and again.

J. H.  
Blatchford,  
Esq.

31 May, 1888.

E. Stephen,  
Esq.

31 May, 1888.

Mr. W.  
Edwards.

31 May, 1888.

- Mr. W. Edwards.  
31 May, 1888.
274. *Mr. Garland.*] You do not claim that £100 has been expended upon the land? No.
275. The expenses to which you have been put directly and indirectly amount to £100? Yes.
276. *Mr. Gale.*] That sum has been advanced by you in the direct interest of the claim? Yes.
277. *Chairman.*] When you took up the land as a mineral license did you take it up with the *bonâ fide* object of working it as a mineral claim? Yes.
278. And you made application in the usual way? Yes; M'Neill made the application for the party.
279. Do you remember what was the first answer you received from the Government? The first answer I received was that the land was unavailable. Then M'Neill wrote to the Department asking for instructions as to how to proceed.
280. You were not working on the claim yourself? No.
281. You were living at Braidwood, and supplying funds to work the claim? Yes.
282. How far from Captain's Flat is Braidwood? About 26 miles.
283. What was the letter you received from the Department on the 7th February, 1887? It is in these terms:—"Department of Mines, Sydney, 7 February, 1887. Sir,—Referring to your letter of the 28th ultimo, in which you direct attention to the refusal of mineral lease application No. 13, Queanbeyan, by H. M'Neill and others, I have the honor to inform you that the application was refused, as the land was not available to lease. I have the honor to be, sir, your most obedient servant,—HARRIE WOOD, Under Secretary."
284. Have you any other letter from the Department? Yes; I have a letter dated the 6th July, 1887. It is in these words, "Department of Mines, Sydney, 6th July, 1887. Sir,—Referring to your letter of the 11th ultimo in which (at the request of Messrs. McNeill, Edwards, and others, residents of Captain's Flat) you bring under notice the fact that mineral lease application, numbered 84-12, at Queanbeyan, by them has been granted to Messrs. Garland and others, I am directed by the Secretary for Mines to inform you that application 84-12 at Queanbeyan, by McNeill and party, dated 9th August, 1884, was refused on the 13th January, 1885, as it was for land on a reserve which, at that date, was not open to lease. The applicants were informed on the 6th January, 1885, that they may again apply under the Mining Act Further Amendment Act, 48th Victoria, No. 10. M'Neill and party again applied for the same land under application No. 13, dated 29th January, 1885; the District Surveyor reported that the application clashed with a conditional purchase forfeited 27th February, 1886. This application was refused on the 12th November, 1886, the land being unavailable at the date of taking possession of it. Mr. Garland applied for the same land on the 25th April this year. It will thus be seen that Messrs. M'Neill and party have no cause for complaint—the land was open for anyone to take possession of, from the 12th November, 1886, to the 25th April last, when it was applied for by Mr. Garland. Messrs. M'Neill and party never had any title to the land, except through their applications, which were refused, the land being unavailable at the dates of taking possession of it. I have the honor to be, sir, your most obedient servant,—HARRIE WOOD, Under Secretary."
285. Do you remember M'Neill receiving a letter from the Mining Department instructing him to make out a fresh application? Yes.
286. That fresh application under instruction from the Mining Department was made out? Yes.
287. You believed all the time that the application was good? Yes.
288. Were you not led to believe that in consequence of the action of the Department in not notifying you to the contrary? Certainly. We got no notice whatever.
289. And you went on working the claim as if you really were in occupation by law? Yes. I thought we should get the land.
290. *Mr. Walker.*] Who applied? M'Neill applied for the party.
291. *Mr. Garland.*] After the land was gazetted as refused, notice was sent to you from the Department; why did you not act upon that notice? I did not receive any such notice.
292. *Chairman.*] You are one of the parties, and you swear that you did not receive such a notice? No; I did not receive any notice.
293. *Mr. Garland.*] You state that you were paying M'Neill to work the land. Are you aware that no work was being done on it? A little prospecting was being done. I was paying M'Neill to look after the land. I was not there myself.
294. You could not say whether M'Neill was at work? I saw him at work myself.
295. *Chairman.*] Do you swear that you saw M'Neill doing *bonâ fide* work? I not only saw him prospecting, but on one occasion I assisted him myself.
296. *Mr. Walker.*] I suppose prospecting is about the most work that has been done; you have sunk no shaft? No.
297. When Holehan and Garland applied for the land as a lease, was M'Neill living on it? Yes.
298. Did he not see the men at work? I could not say.
299. Did you say that he was living on the ground at the time? Yes.
300. Then I think he must necessarily have seen men at work? I dare say he did; I could not be positive. I heard him say that he had given the men notice not to work upon the land.
301. *Mr. Garland.*] That he had given notice to whom? To Holehan and Garland; I heard him say that he had done so.
302. Why did not M'Neill object to the granting of the lease? I could not say.
303. How many parties were there? In the first application there were five or six of us, but some dropped out, and in the second application there were M'Neill, the late B. O. Holtermann, and myself.
304. Can you state whether Holehan was in the first application? Yes; but not in the second.
305. Holtermann was in the second? Yes.
306. You know that the police authorities spoke at one time about having the land as a police paddock? I am not aware of it; they did not ask me.
307. Did they not ask you whether you would have any objection to their having the land for a police paddock? The application was not made to me, or to anyone else to my knowledge.
308. They did not speak to you on the subject? No.
309. *Mr. Walker.*] None of those who applied for the lease notified that that had been done? No.

Mr. Hugh M'Neill recalled and further examined:—

310. *Chairman.*] Did you ever warn Garland and party not to work upon the land which you claimed? I told them that the land was mine.
311. Did you ever object to their mining on the land they had pegged out? I told Holehan that the land was mine. He said that he would see that I did not get a lease of the land.
312. You gave this intimation to them as a protest against their going on the land? Yes.
313. *Mr. Garland.*] Yet you never objected to the issue of a lease, although the notice was put up and the pegs were put in within the prescribed time? The pegs in the ground at the present time show the portion as measured for me. I did not think that you or your agents were putting in any pegs.
314. Notices were put up in the ordinary way? I am not aware that that is so.
315. Yet you were living on the ground? I had to work. I had too much to do to be looking about after Garland and Holehan.
316. You say that you did not lodge a protest with the Department against them? No; but our solicitor, Mr. Crick, did.
317. Did you lodge a protest with them verbally? Yes.
318. *Chairman.*] After you had had a mining lease secured would you have considered yourself bound to lodge a protest with the Mining Department in order to drive men off your lease? I put in an application for the land, and the Department held my money for it. I did not think there was need for me to do anything of the kind.
319. Can you tell the Committee what kind of work was done upon the land? I can.
320. Did you sink any shafts? I cut trenches, and got the ore on the surface. I was working there when the Inspector of Mines, Mr. Slec, came to Captain's Flat, and he saw me at work.
321. Did Mr. Slec make any comment upon your position there? He did. I washed a dish of stuff while he was there, and gave him some of the gold out of the dish to bring to Sydney.
322. *Mr. Garland.*] Was not Holehan then your partner in the concern? Not at that time. He was my partner in the first application.
323. I believe Holehan first discovered the outcrop when the gold was found? No; I discovered the gold.
324. What comment did Mr. Slec make about your find? He said I had a valuable property in a silver lode, pointing to the rocks close to where the gold was got, and he advised me to stick to it.
325. *Chairman.*] Mr. Slec is the Inspector of diamond drills, I believe? Yes.
326. And I believe that he is considered an expert in mining matters? Yes; I believe so.

Mr. Hugh  
M'Neill.  
31 May, 1888.

WEDNESDAY, 6 JUNE, 1888.

Present:—

MR. O'SULLIVAN,  
MR. GALE,

MR. GARLAND,  
MR. HAWKEN,

MR. RYRIE.

E. W. O'SULLIVAN, ESQ., IN THE CHAIR.

G. C. Waldron, Esq., Solicitor, appeared on behalf of Messrs. M'Neill & Party.

Evelyn Stephen, Esq., called in and further examined:—

327. *Chairman.*] We requested you at the last meeting to produce a document? Yes, I have it with me. I will read it and hand it in. It is as follows:—

E. Stephen,  
Esq.

*Application No. 12, Queanbeyan.*

6 June, 1888.

The within application may be refused, the land applied for being a reserve and the applicants can take possession and apply afresh under the Further Amendment Act.

H.W., 11/12/84.

Submitted. Approved.—J. P. Abbott, 12/12/84. Gazette notice, 13/1/85. Applicants informed, 6/1/85.

William Garland, Esq., called in, sworn, and examined:—

328. *Chairman.*] What are you? A miner.
329. Residing where? In Sydney at present.
330. *Mr. Garland.*] How long is it since you first went to Captain's Flat? Two years this last May.
331. You then went to look after some purchases which I and others made in the Holtermann estate mining leases? Yes.
332. When did you first become acquainted with the land which is the subject of dispute, and which is now known as the Vanderbilt mine? Shortly after I went there, as I was offered an interest in the adjoining land if I would approve of it.
333. Mr. Holehan and you were prospecting in that part of the country for some considerable time? For a considerable time before last Christmas twelve months.
334. Previous to your applying for the ground Mr. Holehan told you that he had in prospecting found a silver lode? No; gold.
335. He asked you if you would join him in taking up the ground? Yes; if I approved of it.
336. You were there when Holehan did some prospecting on the ground, and you were so satisfied with the results that you made an application in your own name for it? Yes, for 20 acres.
337. You then wrote to myself and Mr. Forsythe to ask us whether we, with a half interest in the ground, would contribute half-wages to yourself and Holehan to develop it? Yes.
338. What amount of work had been done on the ground when you took it up? On the crown of the hill there were two small holes put down, which Holehan claimed to have done.
339. What would the whole amount represent? About two days work for one man.

W. Garland,  
Esq.

6 June, 1888.

- W. Garland, Esq.  
6 June, 1888.
340. On the whole ground? Yes. One of the holes is about 2 feet deep by 4 or 5 feet wide.
341. You have traversed the whole of the ground? I have been over every foot of it.
342. And you can swear positively that there is not more than two days' honest work done on the ground? Yes.\*
343. And that Holehan claimed to have done it? Yes.
344. Did you notice whether the ground was of such a character that such work could be done without much labour? I should not like to pay a man more than two days' wages to get the work done for myself.
345. On taking possession and pegging out the ground, you and Holehan went to work in a systematic manner to develop it? Yes; the day I pegged it out and applied for it we started work. I think it was on the 25th of April, 1887.
346. You worked it continuously from that date? Continuously, until we sold out.
347. What shafts did you sink upon it? We sunk one 35 feet and another 62 feet. We drove about 90 feet below that; 30 feet one way, and 60 feet another.
348. Did you do any driving in the top shaft? Yes; we drove about 10 feet and sunk a monkey shaft in it about 8 feet down.
349. Did you do any trenching on the surface? Yes; we did trenching before we found the lode.
350. The lode had not been opened out in any way before you opened it out? The silver lode had not been touched by any one. We had to clear the bush away before we could find it.
351. What lode had been opened out? A small gold lode, about 6 or 7 inches wide.
352. That was all that was opened out on the ground? Yes; and that is what Holehan claimed to have opened when he first found the gold.
353. Mr. McNeill has said in his evidence that Mr. Slee saw him working the land, and told him that he had a valuable silver lode;—what could he have referred to? He must have taken Mr. Slee up and shown him the small gold lode. He lived on the ground.
354. When you pegged out the ground did M'Neill offer any objections? None whatever.
355. M'Neill must have seen your notice? Yes; he would have to pass it about four times a day to go to his work. It was posted in the post-office and in the Warden's office.
356. What was M'Neill doing at this time? He was working in the Koh-i-noor on wages.
357. During the time you were on the field did you ever know M'Neill to do any prospecting? None whatever.
358. He was working on wages all the time? Yes; either at mining or ring-barking, or something of the kind. Finally he was working on wages in the Koh-i-noor mine.
359. During the whole of the time you were on the field did he do any work on this 20 acres? I never saw him doing any, except cutting firewood for his house outside of his mining tenement.
360. Did M'Neill at any time speak to you or your mate, and claim to own this mine? No. He has spoken to me as he passed, going to and from his work. He has asked us at times how we were getting on at the shaft; that is the only question I remember his putting in connection with the lease.
361. He never made any complaint or offered any objection to your being there? No; I never heard of any complaint being made until I saw in the *Braidwood Despatch* a notice of questions which Mr. O'Sullivan had asked in the House in connection with the lease. That was the first I heard of it.
362. That was some considerable time after you had developed the line? Yes, some months afterwards.
363. As a matter of fact, neither directly or indirectly did Mr. M'Neill in any way object to your occupying or developing this ground, although he was living on the spot? No, he did not.
364. The only objection you heard in reference to your securing the lease was from the questions asked by Mr. O'Sullivan in the House? Yes.
365. You are aware that the police authorities at one time had an idea of utilizing this piece of land as a police paddock. Did they ever inform you that they had asked Edwards whether he had any objection to their having the land for which he had applied as a police paddock? The question was asked when I was in the shaft, but it was not put to me.
366. Was the remark made to Holehan or to you? Holehan was informed that they had inquired about the matter.
367. What transpired with regard to the sale of this property; of what did it consist? There were nine gold leases and five mineral leases.
368. Was there anything else with it? A 10-head stamper, battery and engine, and everything complete.
369. What was the cost of constructing the battery? It was said to have cost £3,000.
370. I believe there was also a water right to the Molonglo River, and a water race about a mile long? Yes.
371. The whole of this property after you had developed it and had discovered a valuable silver lode, and had stacked about 200 tons of rich silver ore, realized how much? £9,000 net.
372. *Chairman.*] You are aware that it is the practice of cute miners after they had made a discovery to cover it up? Yes, usually.
373. Might not that course have been pursued in regard to the lease you have spoken of? It could not have been in respect of this land. I know every inch of it, and I could see where it had been developed.
374. Could you not walk over the whole of the ground without finding any plants? I do not think there could have been any on the line of lode.
375. *Mr. Hawkin.*] As a matter of fact you saw nothing of the kind? No.
376. *Chairman.*] But such a thing may have been there, although you did not see it? Yes.
377. Holehan told you that he had dug the holes you have referred to? Yes.
378. Are you aware that Holehan was formerly a partner of M'Neill's? Yes.
379. May he not have dug the holes when he was with M'Neill's party? No; the party was broken up when he prospected the ground.
380. Did he work with M'Neill when he first went on to the Vanderbilt hole? No.
381. Was he not one of the parties who applied for the lease? Yes.
382. Did he not work with M'Neill at that time? Very likely.
383. Might he not have been working at Edwards' expense in the original party when he made these holes? He claims never to have worked at Edwards' expense.
384. So far as you know he did not? So far as I know he did not. 385.

\*NOTE (on revision).—Of course this statement refers to work done on the lodes only, and does not take into account a couple of alluvial holes sunk by Holehan, about 8 chains to the east of the lodes.

385. Was there no work at all there that M'Neill could have claimed to have been done before you went on to the ground? The only work that was done when I went on to the ground was that which I have already referred to. There was about two days' work for one man. It would be very hard to cover any holes such as you refer to, because the ground is all rock.

W. Garland,  
Esq.  
6 June, 1888.

386. You said just now that the battery was constructed at a cost of £3,000? I was told that that was the cost; that is what it cost Mr. Holtermann.

387. Carriage and labour were higher then? Labour was no higher, though carriage may have been a little higher.

388. You did not give anything like £3,000 for it? No.

389. Have you any objection to state what you did give for it? I am not one of the purchasers.

390. Did you ever hear what the price given for it was? Yes.

391. Will you state the amount? £500.

392. You say that the fourteen leases, with the battery thrown in, fetched only £9,000? Yes.

393. Are you aware that one of the leases was floated for £100,000? Yes.

394. *Mr. Garland.*] Nominal capital? Yes. They floated 100,000 shares.

395. *Chairman.*] Is not a large proportion of the value of 100,000 shares given to them by what is now called the Vanderbilt? Yes.

396. The value of that land alone, quite apart from the battery and the other leases, would be £40,000 or £50,000? Not at the present time.

397. What do you suppose would be the value of the Vanderbilt lead at an ordinary time? I do not believe it is worth more than £20,000.

398. Supposing you were purchasing the lead owned by M'Neill what would be the marketable value? We sold it for £7,000.

399. Supposing it were put upon the open market, what do you think would be the real value under competition? We thought ourselves lucky to get what we did for it.

400. What would you put down the whole thing at now? I would not be one of the parties to purchase at £7,000.

401. Supposing you floated M'Neill and party's lease into a company, what would you consider a fair return for your labour and good fortune in finding the lode, and your efforts to develop it? If I got £2,000 for a fourth share in the lease I should think myself well paid.

402. *Mr. Garland.*] As a matter of fact you were satisfied with what you got? Yes.

403. What is your opinion of Captain's Flat as a mining centre? Outside of the Vanderbilt I would not give a great deal for any property, that is so far as it is developed at present.

404. I believe the Vanderbilt mine is likely to turn out a very valuable property? Yes.

405. It might be worth half a million yet? Yes.

406. And M'Neill and party have lost the chance of getting that mine then? Yes, I suppose so.

407. At the time you made application for the land had you any information showing you whether it was available or not? I knew that it had been refused to M'Neill because that had been some months before I took it up; I wrote down and found it was available for lease, and I leased it in the ordinary course.

408. As a matter of fact, when you leased the land you found that it had been available for five months? Yes.

409. Had you known before prospecting it that the land was rich in silver you would have taken possession of it before? Yes.

410. *Mr. Hawken.*] You say you are aware that the lease had been refused to M'Neill and party? I saw it through the *Gazette*.

411. *Mr. Rylie.*] You say that no objection was raised by M'Neill when you took possession. Did you see his pegs upon the ground? I saw the surveyor's pegs, because I accepted the survey of it.

412. Did you not see M'Neill's pegs? No.

413. You have not seen them at all? No.

414. *Chairman.*] Did you ever come across any datum pegs? No. The only pegs I saw were surveyors' pegs.

415. You have also said that after pegging out, you and Holehan worked the land continuously. Up to what date did you work it continuously? Up to the 26th November, 1887.

416. *Mr. Gale.*] You say you never knew M'Neill to do any prospecting? Yes; that is what I said.

417. But you came upon the hole and took up the lease subsequent to his residence on the spot? Yes. He had a quarter of an acre on this lease. That was taken up before we made application for the lease at all.

418. Are you not aware from rumour that M'Neill was the original prospector, and the means of developing whatever there is at Captain's Flat? I know that M'Neill's name on the field was never mentioned in connection with the prosperity of the Vanderbilt mine. Holehan's name has been mentioned though.

419. Do you say that you are not aware that M'Neill was the original prospector at Captain's Flat? He was one of them.

420. *Chairman.*] You went there two years after he had prospected? I went there in April, 1886.

421. That was two years after M'Neill and party were said to have prospected this land? Yes.

422. Therefore it was impossible for you to see them prospecting? Yes.

423. *Mr. Waldron.*] Did you mention in your evidence that anyone was in possession of the land? No.

424. And yet you saw M'Neill's house upon a portion of it? Yes.

425. Did you give any special notice to him? No.

426. M'Neill's portion of it was only a mining tenement? He had taken it up as a mining tenement, and that cannot be objected to when you take up a lease.

427. Did you know that he held a mineral license? I did not.

428. He never told you so? No; I am certain that he did not, at the time I took up the ground, hold a miner's right.

429. Then how did he come to have this quarter of an acre? Like a great many other men there, he was in possession.

430. *Mr. Gale.*] Was he not residing on a mineral conditional purchase application? No; it was a mineral lease application.

William Henry Capper, Esq., called in, sworn, and examined:—

W. H.  
Capper, Esq.  
7 June, 1888.

431. *Chairman.*] What is your position? I am clerk-in-charge of the Conditional Sales Branch of the Lands Department.
432. Can you tell us the date of the application for the mineral conditional purchase of Jason Irving? 13th July, 1882.
433. I believe that Irving never fulfilled certain conditions? No; he did not at the end of the three years lodge the necessary declaration and pay the usual instalments.
434. And the mineral conditional purchase was forfeited? Yes.
435. Then the land became open to the public? Yes; that I cannot say. It may have been notified as a reserve.
436. Could it have been notified as a reserve while it was a mineral conditional purchase? No.
437. Until the land was forfeited it could not possibly have been a portion of the quarry reserve? No; provided Jason Irving's title was good.
438. And there are indications that the title of Jason Irving was good up to the time he failed to fulfil certain conditions? Yes.
439. During the times the conditions were fulfilled the quarry reserve should not have been declared over the mineral conditional purchase? No.
440. Can you produce any document relating to the quarry reserve? Yes.
441. What is the date of proclamation? The 20th September, 1882.
442. That is subsequent to the application of Jason Irving for a mineral conditional purchase? Yes.
443. Two months later? Yes.
444. Can you give us the boundaries of this quarry reserve? Yes. They are contained in a *Gazette* notice in these terms:—

Department of Lands, Sydney, 20th September, 1882.

RESERVE FROM SALE FOR QUARRY.

His Excellency the Governor, with the advice of the Executive Council, directs it to be notified that in pursuance of the provisions of the 4th section of the Crown Lands Alienation Act of 1861, the land specified in the schedule appended hereto shall be reserved from sale for quarry.

JOHN ROBERTSON.

No. 163. County of Murray, parish of Ballallaba, at Captain's Flat, area, about 140 acres. The Crown lands within the following boundaries: Commencing on the right bank of the Molonglo River, at the south-west corner of portion 3 (John Hosking's 79 acres), and bounded thence on the north by the south boundary of that portion east to its south-east corner; thence on the east by a line south 40 chains; thence on the south by a line bearing west to the right bank of the aforesaid river; and thence on the west by that river downwards to the point of commencement.

445. These boundaries include the land given to Jason Irving as a mineral conditional purchase? That I cannot say; but suppose it does include Jason Irving's selection it would not affect the validity of the purchase, provided he had fulfilled the conditions.
446. But, as a matter of fact, the mineral conditional purchase would affect the validity of that part of the reserve? Yes.
447. You could not well declare a reserve over a mineral conditional purchase? Not while it stood good.
448. Yet the proclamation has done so? No, it has not. The proclamation refers to Crown lands only; the mineral conditional purchase was not Crown land.
449. Assuming that Jason Irving's mineral conditional purchase became forfeited would not the whole of it revert to the quarry reserve—would it be Crown land, and be subject to a fresh proclamation? I think it would require a fresh proclamation. The case of *Edolls v. Terle* to some extent governs this.
450. If the Department wrote to the applicant for a mineral lease, whose land was on this mineral conditional purchase, and told him that it could not be granted because the land was on a reserve, that would be an incorrect answer? I do not know that I quite follow your question, but so far as I understand it if what you say were done it would seem to be an error. I am an officer of the Lands Department, and am supposed to know nothing about mineral leases.
451. *Mr. Waldron.*] Is there anything in the papers to show that this application of Joseph Irving's might not have been granted? It was granted as far as the Department were concerned. It rested with Irving to fulfil the conditions.
452. The application was regular? Yes.
453. Is it not the practice of the Department to chart these applications on a map within a short time after they are made? They are not charted as a rule until they are measured.
454. What would be the average time? There is no limit.
455. Would it be within three years? No; it might never take place.
456. But it must take place before the issue of a grant? Certainly.
457. Then it is quite conceivable that a person applying otherwise in respect to the same land might not know of the application for a mineral conditional purchase? I cannot answer that question.
458. *Chairman.*] Do you not communicate with the Mines Department when you are granting mineral conditional purchases; that is to say, do you have any communication with them to ascertain whether they are covering their ground? Under certain circumstances we have; but there would be no necessity to communicate in this case, because the land is described as ordinary Crown land, open to selection.
459. As a matter of fact does the Mining Department know when and where you issue these mineral conditional purchases until after they have issued? No, certainly not.
460. They have no knowledge of your granting mineral conditional purchases? We do not grant mineral conditional purchases; if the land is Crown land the title is good.
461. Has the Mines Department any knowledge of the area covered by these conditional purchases? Mining conditional purchases cannot be made on land reserved for mining purposes.
462. But they have in this case? No; this purchase was taken up before the gold reserve was proclaimed. If the conditional purchase had been taken up subsequent to the date of that proclamation it would be a bad one.
463. But how comes it in your opinion that the Mining Department can go and issue a mineral lease? They could not do it, only on account of the gold-field having been proclaimed on the 27th September, 1882.
464. *Mr. Gale.*] The gold-field extends over an area of the quarry reserves? Yes.
- 464½. If the mineral conditional purchase taken up by Jason Irving was within the boundaries of the gold reserve proclaimed in September, 1882, would it become Crown land, or become a portion of the gold reserve, in the event of it becoming forfeited? It would become Crown lands.

THURSDAY,

THURSDAY, 7 JUNE, 1888.

Present:—

Mr. RYRIE, | Mr. GARLAND.

E. W. O'SULLIVAN, ESQ., IN THE CHAIR.

G. C. Waldron, Esq., appeared on behalf of Hugh M'Neill and party.

Mr. Edward Holchan called in, sworn, and examined:—

465. *Chairman.*] What are you? I am a miner.
466. Where are you residing at present? Captain's Flat is my address.
467. *Mr. Garland.*] I believe you were amongst the first party who went to prospect at Captain's Flat? I was one of the first.
468. Who went with you at that time? Hugh M'Neill and William Harkness.
469. You went at the same time? Yes.
470. You and Harkness and M'Neill went in the same party? Yes; we were partners.
471. At that time, or some time afterwards, you prospected the piece of ground now known as the Vanderbilt ground? Yes.
472. Was M'Neill a partner with you then? No.
473. *Chairman.*] Can you fix the date? No; we never kept a diary.
474. Could you mention it approximately? I could not.
475. How long do you think it was? About four years ago.
476. That would be in 1884? I could not say exactly; I think it must have been.
477. Had you dissolved partnership with M'Neill and Harkness then? Long before that.
478. *Mr. Garland.*] When you first went on to this piece of land which is the subject of inquiry it was virgin ground, was it not? There was not a sign of a pick ever having been put into it.
479. The surface had not been broken? No; not at that time.
480. Will you state what took place after you prospected the ground, it being virgin ground? When Mr. Holtermann set down his battery we were all along the Flat, and I asked several to give me a hand to try to find something better, but they all declined. However I got one man, Mr. McGrath; he agreed to prospect with me; but gave it up after two days. He said it was too far to carry the stuff. I said I would stick to it myself. It was costing me the same amount to be idle as it was to work. I worked on the land for between three weeks and a month single-handed.
481. *Chairman.*] What did you do? I sank shafts up the gully, getting reef gold; then started cutting up a hill until the gold ran out. Then I cut back and found the vein.
482. *Chairman.*] What depth did you sink the shafts? The depths were about 7 feet.
483. You are quite positive of that? Some may be over and some less than 7 feet.
484. How many of the shafts would be 7 feet deep? There is one that I am sure is 7 feet, and the others are more or less.
485. How many shafts are there? Three shafts, one of which will be 7 feet; I could not be exact; I took no measurement.
486. *Mr. Garland.*] Was M'Neill with you at this work? No.
487. *Chairman.*] How did you come to apply in 1884 with M'Neill and party? We will come to that directly.
488. *Mr. Garland.*] How did you take M'Neill in as a partner? When I found the lode I went down to him with the dish of stuff in my hand, and I said, "I have found the lode, and I think it is very good."
489. *Chairman.*] What part of the year was it—was it in the winter when there is frost and snow? No, it was not winter; it was mild weather.
490. Then it was at the beginning or the end of 1884? It was very close to the winter. I went away to do a job of carpentering at Braidwood, and I remember that the timber was frosty every morning when I began.
491. That would be in the autumn of 1884? I cannot say exactly.
492. *Mr. Waldron.*] How long had you been on the place before you spoke to M'Neill? I do not know; I suppose a few weeks.
493. *Mr. Garland.*] You then saw M'Neill? I went to his place and called him out. I had a prospect in the dish. I said, "The vein is pretty good, and we had better secure the ground." I said I had a promise of a job from the Government to do a bridge at Wagga Wagga, and that if I got the job I should earn a few pounds, and be able to put a good shaft down when I came back. M'Neill said to me, "Do you think this is any good?" I said, "It is good enough for me, but I do not want to force you to take shares in it. I can get plenty to come in with me." I also went to Mr. Edwards, at Braidwood, and I brought both of them on to the ground. I said to them, "There is the shaft, and there is the vein. There are my tools; you can take them and prospect for yourselves. You will never have to say that I have run you into anything which you might regret." They went and tried the ground at once.
494. *Mr. Waldron.*] What time elapsed between your coming to M'Neill and you going to Mr. Edwards, and bringing them on to the ground? I think the two things occurred on the same day.
495. *Chairman.*] But does not Edwards live 26 miles away? He was at Captain's Flat at the time. After trying the ground they appeared to be satisfied. I said, "I want only one-fifth of this, and by your paying for the taking up of the ground M'Neill and you can have the rest between you." All that it cost Edwards was £9 2s. 6d.
496. *Mr. Garland.*] M'Neill has sworn that he was the discoverer of this land? I can bring up fifty witnesses to prove that he was not. As far as I know, M'Neill has not discovered anything in Captain's Flat yet.
497. *Chairman.*] You say that you discovered the gold lode? Yes.
498. Then is it not possible that M'Neill may have discovered a silver vein? I do not know what he claims to have discovered, but I have not heard of his discovering anything.

Mr.  
E. Holehan.  
7 June, 1888.

- Mr. E. Holohan.  
7 June, 1888.
499. It is quite possible that after you had been at work another man might have come along and discovered the same vein? I have prospected all along the land, and I have found no work done except that which I have done myself.
500. After what you say happened you went away? I did.
501. How long were you away? Seven months.
502. Is it not the practice of old miners to occasionally cover up a find which they are anxious that other people should not see? I have been twenty years prospecting, and I have never done such a thing yet; I have never seen any mate of mine do it.
503. *Mr. Garland.*] Would it be possible where the silver lode occurs for any work in a practical sense to be done without your detecting it, no matter what effort might be made to conceal it? I do not think it would be possible to avoid detection. It might be possible in alluvial country, but it would not be possible in country like that.
504. *Chairman.*] Supposing a man had sworn that there were no shafts sunk, and that there was very little work done on the land here and there, you yourself having sworn that three shafts were sunk on the ground to which you are now referring? I should reckon that the man who said so had made a mistake.
505. In the same way you yourself may be making a mistake? I might be making a mistake as to the work on the alluvial land, but I cannot be making a mistake as to any work claimed to have been done where the lode is.
506. *Mr. Garland.*] The shafts you claim to have sunk are on the alluvial flat? Yes. I also opened up the lode on the hill.
507. It would be impossible to do a day's work on the hill without the result of that work being detected? Yes.
508. Even though they were covered up with earth? It would be a hard job to get earth. It is not likely that if I were prospecting the ground I should pass over many yards unnoticed.
509. *Mr. Waldron.*] When you took M'Neill and Edwards on to the ground did you show them the shafts you had sunk? I showed them nothing but the vein.
510. *Chairman.*] Will you continue your narrative of what took place? Yes. After Edwards had paid the necessary money in connection with the taking up of the land, we all paid our expenses equally. There were Geary, the two Edwards, M'Neill, and myself. McGrath would have nothing to do with it. M'Neill and I rode into Queanbeyan and took up the land. I saw my name in the application. I said to M'Neill, "I must now earn some money to prospect this ground; look out that nothing occurs to it before I come back." He said, "It will be all right, wherever you go." I said, "That is all I want; if any money is required while I am away I will send it." I sent a cheque to Edwards from Wagga. When I had finished work there, I came back with the intention of thoroughly prospecting the ground. I was prepared to do so at the time. When I came on to the place I found that I had no interest. I went to M'Neill and asked him what was the cause of it. He told me that Edwards had advised him to do what he had done. I said, "I did not think that anyone could advise you against me after what I had done." However it was so. I went to Edwards, and accused him of doing it. I went into his bar at Braidwood. He said to me, "It is M'Neill's doing." I said, "Between both of you you have done the trick anyhow; but you had better watch the land, because I will get it if I possibly can."
511. Granting that your story is perfectly true, you went away under the belief that you had made a *bonâ fide* application in your name? Yes; I believed that a *bonâ fide* application had been made.
512. Supposing that *bonâ fide* application were refused? I left it to my mates to look after me. They assured me that they would do so.
513. Supposing they did their best to comply with the law as far as they were concerned, and yet were thrown out of the land, suppose they made their application and were refused, would not your whole argument fall through? They passed me by when they made the second application.
514. Suppose the application was refused through no fault of theirs, then, so far as they are concerned, they cannot be held in any way responsible for it? Certainly, I do not mean to say they are.
515. *Mr. Garland.*] But if they had been honorable men, seeing that you had made the discovery, you would have expected them, in making the second application, to have included your name? I got an assurance from them before they went away that they would do so.
516. *Chairman.*] When did you ascertain that your first application had fallen through? Not until I came back from Wagga Wagga.
517. What did you understand then? I found that a second application had been made, and that three of us had been put out and strangers taken in.
518. But would not all the work you had done go for naught in the face of the fact that your application was refused? From a legal point of view of course it would.
519. I suppose they started afresh when they made the fresh application, leaving your name out. Up to that point you had been connected with them? There was no fresh party. I do not know that you can say a fresh party made the application.
520. Your connection with the first application in your opinion gave you a moral claim to a part in the second application? Yes.
521. All you have told us hitherto led up to the failure of the first application. What connection had you with the claim after that. So far as you are concerned you knew nothing about the second application? I knew it was made, and that was all.
522. You did not know what became of it? I did some time afterwards. I saw from a local paper that it was refused.
523. *Mr. Garland.*] Who was the prospector of the Koh-i-noor? I was.
524. Did M'Neill do any prospecting there? No. We were partners at that time.
525. Did you discover both the Koh-i-noor and the Vanderbilt leads? Yes, and also Holtermann's quart-crushing mine.
526. You have been on the field all this time? Yes, until my funds have been exhausted and I have been compelled to get some work.
527. Is there any known vein on the field that has been opened by M'Neill? Not that I am aware of. He has helped to work a claim after it has been found.
528. You would not consider M'Neill a prospector? Not as finding the vein himself.
529. His work has been nearly all confined to wages? Yes, pretty well. I cannot see where he has ever done any prospecting.

Mr.  
E. Holehan.

7 June, 1888.

530. Then any claim he might make to be a prospector would be a bogus one? I should think so. I do not know that he has done any prospecting for which he was not paid.
531. Is not a man called a prospector when he is working on wages? No.
532. *Chairman.*] M'Neill was one of the original prospecting party who opened the Flat as a field? Yes.
533. Although he had not the good luck to discover any special vein? No.
534. Did he belong to any party as a contributing shareholder when they discovered a vein? Certainly, as far as his labour was concerned, but not as a money contributor.
535. You were acting in the interests of M'Neill as well as your own when you discovered the Koh-i-noor? Yes.
536. Have you ever seen M'Neill working on the Vanderbilt ground at any time, except to try a dish of dirt? I have never seen him work continuously at any time.
537. When you came back from Wagga Wagga you found the ground in much the same condition as when you left it? To the best of my belief there was no change. I think no prospecting had been done. I am sure that there had been no work.
538. *Mr. Ryrie.*] Did you ever see M'Neill's pegs in the ground? I saw pegs which M'Neill and I first put into the ground; but I do not admit that they were M'Neill's pegs.
539. *Chairman.*] You discovered the lead and M'Neill and Edwards joined you, and you put in your pegs as applicant for a mineral lease? Yes. I held the land under a mineral license before I held it under a mineral lease.
540. If any witness has stated that he did not see the datum peg he must be in error? Yes. The peg was in the ground, although the witness might not have seen it.
541. *Mr. Garland.*] M'Neill says in his evidence
542. To your knowledge did he mark out the land in virtue of a mineral license? Not to my knowledge.
543. As a matter of fact M'Neill says he pegged out the land in virtue of a mineral license, and subsequently applied for it as a lease? He pegged out the residence tenement under a miner's right. I helped him to get the timber and to build the house.
544. Then the land he holds there is not in virtue of a mineral license? I do not think so. I think if he had had a mineral license I should have known it. He pegged out the residence long before there was any prospecting on the Vanderbilt hill.
545. *Mr. Ryrie.*] The residence tenement was on the lease? Yes.
546. How many years was it before you discovered the vein? A good while, because at the time we were only just starting Holtermann's Gold-mining Company. They were getting their machinery erected.
547. Are you sure that M'Neill took out a residence under his miner's right long before the land was prospected or applied for? I am sure of it.
548. And that his house was placed there? Yes.
549. How long before? It must have been a long time. M'Neill told me that he was thinking of getting married, and he asked me if I knew of any good place which he could peg out as a residence allotment. I took him across the flat, and I said, "This is about as nice a place as any about the flat." He asked me to put up the house, and I did so.
550. *Chairman.*] As a matter of fact you can tell us nothing about the second application? No.
551. Beyond the fact that you claim that you ought to have been included in it? Yes.
552. *Mr. Garland.*] In regard to the silver lode, now the Vanderbilt lode, which gives value to the land, who first opened it? I think your brother and myself.
553. When you found that silver lode was valuable what did you do? I went to your brother and told him about it, and had some assays made privately myself.
554. *Mr. Waldron.*] This was before application was made by William Garland? Yes. I met M'Neill every day when we were working on the land, and he never said anything to me about it.
555. How long did you work upon the land from the time you opened it? Some five or six months. We sunk a considerable length of shaft.
556. You sent a payment to Edwards while you were away at Wagga? Yes.
557. What was it for? To pay my mining liabilities.
558. What would they be? My liabilities in Captain's Flat.
559. Had he applied to you for anything? I told him when I was leaving that if any expenses occurred from time to time I would send him money if he would let me know.
560. Did he write to you for money? Yes.
561. What amount did you send him? £5.
562. You say that when you discovered what you thought to be a payable vein you went at once to M'Neill, and on the same day M'Neill and Edwards looked over the land and agreed to take it up? Yes.
563. Then you pegged it out at once? Yes.
564. At that time did M'Neill hold a mineral license? I could not say.
565. You claim to have held the land at that time under a mineral license yourself? Yes.
566. What season of the year was it when you were away at Wagga Wagga? I was away from two to seven months in a part of the winter and the summer.
567. The first application was made in August, 1884, I believe? I could not say about the day, but I suppose it would be something like that.
568. When you came back you found that the application to which you were a party had been refused, and that the land had been applied for again? Yes.
569. When did you know that the land was open to be taken up as a mineral lease? I did not come here prepared with dates.
570. *Mr. Garland.*] Was it before you pegged out the ground? Yes.
571. As a matter of fact the land applied for by William Garland and party was included in the application? Yes.
572. *Mr. Waldron.*] Did it not include the land where M'Neill lives? I do not think so. You cannot include a man's private residence.
573. As a matter of fact was it not included? I do not think so.
574. Did you put in the pegs for the application by William Garland? I helped him to do so.
575. Did you see the datum peg? No.
576. Did you see M'Neill's pegs? There was a peg on the south-west corner, and a peg in the north-east corner, but I do not know whose pegs they were.

- Mr. E. Holehan.  
7 June, 1888.
577. Did you put in the pegs with M'Neill? Yes.
578. Did you not see the same pegs then? I could not say that they were the same pegs.
579. Mr. Garland.] As a matter of fact might not these pegs be those of M'Neill's second application? Yes.
580. Chairman.] The first time you pegged out the land did it include M'Neill's residence area? It included part, but not the whole.
581. The second time you pegged out with William Garland did you peg out the same area as before? It might not have been the same. We pegged out according to the survey pegs the second time.
582. Mr. Ryrie.] Was not the land surveyed according to M'Neill's first application? Yes; but the survey lines might not strike through pegs.
583. So far as you can gather, the land you pegged out the second time was the same as that which you pegged out when you were with M'Neill and Edwards? I cannot swear that it was the same land.
584. But to the best of your belief it was? Yes.
585. Mr. Waldron.] You say that the first pegging included a portion of the residence area? Yes.
586. Then the second must have done the same? Yes; I suppose so.
587. In pegging out the second time you followed the survey pegs which had been put in on M'Neill's application? Yes, certainly.
588. You were in the party with William Garland which took up the ground which had been surveyed on M'Neill's former application? Yes.
589. You sold your interest in it? Yes.
590. What was the price you obtained for it? I got £1,700 odd, and I held one-fourth interest. That was for the 40 acres.
591. To whom did you sell? To the Vanderbilt Company.
592. Did you have any interests in excess of the cash price in the shares of the Company? None.
593. Mr. Garland.] M'Neill told us this? If he stated such a thing he stated what was not true.
594. Mr. Waldron.] Is there any difficulty in finding evidence of the work you did on the land? No. There are four or five men in Sydney at the present time who are prepared to give evidence with reference to it.
595. What work was done prior to M'Neill's coming on to it? It was chiefly on the alluvial ground, and it may have been washed away. There would be no difficulty in discovering what was done on the rock.
596. What would be the extent of the work you had done on the rock? I should have to make a calculation. I suppose it might represent a few weeks work. A portion of the time I may have been carrying my pick on my shoulder, but at other times I was working with a hammer and pick, and a shovel.

TUESDAY, 12 JUNE, 1888.

Present:—

MR. O'SULLIVAN,  
MR. ABIGAIL,

MR. HAWKEN.

MR. GALE,  
MR. GARLAND,

E. W. O'SULLIVAN, ESQ., IN THE CHAIR.

G. C. Waldron, Esq., solicitor, appeared for Hugh M'Neill and party.

William Henry John Slee, Esq., called in, sworn, and examined:—

- W. H. J. Slee,  
Esq.  
12 June, 1888.
597. Chairman.] What is your position? I am Inspector of mines, and Superintendent of diamond drills.
598. Can you produce any papers in this case of M'Neill and party? I have reported with regard to Captain's Flat silver-field.
599. What was your opinion of the flat? I suppose you mean as a silver-field. I reported on the field in 1885, when it was worked for gold. I was the first to inform them that they had silver which they had thrown away. I reported generally on the field in February, 1885.
600. What was the nature of your reports? It was with reference to general matters; I have made two reports with reference to Captain's Flat.
601. What is your opinion of the flat as a mining centre; is it likely to last? I think so; I have every reason to believe so.
602. Have you any recollection of the different mines there? I was there only two or three months ago.
603. Do you know the Vanderbilt lode? Yes; I was over them.
604. What is your opinion of that property? I have not seen it since it has been open. I saw it first when it was Irving's selection.
605. What is your opinion of the hill as a silver lode? When I reported upon it only gold had been found.
606. Mr. Garland.] The silver lode had not been found? No.
607. Chairman.] You were there a few months ago? Yes; but I was not over this land.
608. You did not go over the Vanderbilt hill when you went up the last time? No.
609. You think, however, that Captain's Flat is likely to be a permanent silver-field of great value? I think so.
610. Do you remember ever giving a report to the Lands Department against the granting of Irving's conditional purchase? Yes.
611. What induced you to give that report? I had tried some prospecting on the land myself. I was there with another man who took out some prospects; I washed them and found gold in them. I reported to the Department of Mines, as it was my duty to do, drawing attention to the fact, and saying that I thought a mineral conditional purchase should not be allowed.
612. You wanted the land reserved as a gold-field? Yes.
613. But the Lands Department went on with the mineral conditional purchase? That I cannot say. My report was sent to the Department of Mines.
614. Did you report in favour of the granting of a quarry reserve? I reported that a reserve might be made for limestone on that same hill.

615. I suppose you were not aware when the reserve was marked out that it included a mineral conditional purchase? No. W. H. J. Slee,  
Esq.
616. *Mr. Waldron.*] When did you first report upon the matter? In March, 1885.
617. What was the nature of your report at that time, that is, the general nature of it? I reported generally on the field. I reported that instead of there being quartz-veins as there were supposed to be there were gossan lodes. Instead of its being a gold-field it was likely to turn out a large silver-field. 12 June, 1885;
618. You know at the time of the mining conditional purchase application of Jason Irving? I did.
619. And in the course of your report you referred to it? I did.
620. Do you know a man named M'Neill up there? Yes. He showed me where the land was.
621. That was in March, 1885? Yes.
622. He was prospecting it? Yes, he was prospecting there; but there was a mineral conditional purchase application at the time.
623. Have you a distinct recollection of referring to the land as being silver-bearing, in a conversation with M'Neill? No; I referred to gold being found on this particular piece of land; but Montgomery's land, now called the Kooch-i-noor, was the only mine at work at that time. I referred to its being silver-bearing. I reported with reference to this particular mining conditional purchase that the land was gold-bearing, and I requested that it might not be sold.
624. You consider that the whole nature of the district was silver-bearing? The whole nature of the district was mineral-bearing silver, gold, and copper.
625. Then if M'Neill has sworn that you referred to the place where he was working as being silver-bearing, it is likely that he would be right? I referred to the place where he was working as being gold-bearing; but I referred generally to the field as being gold and silver bearing.
626. *Mr. Garland.*] If M'Neill has sworn that you pointed out what is now the silver lode on the Vanderbilt, and told him that he had a very valuable silver property would that be true? No. What I pointed out to him was the gold in the land which he had prospected. I sent some prospects down to the Department, and said that probably the whole district would turn out to be a silver-field.
627. Did you not pick out any particular lode close by? Not as a silver-bearing lode.
628. *Mr. Waldron.*] M'Neill says in his evidence,—
1244. A Government official? Yes, Mr. Slee. He said to me, "M'Neill, you have a nice bit of silver lode there; stick to it and it will be real good."
- No; I did not say that. I might have said to him that if the conditional purchase were disallowed he ought to stick to the land and try to get it. No doubt I said something to that effect.
629. *Chairman.*] Why ought he to stick to the land. If the conditional purchase were disallowed he would have as much right to it as any one else—because it was valuable, I suppose? Well, gold had been found on it.
630. From what you said, he might draw the inference which has been named? I am quite sure that I did not say anything about silver on this side of the creek. As a matter of fact, silver had not been discovered there.
631. *Mr. Gale.*] Were you the first person who discovered the presence of silver at Captain's Flat? I was the first person to draw Montgomery's attention to the fact that they were not working quartz-reefs, but gossan lodes containing silver. I told them the stuff which they had thrown over the shaft was actually silver ore. I took some silver ore and had it assayed.
632. *Mr. Garland.*] That was on the Kooch-i-noor lode? Yes.
633. *Chairman.*] You remember in 1885 when you looked over the Vanderbilt lode and saw some indication of gold-bearing stuff, did you see any prospecting work about there? Yes; there were some holes here and there. M'Neill told me that he did all the prospecting.
634. Did you see any shafts sunk? No; I do not think so.
635. How deep would the holes be? They were all shallow holes.
636. Was M'Neill actually working the ground when you spoke to him? I came on to the ground and saw the man at work, and asked him what he was doing.
637. *Mr. Hawken.*] What was the nature of the ground? It was rocky on the surface, but there were little soft veins running right through the rock containing gold.
638. *Mr. Waldron.*] You know the boundaries of the 20 acres pointed out by M'Neill? No; I could not say that I do; but I went all over the land.
639. Some portions are alluvial and some are rocky, I suppose? The lower portion going towards the creek is covered with alluvium, but in the upper portion, that is on the middle of the hill, the rocks come right out to the surface.
640. I suppose the work you principally saw there would consist of the holes. You do not remember seeing any work below? No. Of course there might have been work there. The work was done when the land was under conditional purchase application.
641. *Mr. Garland.*] At the time you saw M'Neill, what is now known as the Vanderbilt lode was not discovered? I saw the lode on the top, but it was not discovered as a silver lode.
642. No work was being done on it? No.
643. What M'Neill was prospecting on the hill was a little narrow gold-vein? It was a narrow vein containing gold. There were three or four places where we tried and got gold on the length of the hill.
644. *Mr. Gale.*] Assuming that M'Neill was prospecting for gold was it subsequently discovered that this identical piece of land was rather silver-bearing? I believe that has since been the result. But in my report I stated distinctly that I recommended the Minister for Mines to disallow the granting of the mineral conditional purchase because the land contained gold, as I thought, in payable quantities. I mentioned nothing about silver in my report at that time.
645. It was subsequent to that, then, that you discovered that there was silver there? Yes. That was at Montgomery's mine.
646. *Mr. Abigail.*] Effect was given to your report afterwards by refusing a mineral conditional purchase? Yes, I have read so since.
647. *Mr. Waldron.*] You say that effect was given to your report by the refusal of Jason Irving's application. You cannot say what were the reasons of the refusal? No. My report was sent to the Lands Office with a strong recommendation that the mineral conditional purchase should not be granted.
648. But you are not prepared to say that it was in consequence of this report that the application was refused? No; I can only say that I reported upon it.
- 649.

- W. H. J. Stee, Esq.  
12 June, 1888. 649. *Mr. Abigail.*] Do you know whether the Minister approved of your report, and sent that approval on to the Lands Department to influence them in granting a refusal? I believe he did so.
650. That was in 1886? Yes.
651. *Mr. Waldron.*] The mineral conditional purchase was applied for in July, 1882? It might be. I was not specially sent to report upon it. I gave a general report of the field.

Evelyn Stephen, Esq., recalled and further examined:—

- E. Stephen, Esq.  
12 June, 1888. 652. *Chairman.*] Have you the papers you were directed to produce? Yes. I produce all papers in connection with the application of William Garland for a mineral lease at Captain's Flat; all papers in connection with the application of Lewis and Holtermann for a mineral lease at Captain's Flat; all papers in connection with Mr. J. H. Blatchford's application for three mineral leases of 20 acres each at Captain's Flat; and all the papers, including letters written by the Department, in connection with the first and second applications of M'Neill and others at Captain's Flat.
653. *Mr. Waldron.*] With regard to Blatchford's application for the three 20 acres, have you not in your experience seen a great number of mineral lease applications granted at as low an area as 10 acres when the whole of the area of 20 acres has not been available? A considerable number.
654. That is to say, when 20 acres were applied for, it being found by the Department that 20 acres were not available, and that something less than 10 acres was available, you have known cases where the Department has given a lease of the available land? Yes. What I intended to convey to the Committee before in my evidence was that that course would have been pursued in this case, only that at the date of the refusal of the application the whole area appeared to be available, and in consequence the application was refused to enable the man to take up the whole land afresh, which might obviate the necessity of his paying a fresh survey fee.
655. The Department having refused an application of 20 acres in this case did not in accordance with its ordinary practice grant a lease for the available portion in the interest, we would say, of the applicant, that he might apply again to take up the 20 acres? There was no departure from the practice of the Department. The usual practice of the Department in these cases is this: If at the time of the refusal of the first application the portion embraced in the reserve had not been available, the applicant would have been asked if he would accept a lease of the smaller portion of about 9 or 10 acres, and he would have got that lease granted. But as the Mining Act Further Amendment Act had been passed the reserve became open to lease, consequently the application was refused to enable the applicant to take up the whole area, the whole area being apparently available. It is never the practice to grant a lease of a small portion of the land when the whole area would be available if the application was refused.
656. At the date of the first application as a matter of record no portion of the land was available; one-half was included in Jason Irving's mineral conditional purchase, and the other half was included in a quarry reserve? In reality at that time no portion of the land was available; Jason Irving's mineral conditional purchase had not been surveyed at the time.
657. I mean that as a matter of record at the time of the first application by M'Neill no portion of the land applied for was available? No portion was available.
658. But the Under Secretary pointed out to Jason Irving in refusing his application that it was a part of a reserve, and pointed out to M'Neill that the application was refused because the whole of the land applied for was part of a reserve? Yes, because it was on a reserve.
659. And there is this further matter of record, that the intimation by the Under Secretary to M'Neill was incorrect because a portion of the land was not on a reserve, but was included in Jason Irving's mineral conditional purchase? I am not in a position to say yes or no to that question, because I do not know the law. The *Gazette* notice of the reserve takes no notice of Jason Irving's application, because that application had not been measured. Consequently it appeared to the Department that the whole land as comprised in the *Gazette* notice was part of the reserve. Then afterwards Jason Irving's application for a mineral conditional purchase was measured. That cut into this reserve. The question is one of law, of which I know nothing, that is, whether Jason Irving's conditional purchase could be declared a reserve while it was in force, and also the point whether the mineral conditional purchase becoming cancelled for non-fulfilment of the declarations the land comprised in it would fall into the reserve without a fresh proclamation.
660. *Chairman.*] Are you not aware that the Privy Council has decided that all forfeited conditional purchases should be Crown Lands? I know nothing of the legal aspect of the case.
661. *Mr. Waldron.*] The Under Secretary at the time of the refusal of the first application intimated to M'Neill that the application was refused because the land was on a reserve, but between the time of the application and the time of its refusal the new Mining Act had been passed? Yes.
662. M'Neill made his second application shortly after the intimation of the Under Secretary? Yes.
663. At the time of the refusal of the second application, was the ground of refusal stated to M'Neill? Immediately after the gazetting of the refusal it was.
664. The ground of refusal was stated? The ground of refusal given was that the land was not available. Here is a document dated the 12th November, 1886. It is in these terms:—
- Gentlemen,  
I am directed by the Secretary for Mines to inform you that your application for the mineral lease noted in the margin has been refused, the land being unavailable.  
I have, &c.,  
GERARD HERRING.
665. That, I take it, was the notice which M'Neill received that his second application had been refused? That is the notice which M'Neill appears to have sworn that he never received.
666. As a matter of fact, was any portion of the land available at the time of the second application? Yes; a portion of it was on a quarry reserve, outside of Jason Irving's mineral conditional purchase.
667. Was any intimation whatever given to M'Neill at the time of the notice which I have just read that this land was available? No.
668. Yet you say that the portion of the land was available at that time? Yes.
669. And the course pursued in other cases of informing applicants that although the whole of the land for which they have applied is not available a portion of it is available, was not adopted in this case? No.
670. *Mr. Abigail.*] Who was the Minister for Mines at that time? Mr. Fletcher.

671. Is it the custom of the Department to deal with any application for a lease of less than 20 acres, unless the permission of the Minister is obtained before applying? No; in such cases the application is refused. H. Stephen,  
Esq.

672. Before an application is made for less than 20 acres an application must be made to the Minister? Yes; otherwise the application would be refused. 12 June, 1888.

673. In this case M'Neill did not apply for any less area? No.

674. *Mr. Hawken.*] I understood you to say that in some cases, where a less quantity of land was available than that applied for, notice was sent to the applicant that such area could be had;—is that the case? That is done frequently in cases where the area, not available at the date of application, is still not available at the date of refusal.

675. Can you state the peculiar circumstances which prevented the Department from sending this applicant the customary notice with regard to the less quantity of land being available? Because the whole area was available at the date of refusal.

676. *Mr. Waldron.*] Then, as a matter of fact, the application was in a worse position as far as notice from the Department was concerned, because all the land he had applied for was available at the time of refusal than it would have been if a less amount had been available at the time? If a less area had been available he would have received notice of it.

677. Because the whole of the land was available he was not notified? The custom to which reference has been made is not invariably adopted.

678. In this case, because the whole of the land applied for was available at the time of refusal, the applicant got no particular notice? I cannot say that he got no notice because the whole of the land was available.

679. Had there been only 10 acres available at the time of refusal would he have got notice that that area was available? The application in that case would not have been refused at all.

680. If only a portion of the land had been available at the time of refusal, as I understand, he would have received a notice, but because the whole of the land was available he received a notice in these terms, that the application was refused, the land not being available? If at the time of the application a portion of the area applied for had not been available and had remained unavailable until the date of refusal, the application would not have been refused, but probably the applicant would have been asked if he would accept the smaller portion rather than have his application refused.

681. That is the practice? It is the practice, but not the invariable practice.

682. *Mr. Abigail.*] Is this not the case, that the refusal was made because the land was not available at the date of taking possession? A small portion of it was available, but not all.

683. *Mr. Gale.*] Would it not have been more in accordance with the facts of the case and the usage of the Department if this notification had been worded thus: "The land being unavailable at the time of application?" Yes.

684. *Mr. Waldron.*] Would not that have been especially the case from the Under Secretary communicating the reason for the refusal of the first application? I do not think that would have any further effect upon the matter.

685. In making an application for mineral lease should not the application state whether the land is occupied or whether any right in it is claimed by other people? In making an application for lease the applicant is asked this question: "Does anyone claim or appear to be in possession of the land applied for, or any portion of it?"

686. Have you Mr. Garland's application? Yes.

687. What is the answer to the question in that application? The answer is "No."

688. Does not the Department require a document distinct from the application to the same effect? This document is distinct from the application.

689. That is the document then? Yes.

690. Can you say what fees were paid by M'Neill on his first application, and what fees were paid by him on his second application? On the first application he paid £5 rent and £4 survey fees, but the £5 paid as rent appears to have been refunded. In the case of the second application £4 was lodged for rent, and the survey-fees were also £4.

691. Have the fees on the second application been returned? I do not see any application for them.

692. There is a plan published by the Mines Department showing this quarry reserve. I believe that that plan has been put before the Committee? Yes.

693. I see it was published on the 8th October, 1886? Yes; it appears to have been.

694. Does this plan represent the exact position of the quarry reserve? Yes. According to the plan the reserve would appear to embrace the whole area applied for.

695. Do the letters Q. R. on this plan appear to include 81 mineral lease and 117 mineral lease? Yes. It appears to embrace the whole lot up to the eastern bank of the river.

696. To what mineral lease does this 117 refer—is that Lewis and Holtermann's? Yes.

697. What is the date of the granting of Lewis and Holtermann's application? The 31st August, 1885.

698. But this plan is dated the 8th October, 1886? Yes.

699. Is it likely that the quarry reserve as shown here is intended to cover an application granted by the Executive a year before? It certainly appears to cover the application according to the map.

700. *Mr. Hawken.*] If the reserve is as stated by you would not it make the mineral lease of Lewis and Holtermann illegal, as being granted on a reserve? The fact of Lewis and Holtermann's lease being on a reserve would not make it illegal.

701. *Chairman.*] I suppose the application was made after the passing of the Mining Act Further Amendment Act? Yes. The date of their application is the 16th February, 1885. The Mining Act Further Amendment Act was in force at that time.

702. So that Lewis and Holtermann could take up a mining lease on a reserve? Yes; anyone could do so at that date.

703. *Mr. Waldron.*] This plan issued from the Department makes no reference to Jason Irving's mineral conditional purchase? The date of this map is the 8th October, 1886; the mineral conditional purchase lapsed on the 27th February, 1886, consequently when this map was issued the mineral conditional purchase was not in existence.

704. Yet you say that looking at the map the quarry reserve appears to embrace 81 mineral lease, and 117 mineral lease? Yes. That portion of 117 mineral lease which is on the eastern side of the river.

- E. Stephen, Esq.  
12 June, 1888.
705. *Mr. Abigail.*] Have you the Minister's minute approving of the first refusal? Yes. It is already in evidence.
706. Have you the Minister's minute with regard to the refusal of the second application? Yes. It is in these terms:—"It is recommended that the application be refused, the land not having been available at date of applying, and the applicants be informed that they may reapply." Submitted and approved by Mr. Fletcher.

WEDNESDAY, 13 JUNE, 1888.

Present:—

MR. O'SULLIVAN,		MR. GARLAND,
MR. GALE,		MR. RYRIE.

E. W. O'SULLIVAN, ESQ., IN THE CHAIR.

G. C. Waldron, Esq., Solicitor, appeared on behalf of M'Neill and party.

Evelyn Stephen, Esq., called in and further examined:—

- E. Stephen, Esq.  
13 June, 1888.
707. *Mr. Waldron.*] Was any notice sent in accordance with the Minister's minute in regard to the refusal of the second application; was any intimation given to the applicant in terms of that minute? No.
708. That minute refers to what is known in the Department as a beforehand notice? Yes.
709. Can you give any reason why that information in accordance with the minute was not given to the applicant? No.
710. Then, in fact, the recommendation of the minute was not carried out? No.
711. *Mr. Ryrie.*] Why was it not carried out? I cannot say.
712. Was it intentional or otherwise? I am sure it was not intentional; it was an omission.
713. *Mr. Waldron.*] The notice in evidence, of the 12th November, 1886, is the only notice that was sent? Yes.
714. And that one is the notice referred to in your answer to question 172? Yes.
715. Referring to question 170, do you note the addition of the words "The land not being available" to the form of notice which you put in as your answer? Yes.
716. Will you produce a copy of William Garland's, and Lewis and Holtermann's applications, and any papers in connection therewith? Yes. [*Vide Appendices B 1 and 2.*]
717. *Chairman.*] It has been admitted by M'Neill that he received a document dated the 12th November, 1886, notifying that the ground was not available. But it is denied by him that he ever received any document stating that the land was afterwards open to mineral lease. Have you any knowledge of any document being sent to M'Neill and party notifying that the land was then open to mineral lease? No.
718. You find no record in the Department to that effect? No.

Mr. William Harkness called in, sworn, and examined:—

- Mr. W. Harkness.  
13 June, 1888.
719. *Chairman.*] What are you? A miner.
720. You are one of the prospectors of Captain's Flat? Yes.
721. *Mr. Garland.*] You went to Captain's Flat with M'Neill and Holehan? Yes.
722. Can you tell us who was the prospector of the particular ground which is now known as the Vanderbilt? It was not looked at for a long time after we first went to Captain's Flat.
723. But who first prospected the ground? The first who went to the hill, to my knowledge, was a man named Irving. He never found anything that I know of.
724. Who were the first to find the gold lode on the hill? Holehan and M'Grath.
725. Were you a partner of Holehan's at that time? I was not.
726. Were you partners with M'Neill? No; we had parted before that.
727. Do you know what Holehan did when he found the gold lode on the Vanderbilt hill? He and M'Grath went and told M'Neill about it, and it was taken up the first time in the names of Holehan, M'Neill, Edwards, and Edwards. M'Grath was left out of it.
728. Do you know whether M'Neill was ever prospecting on that hill? I cannot say that I ever saw him working there.
729. Yet you have been living on the field all the time? Nearly all the time.
730. You were living on the field at the time of the first application? I was.
731. And you consider that M'Neill was in no way a prospector of the ground? I should not consider him altogether a prospector, but when a man is taken in with another, whether he happens to be there at the time or not, he is looked upon as one of the party.
732. Were you there when the second application was made? I was not.
733. Was Holehan there? I think not. When the second application was made Holehan was left out of it altogether.
734. Are you aware whether M'Neill opened up any other veins at Captain's Flat, that is, any known veins? Not to my knowledge.
735. And you know all the veins that have been opened up there? All the principal ones.
736. And you do not identify M'Neill as the opener of any of those veins as a prospector? Not personally. I do not believe he was.
737. If M'Neill set up a claim to be considered the discoverer of the Vanderbilt, would you consider it a bogus claim? Yes.
738. Were you on the field when Holehan and Garland applied for their land? I was not. I was at the head of the Shoalhaven River at that time prospecting.
739. How long after they applied for it was it when you came on to the field? I cannot exactly say when they applied for it, but I was not at Captain's Flat until the June following.
740. What amount of work had there been done on the hill? There was a lot of work done on the hill then. Irving and others had been working there.
741. But with respect to this particular 20 acres? They were sinking a shaft, but I could not say how deep it was. When I came back Holehan and Mr. William Garland were working there.

Mr.  
W. Harkness.  
13 June, 1888.

742. They had opened out a new silver lode? Yes.
743. It was not opened out when you left the field? No.
744. *Chairman.*] You are a pioneer prospector in this district? Yes.
745. You have been in the habit of going all round the country pioneering and prospecting, and leading other people on to good things? Sometimes.
746. Since you went on to the Flat have you followed this pursuit? Yes; when I have not been doing anything else.
747. You have been away at times? Yes.
748. Since you went on to the Flat have you spent more time away from it than on it? I cannot say that.
749. Have you not been a sort of cut-and-come-again miner, working on the Flat for a time, and then going away? I worked on the Flat for nearly four years to begin with.
750. But when times have been bad you have struck out for yourself, and have gone to other places? Yes.
751. You have been away for weeks and months at a time? Yes.
752. Of course in your business you have not been able to see what was being done on the Vanderbilt hill? No.
753. Then your statement to-day that McNeill was not doing any work there was purely a matter of hearsay? Yes.
754. Would you be surprised to hear that Mr. Slee, the Inspector of Mines, has sworn that McNeill was working on the hill, and that he discovered gold there? I would not be at all surprised, as far as that goes.
755. *Mr. Garland.*] When an Inspector of Mines comes on to a field it is the usual practice for miners to go down their holes and pretend to be prospecting, whether they are really doing any work or not, that is if they desire to hold their ground? It might be done, but I do not know that I would go down a hole just simply because the Inspector happened to be present.
756. *Chairman.*] The fact of there being a hole upon the hill shows that some work must have been done? Of course.
757. You know that it is a practice for prospectors not to leave what they find open, that is to say, they generally cover it up, and hide it as much as possible? Yes, until they secure the ground.
758. Do you not think that McNeill may have opened up discoveries and covered them up in this way? He may.
759. Do you know why McGrath left the party? He was left out against his will. How it was managed I do not know.
760. Holehan and McNeill were in the first application? Yes.
761. It was upset on the ground that the land was on a reserve? Yes.
762. Do you know anything of the second application? I was not on the field at the time.
763. Holehan never was in that application? No.
764. Therefore he cannot testify as to what the men did, beyond the fact that he was left out? I do not know how long he had been on the Flat when I came back.
765. What is your opinion of Captain's Flat as a field? I believe it will ultimately be a good one.
766. What is your opinion of the Vanderbilt lode? I believe it is a good lode.
767. A valuable property? Yes. I am only speaking from hearsay.
768. Do you know that the piece of land in dispute is in the very centre of the Vanderbilt lode, the most valuable portion of it? That I cannot say.
769. But you know that it was on the Vanderbilt property? I believe so. The Vanderbilt is the only mine that is doing anything yet.
770. What is the value of the 20 acres in dispute? I should not like to give an opinion.
771. Cannot you give us an approximate idea? I do not know the value.
772. Supposing you had been the prospector, what would you have considered a fair offer? I should get as much as I could.
773. But would you take £30,000? Yes.
774. Then you think it is worth £30,000? I do not know; but I would take it.
775. You know that the Company was floated for £100,000? I believe it was.
776. From the richness of the lode and the depth of it, it might be worth a million? It might.
777. *Mr. Waldron.*] When did you first go on to the field? About the 20th December, 1880.
778. How long did you stay on the Flat at that time continuously? From then until 1884.
779. Was McNeill there all the time? He went away for a little time.
780. But he was there pretty well all the time? He was away once, I think.
781. Was Holehan there all the time? Yes.
782. You say that the first to find anything on the Vanderbilt portion were Holehan and McGrath, and that they told McNeill? Yes. McGrath told me so himself.
783. Do you know that McNeill says that he was the first to discover the vein on the Vanderbilt? I never heard him say so.
784. *Mr. Garland.*] If he said so it would not be correct? No, because McGrath came and told me about it.
785. *Mr. Waldron.*] Your information is gathered from what you heard from McGrath? Yes.
786. And McGrath claimed to be interested? Yes.
787. Are you in with Holehan and McGrath at the present time? I do not even know now where McGrath is.
788. You left the Flat at the time of the first application, at the end of 1884? Shortly after.
789. You were then away for a long time? Yes.
790. Until the June after Garland's application? Yes.
791. Then you would have been away from August, 1884, until sometime in 1887? Yes; I suppose so.
792. *Mr. Garland.*] How long have you been on the Flat this time? I went back last June.
793. *Mr. Gale.*] Were you prospecting during the whole of the time from 1880 to 1884 on the Flat? I was working on a claim there.
794. During those four years did your prospecting extend to what is known as the Vanderbilt; did you do any prospecting in that locality? I did.
795. Was there any indication of the metal? I never got anything there.

- Mr. W. Harkness. 796. While prospecting on the Vanderbilt you were a mate of M'Neill? I was mate with none of them. We parted company in 1881 through a little disagreement.
- 13 June, 1888. 797. Mr. Waldron.] When you left in 1884 M'Neill was doing some work in the Vanderbilt—he was prospecting it? I never saw him.
798. But you are not prepared to say that he was not doing it? I am not; but I was working there a little time before I left.
799. No one was working on the Vanderbilt at the time? Not that I know of.
800. Chairman.] Since 1884 have you spent more time on the Flat than you have spent away from it? I do not think I have.
801. In point of fact you have been away so much since 1884 that you could not swear as to what was done by M'Neill or anyone else on the Vanderbilt? I could not.
802. Supposing it was said that prior to 1884 a lot of work had been done, that a shaft of 7 feet had been sunk, that other shafts had been sunk, and that there had been prospecting on the hill—is that, of your knowledge, true or untrue? It is untrue.
803. Mr. Garland.] But there was a trench and a bit of a shaft on the gold lead? Yes; where the gold was first found.
804. Chairman.] If you saw a hole sunk on the alluvial ground you would consider it prospecting work? Shafts were sunk a long time before the Vanderbilt started.
805. From your experience as a prospector you admit that there were *bonâ fide* indications of prospecting work? Yes.
806. Mr. Waldron.] I suppose a good deal of prospecting work could be done on such a hill as the Vanderbilt without any evidence of it appearing on the surface? A man might break a great many stones perhaps without it being noticed; but he could not sink a shaft without something of it being seen.
807. Would you consider that the breaking of stones here and there was fair prospecting? Yes.
808. A good deal of work could be done in that way without there being any indication of it? Yes, certainly.
809. Chairman.] When you go into a new locality prospecting what is the first thing you do? I should my pick and go through the bush.
810. Would you not consider that prospecting? Yes, of course, it is the first thing it is necessary to do.

Charles Launcelot Garland, Esq., M.P. (a member of the Committee), sworn and examined in his place:—

- O. L. Garland, Esq., M.P. 13 June, 1888. 811. Chairman.] What are you? I am a journalist.
812. I believe you wish to make a statement? Yes. I proceeded to Captain's Flat just about the time of the starting of the El Capitaine furnace. I was so impressed with the value of the place that I induced my brother, who was a practical miner, to go on to the field, with a view to obtaining an interest there. I heard that the Holtermann estate was for sale, and that estate embraced a great number of leases in the field. Eventually Mr. Mark John Hammond, Mr. Thomas Forsythe, Mr. Jamieson, and myself, purchased the whole of the interest in the Holtermann estate from the trustees. That interest included a part of M'Neill's second application for the identical lease about which the Committee are now sitting.
813. Mr. Waldron.] Was your brother interested in the purchase? To a small extent, but only through me. He was not a purchaser, he had only an indirect interest. Of course, in any claim against the Government for compensation, I and my party would be entitled to a third of whatever compensation might be secured, that is to say, compensation which might be based on the second application. In regard to the amount of work done on this particular lease when I went on to the ground there was simply some very small trenching, not much larger than what a man would cut in putting in the corner pegs of a lease. There was a small hole down in a vein, which, on being tested, showed very fair gold. I am not speaking of the alluvial working now. That was all the work that was done when I went on to the field, and it was shown to me by Edward C. H. Holehan, who took some stuff from the shaft and showed me a prospect. He claimed to have done the work. The size of the vein and the prospect shown were not sufficient to induce me to place any value whatever on the discovery, though it might have been worth further development. From that date up to the time my brother made application for the land no further work had been done by any one except Holehan and my brother. I knew every foot of the land from having on many occasions gone over it. Although my party are entitled to a third in any compensation that may be got from the State, I do not consider that we have a just claim inasmuch as the land was not available at the time, and we made no effort to secure it when it became available. The land had been available for, I think, five months before Holehan found the silver lode, and if I had valued the land or any of the party had valued the land, we could have taken it up in the ordinary way. No one appeared to set any value upon it. Even after my brother and Holehan had prospected the land no one appeared to take the slightest interest in it until it became generally known that our efforts had resulted in the discovery of valuable metal. Subsequently, when the value of the mine became known, overtures were made to me by Mr. O'Sullivan to compromise with M'Neill, who then claimed to have some moral right to the land. I did not know M'Neill in the matter, and consequently I refused to negotiate in any way, not recognizing M'Neill's or any one else's claim, except that of the prospectors of the ground. Subsequently a solicitor, by the name of Crick, approached me again on the subject, and threatened that if we did not take M'Neill into our discovery and give him a share, Edwards and M'Neill would dispute our lease, and if they failed in that way they would enter the Supreme Court with a view to securing our land. I told Mr. Crick that I did not recognize that they had any right whatever, and that if he intended to take that course he was quite at liberty to do so, that we intended to stick to our lease. Since then no proceedings whatever have been taken. The next I heard of the matter was by a question asked by Mr. O'Sullivan in the House, which seemed to imply that my brother had been able to obtain the lease through some occult influence; but I think the fact of the land being open for several months entirely does away with any suspicion of that character, for if we wanted the land at the time it became available as Crown land we could have pegged it out at 12 o'clock on the night of the *Gazette* notice, which was some five months before we did peg it out.

WEDNESDAY, 27 JUNE, 1888.

Present:—

Mr. O'SULLIVAN,		Mr. GARLAND,
Mr. ABIGAIL,		Mr. RYRIE.

E. W. O'SULLIVAN, Esq., IN THE CHAIR.

G. C. Waldron, Esq., solicitor, appeared on behalf of Messrs. Hugh McNeill and party.

Charles Launcelot Garland, Esq., M.P., recalled, and further examined:—

814. *Mr. Waldron.*] Did you receive notice to produce a contract for the purchase of Holtermann's C. L. Garland, interest in Captain's Flat, including his interest in the application which is the subject of the present inquiry? Yes. Esq., M.P.

815. Do you produce that document? I cannot find the document; it is not amongst my papers. I have a notion that it is amongst the papers of the late Mr. Thomas Forsyth. He kept nearly all the documents in connection with the Captain's Flat property. 27 June, 1888.

816. Are you prepared to say that the interest in McNeill's application is stated in this sale note? All interest held by Holtermann are included, I know. I know that as a condition of the purchase.

817. What I mean is is this particular one stated? I cannot say that. The fact is I had very little to do with the original contract; it was Mr. Mark John Hammond who conducted all the negotiations about that. But I know that all the interests held by Holtermann were included in that—everything.

818. At any rate you were a partner with Mr. Hammond in this speculation? Yes.

819. Was your brother, Mr. William Garland, interested in the purchase? Only indirectly. He was not one of the original purchasers.

820. But he acquired an interest? We agreed to give him a small interest after this purchase was made—some considerable time after—if he would remain on the Flat for nine months to look after these leases.

821. He was to do something and was to get an interest for doing it? Yes, and he carried out that agreement, and consequently, when the property was sold, we gave him some small interest. His whole share amounted to something like £20. Of course it was nothing like an adequate return for the services he rendered.

822. You have heard the evidence of Mr. William Garland as to his interest in the property after he sold to the Vanderbilt Company. How far were you interested in that sale? To the extent of one-fourth.

823. You were interested in the sale to the Vanderbilt Company to the extent of one-fourth? Yes.

824. What was the purchase money you received for your interest in the properties sold to the Vanderbilt Company? I suppose you mean the whole interest, taking this property under dispute and the Holtermann leases. I had a one-fourth interest in £7,000 for the Vanderbilt side, and a one-fifth interest in £2,000 for the other side of the creek.

825. The £7,000 applied to the leases now under consideration? Yes.

826. Practically £7,000 was the purchase money for this lease? Yes.

827. As a matter of fact the lease now being considered by the Committee was the valuable lease? Yes; it was one of two valuable leases. It was the one upon which most work had been done.

828. Did you receive as consideration any shares in the Vanderbilt Company? Not as a seller, but as a purchaser I did.

829. As a matter of fact, the sale made by you of your one-fourth interest in these two leases was not made to the Vanderbilt Company but to a syndicate? I formed one of a syndicate to purchase the whole of the interest held by myself, and the remainder of my party at Captain's Flat.

830. Then the purchase money in the sale to the syndicate of the two leases under consideration was £7,000? Yes.

831. You received as a vendor one-fourth of that? Yes.

832. What was the proportion of your interest as a purchaser? There was a syndicate of seven, and I held one-seventh.

833. That syndicate sold to the Vanderbilt Company? Yes.

834. Do you produce the prospectus of the Vanderbilt Company? That is the prospectus issued by the syndicate for the formation of the Company.

835. Was the Company formed on the basis of this prospectus? Yes.

836. By this prospectus it appears that the syndicate received £10,000 in cash and 50,000 shares, which appear to have been worth 8s. each, taking the subscribed value? Yes.

837. You received one-seventh of the £10,000 cash? Yes.

838. And you had allotted to you one-seventh of the 50,000 shares? Yes.

839. These shares have been to your knowledge dealt with in the market? Yes.

840. I believe they have sold at as high a figure as £1 and 23s.? They have sold at as high a figure as 26s.

841. Then, upon that calculation, the Company must be considered to be worth over £100,000? At one time, but not now.

842. You cannot sell the shares at the same price now? No; although the mine is better now than it was then. At the present time the highest price obtainable, according to the market quotations of to-day, is 6s.

843. *Mr. Abigail.*] At the time the shares were bringing 26s. the recent mining fever was at its height? Yes.

844. *Chairman.*] Do you consider 26s. a good value for the shares? I did not buy any at that price.

845. *Mr. Ryrie.*] And you say that the mine is more valuable now than it was then? Yes.

846. *Chairman.*] Would 6s. per share represent the value now? I would not say that, but I think the shares were well worth 8s. when the Company was floated.

847. If they were worth 26s. to the public at one time surely they are worth it now? I think the public would be more warranted in giving a higher price now than they were at that time. Do not understand me as meaning that I think the shares were worth 26s. as an investment. I had telegrams asking for thousands of shares at 25s., but I refused to sell.

848. Do you believe that the buyers at 26s. got a good bargain? I believe the sellers got a good bargain.

- C. L. Garland, 849. *Mr. Waldron.*] You did not sell at 25s., because you were waiting for a bigger price? Yes.  
*Esq., M.P.* 850. There is at the present time a depression in the share market? Yes; I think the shares were well worth 8s. when the Company was floated.
- 27 June, 1888. 851. *Chairman.*] You say that you did not sell at 25s. because you were waiting for a higher price. Does not that imply that you did not consider 25s. a fair value? I think it was more than the value, but of course I was prepared to get as much as I could for my shares.
852. *Mr. Waldron.*] You are at the present time a shareholder in the Vanderbilt Company? Yes.
853. Then you claim to be interested in the land in respect to which decision is now sought, firstly, as one of M'Neill's party, and secondly, as one of the proprietors in the Vanderbilt Company? I am interested as one of the proprietors in the Vanderbilt Company, but if M'Neill's second application is a good one, and he is entitled to any consideration, of course I am interested with others of the party to the extent of one-third, having bought Holtermann's interest in it. But I do not place any value on it myself. I would not make a claim in regard to it.
854. You are not a party to this claim being made? No.
855. But yet you volunteer the evidence that if any compensation were granted you would claim one-third? Quite so, as I have purchased it.
856. Then it becomes pertinent for me to ask if you propose to further sit on this Committee? I am not claiming this money at all; I am opposing the granting of the money.
857. Let me repeat this question: Do you propose to further sit on this Committee? Yes.
858. Do you consider it right in your position as one interested to form part of this judicial Committee? In the first place, I do not know on what grounds M'Neill is claiming compensation. I understand that he is claiming compensation, but I do not know on what grounds. If he claims compensation in regard to the second application made for the land of which I am a part purchaser from the Holtermann estate, then of course I am interested in it; but I do not know that that is the basis of his claim for compensation.
859. You have seen the evidence which has been taken? Yes.
860. Does it not appear clear from that evidence that it is upon the refusal of the second application that this claim for compensation is based? Nothing of that kind appears to me clear in the evidence. The only thing that appears clear to me is that M'Neill is claiming compensation from the State.
861. Is it not clear to you from the evidence that the application for M'Neill's lease is in respect of this land at Captain's Flat, in which you admit you hold an interest? I certainly cannot say that it is clear to me that that is the basis of the claim.
862. Then do I understand that you do not know the basis of the claim? Certainly not. So far nothing appears clear to me except that the applicant is claiming compensation.
863. You consider it right for you to further sit on this inquiry? Yes.
864. Let me repeat what has been said to the Committee in my hearing several times, that M'Neill's claim is based upon the refusal of his second application. Have you not hitherto clearly understood that that was so? No.
865. Upon this statement I again repeat my question: Do you propose to further sit upon this Committee? Yes.
866. And you consider it right in your position as a person interested to form part of the Committee? I am not understood. I do not claim to be interested; I am opposing the granting of compensation.
867. Are you not interested in any compensation that might be granted by this Committee? In regard to that I may make a claim subsequently, I make no claim at present.
868. Have you not already made a claim? Certainly not.
869. Let me quote from your evidence taken on the 13th June. You say, "Of course in any claim against the Government for compensation I and my party would be entitled to a third of whatever compensation might be secured, that is to say, compensation which might be based on the second application." How does your answer to my last question accord with that? Perfectly. I said I do not claim any compensation in regard to this matter, neither have I. I may at some subsequent stage if compensation is granted. I am not making any claim against the Government for compensation; I am not making any claim against whatever reward may be granted in this case, that is, so far.
870. Then, though you have stated that in any claim for compensation you would be entitled to one-third of the compensation that might be granted, you think that because you have not actually made such a claim you are entitled to sit as a judge in this matter? Certainly I think so. I do not think my sitting here will militate against the interest of the State.
871. *Mr. Rylie.*] You said you were not aware on what basis M'Neill had made his claim for compensation? Yes.
872. Had you not an opportunity of questioning him on that subject? I did not ask him.
873. But you had it in your power to ask him? Yes, certainly; but from the evidence given it is difficult to ascertain on what the claim is based.
874. *Mr. Waldron.*] You are quite aware that two courses might be pursued by M'Neill and party, not conflicting with one another—one, to contest the Vanderbilt title, and the other, to secure compensation from the Government. And if the latter course were taken, as the parties were practically prevented from the want of money from fighting a wealthy Company? I deny that the former course is open at all, because M'Neill's fighting the Vanderbilt Company would not give him a title to the land, even supposing he were successful in upsetting the Vanderbilt lease. It is one thing to upset the Company's lease, and another matter to get possession of the ground yourself.
875. If he held the land under a mineral lease, and his holding had not been revoked by a special act of the Department, is there any doubt about his holding being a good one? If he held it under mineral license.
876. But you know that that is his contention? I should think then that he would have an action against the Government.
877. But do you not know that it is his contention that he held a mineral license? I do not know so.
878. Were you not present at the first meeting of the Committee, when M'Neill was examined, and when evidence to that effect was given? No.
879. You have read the evidence? I have.
880. Then do you not know that that is M'Neill's contention? I dare say it may be; I do not question that.

881. Do not you think that the opposition you are showing suggests that you have a doubt about the Vanderbilt title, and that you want M'Neill crushed by discredit being thrown upon his evidence at this inquiry? Certainly not. If I had any doubt about the Vanderbilt title my policy would be to assist M'Neill in getting satisfaction and compensation from the Government, to protect the Vanderbilt Company from any claim. C. L. Garland, Esq., M.P. 27 June, 1888.

882. That might be your view of the course to adopt? I think it would be a natural course.

883. Is it not also possible that by nipping a poor man in the bud of his inquiry, and throwing discredit upon his evidence with regard to it, you would prevent him from fighting a wealthy Company? I never took that view of the case. I do not know whether M'Neill is a poor or a wealthy man; I have no knowledge of his financial standing.

884. But you have met M'Neill a good many times during the last few years? Only twice in my life—once at this Committee, and once at the Flat.

885. But I understood from your evidence that you had nearly lived at the Flat for the last two years? I have been backwards and forwards a great number of times, but I have not happened to meet M'Neill; I have had no connection with him whatever.

886. Have you any doubt about his being a poor working miner? I have no reason to believe that he is anything else; but I suppose those connected with him are well able to initiate any proceedings—that is, those interested with him in this affair.

887. Are you not the proximate cause of William Garland, Edward Holehan, and William Harkness being at this inquiry? Yes.

888. I asked you on the last occasion to produce for the Committee some evidence of the number of your visits to Captain's Flat, and of the length of them. Have you any such evidence to produce? No, I cannot say that I can give any definite evidence on oath as to the number of my visits, or as to the duration of each. In regard to their duration, I can say that I have never been there for more than four or five days at a time. So far as the number of visits is concerned, I cannot give you information, because I have not kept a diary of them, and they have gone out of my mind.

889. You say in one part of your evidence that you know every foot of this land. Did you mean to say that you were in a position to point to any portion of the land where work had been done? Yes; I have travelled over the land for hours, looking for indications or lodes, as I invariably do when I go on to a field in which I am interested.

890. How often did you do that in connection with this particular lease? I cannot say how often. Whenever I have been at the flat and have had a few hours to spare, I have employed them in looking over the ground.

891. How often have you been over this particular land? I could not say how many times, but I know all the work that has been done on it.

892. Is Holehan's evidence correct about the number of shafts, and the extent of the shafts on the lower portion? Yes; I believe it is as nearly as possible.

893. Then is William Garland's evidence correct as to the work that has been done on the higher ground? Yes; substantially correct.

894. And when each contradicts the other, which is mistaken? I do not know that they contradict each other.

895. Do you not know that William Garland, in answer to question 347, says: "And you can positively swear that there is not more than two days' honest work done on the ground? Yes."? The only work M'Neill claimed to have done was on the hill, and he was alluding to that work, I suppose, at the time. The other work resulted in no discovery, and was not called into question. Holehan was referring to work done on the flat I take it, and my brother was referring to work done on the lode.

896. Will you note this evidence (question 346): "You have traversed the whole of the ground? I have been over every foot of it." Would it not appear from that question that the subsequent question in reference to the amount of work refers to the whole ground? It would seem so.

897. How does that accord with Holehan's evidence about that he sank upon the ground? If the evidence you have quoted is given in respect to the whole ground it does not accord with the other evidence, but I think it is evident that William Garland is referring to the work in dispute only.

898. What do you mean by the work in dispute? The work that resulted in the discovery is the work on the main range, on the lodes, and the dispute was as to whether Holehan did that work, or whether M'Neill did it. William Garland's evidence purported to show that Holehan did the work on the lodes, and referring to the work done on the ground I take it that he referred to that work only.

899. Taking the whole of the ground, every portion of it, would you not consider that a considerable amount of work was done? There was no considerable amount of work.

900. Holehan has sworn that he did several weeks' work? Yes.

901. Suppose that extent of work was done? That is no very great amount of work. I take it that the alluvial holes were not sunk at all in connection with this application. Those holes were sunk in prospecting for alluvial on the flat. This lease was not taken up for the sake of those alluvial holes sunk down there. That was prospecting that might be done by any man to discover an alluvial lead. This lease was not taken up with any view of utilising those holes. The probability is that this lease was not taken up at all when those holes were sunk.

902. As a matter of fact, when you were at Captain's Flat you were generally very busy? Yes; I did not waste any time.

903. What was the nature of your occupation up there? It was in connection with the mining interest I held there.

904. *Mr. Abigail.*] You said in your previous examination that overtures were made to you by Mr. O'Sullivan to compromise with M'Neill. Was that Mr. O'Sullivan the Chairman of this Committee? Yes.

905. You also said, "Of course, in any claim against the Government for compensation, I and my party would be entitled to one-third of whatever compensation might be secured." Have you any grounds for thinking, from your knowledge of this case, that there is any fair claim for compensation? Certainly not, or I should have taken the ground long ago when the application was refused you.

906. In saying that you are perfectly conscious that the evidence you are now giving is against the third interest that you would have if compensation were given? Yes. My evidence and the action I have taken with this Committee are against my receiving any compensation in regard to this claim, if it is based upon the second application. 907.

- C. L. Garland, Esq., M.P.  
27 June, 1888.
907. So that, as a matter of fact, your evidence to this Committee is against your own interest, and in what you conceive to be the interests of the State? Decidedly so.
908. *Chairman.*] You said just now that I made overtures to you; will you kindly state what those overtures were? You stated that McNeill claimed to have a right to this particular ground for which my brother had made application, and you suggested to me that we should admit McNeill as a partner in this application, so as to save any dispute.
909. I did not say that I was authorized by McNeill to make that suggestion? No.
910. You say, in point of fact, that the action you are now taking is in opposition to your pecuniary interest, inasmuch as it might prevent your getting a share in any compensation which might be granted? Yes, if compensation were granted in respect to this particular application.
911. At the same time you admit being a shareholder in the Vanderbilt mine? Not a very large shareholder.
912. Yet you are considerably interested? I have a substantial interest in the Company.
913. We will say, for the sake of argument, that McNeill and party succeeded in upsetting the title of the Vanderbilt Company in the Supreme Court. In that case, although you might get one-third of the compensation, you would lose a greater interest in the Vanderbilt mine? No, I do not think so.
914. But surely your interest in the Vanderbilt mine is a larger interest than your one-fourth of the one-third compensation would be? No; I do not think so. I had only one-fourteenth in the Vanderbilt Company before I sold the shares, an interest of one-fourth.
915. What do you suppose approximately is the amount which you would get as the holder of one-fourth of the one-third share of compensation? I cannot answer that question until I know what the amount of compensation is likely to be.
916. Then what makes you suppose that it would amount to a greater interest than your interest in the Vanderbilt mine? If the value of the Vanderbilt mine is obtained from the State I should have in the shape of compensation a larger share than I now have.
917. Do you think that if McNeill and party got just compensation they would get the full value of the Vanderbilt mine? I do not admit that.
918. What do you think is the amount of compensation that might be awarded? I think that if they are entitled to compensation at all they are entitled to full compensation.
919. *Mr. Abigail.*] Do you think they are entitled to compensation? Certainly not.
920. *Mr. Waldron.*] Take the Vanderbilt mine at the prospector's value, and suppose compensation to that extent were given, your interest, on your own confession, would be one-twelfth, whereas your interest in the Company is only one-fourteenth. But you have to add to your one-fourteenth interest in the Company one-seventh of the £10,000 cash? Just so.
921. Do you not think that your one-fourteenth interest in the Company, and one-seventh of the £10,000 cash is better than one-twelfth of the amount which would probably be awarded as compensation? I do not hold one-fourteenth.
922. But I am going back now to the time the Company was floated? It might have been then, but it would not be now.
923. But you have said that the mine is more valuable now than when the Company was floated? I think the development which has taken place since then would warrant the public in giving more for the mine than now than at that time.
924. If any compensation were given would it not to a certain extent damage the lease of the Vanderbilt mine? Certainly not; it is a Crown lease. If this lease were upset the present Vanderbilt Company would have a clear claim against the State for the full value of the property.
925. Would they not have a claim against you as the vendors to them? Certainly not; they took our lease for what it was worth.
926. *Chairman.*] You sold the lease believing it to be a good one? Yes.
927. And they bought it as such? Yes.
928. *Mr. Abigail.*] Have you any reason to doubt now that it is not a *bonâ fide* lease? If ever a lease was a *bonâ fide* lease I suppose this is one.
929. It was issued in the usual form, I suppose? Yes.
930. *Chairman.*] Admitting that the lease is perfectly sound still is there not a possibility that it might have been improperly granted to you? If there is anything improper in the granting of it it does not arise from any fault on the part of the applicants.
931. Granting that your application is good and *bonâ fide* as far as you are concerned, and that you got the lease properly signed and delivered, still there is a possibility that the State may have blundered? Under those circumstances the State would be responsible for its blunders.
932. *Mr. Abigail.*] Are you aware of any evidence being tendered in support of that contention? Of none whatever.
933. *Mr. Waldron.*] Are you not aware that evidence as to any person having, or claiming to have, a right, title, or interest, on the land, should be stated to the Department at the time of application? Yes.
934. Are you not aware that McNeill has sworn that he held land at the time of William Garland's application? Yes.
935. And you are also aware that William Garland said that no one claimed any interest in the land? Yes, and it might have been true at that time.

## MESSRS. HUGH McNEILL AND PARTY—MINERAL LEASE AT CAPTAIN'S FLAT.

## APPENDIX.

[To evidence of H. McNeill.]

A.

[Plan.]

[To evidence of E. Stephen.]

B 1.

Minute for the Governor and the Executive Council, recommending the approval of certain application for Mineral Leases.

Department of Mines, Sydney, 3 December, 1887.

The application for mineral leases of Crown Lands specified in the annexed Schedule are submitted for the approval of His Excellency the Governor and the Executive Council, in terms of the Mining Act, of 1874.

FRANCIS ABIGAIL.

## SCHEDULE ANNEXED 10.

## Tumut and Adelong Mining District.

No.	Name.	Portion No.	Locality.	Area.	Period.	Date of Application.
87.5	Captain's Flat. W. Garland.	ML 81.	County Murray, parish Ballalaba.	20	15	25 April, 1887.

The Executive Council advise that the recommendation in each case herein set forth be approved and the necessary notices issued.—ALEX. C. BUDGE, Clerk of the Council. Min. 87-66, 13/12/87. Confirmed, 15/12/87. Approved.—CARRINGTON. *Gazette notice, 23/12/87.*

## Tumut and Adelong Mining District.

Department of Mines.

APPLICATION No. 87-5, Captain's Flat, for mineral lease, submitted herewith for the consideration of the Honorable the Minister for Mines:—

The plan and description has been checked.

No objections appear to have been made.

The number of men proposed to be employed appears reasonable.

The time for commencing work appears to be reasonable.

Application No. 87-5, Captain's Flat, Tumut and Adelong Mining District approved of.

Minute for the Executive Council.

F. A.

APPLICATION No. 14, at Queanbeyan, for a mineral lease on a reserve:—

1. By whom application was received.—O. Willans, Warden's Clerk.

2. At what place.—Queanbeyan.

3. Date and hour when received.—16 February, 3 o'clock p.m.

4. Receipt for first year's rent, No. 14.—Date 16 February, 1885.

5. To whom receipt was issued.—Walter J. Lewis.

6. Date when notice to survey was sent to surveyor.—18 March, 1885. T.W.R., 10/4/85.

8. Names of objectors, and dates on which they lodged their objections.—Nil.

9. Dates of inquiry.—Nil.

Answer to question 11 not in accordance with the Regulations. Signature to declaration not witnessed.—J.R.N., 11/4/85.

Will the Warden's Clerk please have omissions supplied.—W.C., 13/4/85. G.E.H. (for U.S.) Declaration witnessed. Do not know what Regulations are meant, surely not those gazetted 27th February, 1885, with reference to question 11, replied to on 16th February, 1885.—O. WILLANS, W.C., B.C., Queanbeyan, 15/4/85. Mines, 16/4/85. The attention of the W.C. should be called to clause 2 of the Regulations relating to mineral leases, Mining Act, 1874.—J.R.N., 17/6/85. Will the Warden's Clerk please supply the information required. G.E.H. (for U.S.), B.C., 18/4/85.

Referring to question 11 the Warden's Clerk had to send for Mr. Lewis. He states that the answer at first given was at the Board when here, and that when he went back he wrote as now given, and that this is on it at present.

*Report as to whole surface required.*—It is on a precipitous hill, three reefs running through it. Mr. Lewis could not say what part of the surface he would not want. This lease and No. 13 are on a limestone reserve of 80 acres, and where limestone has been taken out; it is not on the leases. It is difficult for the Warden's Clerk to make reports on surface ground without going to see it, which he cannot do; and as Mr. Warden Woore is in Sydney, and will be there for some time, perhaps Mr. Aldcorn might be asked to report.

O. WILLANS, Warden's Clerk, 20/4/85.

Mines, 1/5/85. Submitted, 2/5/85. Answer to question 11 amended: *vide* above report, *re* surface.—J.R.N. Submit in due course, assume that the whole of the surface is required.—H.W., 13/5/85.

Sir,

Department of Lands, Sydney, 12 November, 1887.

Referring to your letter of the 30th May last (No. 87-5,328), I am to inform you that the Secretary for Lands knows of no objection to the granting of Mr. William Garland's application (No. 5) for a mineral lease of 20 acres of land at Captain's Flat.

I have, &amp;c.,

F. H. WILTON,  
(For the Under Secretary.)

The Under Secretary for Mines.

All

All the papers in connection with the application herein referred to are at present with the Lands Department in connection with the site for proposed police paddock at Captain's Flat: in view of this decision perhaps the Lands Department should be asked to return the papers bearing No. S7-14,223—E.H.R., 15/11/87. Approved.—H.W., 15/11/87.

Papers now herewith, two or three documents bearing Mine's numbers have been detained by the Lands Department, but they are not now necessary, and will not interfere with the final action in the case.—E.H.R., 17/11/87.

The facts of the case are as follows:—

On the 9th August, 1884, M'Neill and party made application to lease this land. This application was refused 13th of June, 1885; the land applied for being within a reserve, and the applicants were thereupon informed they could apply again in terms of the Act 48 Vic. No. 10. Accordingly on the 29th June, 1885, they applied again, and, in dealing with this application, the District Surveyor reported that the application clashed with a mineral conditional purchase. This mineral conditional purchase was cancelled on the 27th February, 1886, for non-receipt of declaration and non-payment of instalments. In consequence of this clash M'Neill and party's second application was refused on the 12th November, 1886, and the applicants were informed (form of notice herewith) of the fact. From the 12th November, 1886, till the 25th April, 1887, no application for land was made, and during that period the land was open to the world. On the 25th April, 1887, W. Garland lodged an application for a lease of the land, and then it was discovered that the land had been surveyed for a police paddock. Consequently, action upon this application was delayed. The Lands Department have now stated that the Minister for Lands knows of no objection to the lease being granted; and it has been decided that action upon W. Garland's application may proceed. I do not see that M'Neill and party have any valid grounds of complaint, but I would recommend that before W. Garland's application be further dealt with the whole of the facts as stated herein be forwarded to M'Neill and party through Mr. O'Sullivan, M.P., and they be invited to say what objection, if any, they have to urge against the granting of a lease to W. Garland.—H.W., 18/11/87. Submitted.

If the above be a true statement of the facts of this case, I cannot see any reasons for delaying the lease of Garland, and desire that the same may be proceeded with in the usual manner until completed without further reference to M'Neill and party, who, according to what is here stated, have no rights in connection with this land.—F.A., 19/11/87.

Form referred to.

No. Department of Mines, Sydney, 188  
I am directed by the Secretary for Mines to inform you that application for the  
lease noted in the margin, has been refused.  
I have the honor to be,  
Your most obedient servant,  
Under Secretary for Mines.

Sir, 35, Albion-st., Surry Hills, Sydney, 31 August, 1887.  
On behalf of Mr. Hugh M'Neill, myself, and others, I hereby lodge a protest against the granting of mineral lease No. 5, Captain's Flat, near Braidwood, by William Garland or anyone else. We had made a prior application, and our money for survey fees and for rent had been accepted by the Mining Department. The last letter sent to us did not state that the obstacles raised against our application were removed, and there was nothing to show that any other application had been received or was likely to be entertained.

We beg to give notice to the Mining Department that, in the event of the said lease being granted to anyone else, we shall contest the same in the Supreme Court as we believe we have a prior claim to the land.

We have, &c.,  
for H. M'NEILL & others,  
WILLIAM EDWARDS.

The Hon. Francis Abigail, Minister for Mines.

I understand that the C.P. referred to in the minute on S7-7,559, is a M.C.P. If so, when was it made? Was the land within a Gold-field when it was made? Why was it forfeited?—H.W., 1/9/87. Chief Mining Surveyor, 1/9/87. Chief Draftsman, E.F.P., 1/9/87. Urgent. M.C.P. S2-198, Queanbeyan, referred to, is dated the 13th July, and when made was not within a Gold-field. The Molonglo Gold-field having been proclaimed 27th September, 1882, and lapsed for lease receipt of declaration and non-payment of instalments. Papers, C.S., S5-S,115 Dep., and Gazette 22/2/86.—P.D. (pro J. C.), 6/9/87. The Chief Mining Surveyor. There appears to be no reason why preparation of lease should be stayed.—G.E.H. (for U.S.) Submitted. Approved.—F. A., 16/9/87. Chief Draftsman.—E.F.P., 17/9/87. Diagrams have already been drawn and are with these papers.—P. D. (pro W.S.C.), 21/9/87. The Chief Clrk.—E.F.P., 21/9/87.

(S7-5,328.)  
Mineral lease application S7-5 at Captain's Flat, by William Garland, for portion M.L. S1, parish of Ballalaba, county of Murray (20 acres.)  
Final action noted on papers S7-5,328.—W.S.C., 1/7/87.

Sir, Department of Lands, Sydney, 25 August, 1887.  
I have the honor to inform you that your letter of 13th inst., on the subject mentioned hereunder, has been referred to Mr. District-Surveyor Betts for report.  
I have, &c.,  
R. H. DeLOW  
(For the Under Secretary).

The Under Secretary for Mines.

Asking that present site for police paddock at Captain's Flat be not insisted on.

Sir, Department of Mines, Sydney, 30 July, 1887.  
In accordance with your instructions contained in papers No. S,529 herewith, I proceeded to Captain's Flat and examined the land referred to.

I find that a valuable silver lode passes through it. This lode has been opened upon by two shafts, one 62 feet deep. Average samples of the lode have yielded good assays. Besides this lode there are other ironstone and gossan lodes, and also large quartz-reefs which have not yet been opened up. I am decidedly of opinion that this land ought not to be alienated from the miner. I have also examined the land on which it is proposed to place the township, and find that on certain portions of it quartz reefs occur, some of them of considerable size.

I am of opinion that before any land be granted in the township, a map of the township should be submitted to this Department in order that certain portions be closed to purchase.

I have, &c.  
WM. ANDERSON,  
Geological Surveyor.

The Geological Surveyor-in-Charge.

The land referred to measured for a police paddock contains a valuable silver-bearing lode, which is being worked; it is therefore required for mining. It is requested that as the land selected for a township contains certain reefs that plan of the township be referred to this Department so that the portions which may be alienated may be indicated thereon.—C.S.W., 30/7/87. The Under Secretary.

The attention of the Lands Department may be invited to the reports herewith, and may be urged not to insist upon the land proposed as a police paddock being set apart for that purpose, as it would retard mining operations. The Department may be asked to refer to this Department before selling land in the township.—H.W., 30/7/87.

Submitted.—J.J., 3/8/87. The Under Secretary for Lands, B.C., 8/8/87. By letter.—H.W., 9/8/87. Lands, 13/8/87.

Mineral

Mineral Lease Regulations.—Schedule 2.  
Form of Application.

Sir,  
I hereby make application for a mineral lease of that piece or parcel of land situated at Captain's Flat, Molongie, containing 20 acres, of which I took possession on the 25th day of April, at the hour of 9 a.m. of the o'clock in the forenoon, for the purpose of mining thereon and therein for silver, under 48 Vic. No. 10, for a period of fifteen years, by erecting posts and cutting trenches at each angle thereof. The datum point is distant 100 yards in a south-east direction from police quarters and adjoining Mr. Osborn's 79a.

Captain's Flat, 25 April, 1887.

Notice of my having made this application will be given in accordance with the regulations in that behalf, and I hand herewith a list of the persons who occupy or claim a right to the land aforesaid, or any part thereof, together with such consents as I have obtained. I also hand herewith £5 being the first year's rent in advance of the said land, and the sum of present survey; accepted. Herchy acknowledge that this application is made upon the distinct understanding and condition that if I shall abandon or fail to proceed with it, or if it is refused, the Secretary for Mines for the time being may deduct from the sum of £5 deposited as aforesaid any cost to which in his opinion the Crown may have been put in or about or in respect of this application; and this application shall thereupon become and be void, and the possession aforesaid shall cease and determine. And if the lease shall be granted I shall and will commence mining operations upon or in connection with the demised land within one week from and after the granting thereof, and shall and will employ upon such land not less than two men during the first three years of the term thereby created, and not less than two men during the remainder of such term. And shall and will at any time when called upon in terms of the regulations relating to mineral leases, to do so, execute, and take delivery of such lease, or failing therein for a period of fourteen days, after being so called upon I shall and will forfeit the said sum of £5 and all right, title, or interest in and to the said land and the possession thereof, and the said lease shall be forthwith cancelled.

I have, &c.,  
WILLIAM GARLAND,  
Captain's Flat.

To the Honorable the Secretary for Mines, Sydney.

This application was received by me this 25th day of April, 1887, at the hour of 12 o'clock noon, and is numbered five.—THOS. CANNING, Warden's Clerk, Captain's Flat.

Questions to be answered by Applicants for Mineral Lease.

WHEN receiving an application to lease land for mining purposes, the Warden, Warden's Clerk, or Land Agent, as the case may be, shall hand to the applicant or applicants one of these forms, and shall require him or them, or his or their agent, to furnish answers in writing to the following questions, within one week after lodging the application. The statement, when complete, shall be signed in the presence of a Justice of the Peace or Government Officer by the person furnishing the answers:—

1. What was the date and hour of the day when you took possession of the land referred to in application No. 5? 25 April, 1887.
2. Did you take possession by erecting posts and cutting trenches at each angle of the land? Yes. If No. 2 be replied to in the affirmative, then 3, 4, and 5.
3. What was the diameter of the posts? 4 inches.
4. How high did they project above the surface when fixed in the ground? 3 feet.
5. What was the length of each arm of each trench? and what was the depth of each trench? 6 ft. long by 9 in. deep.
6. If a substitute for post or trench was used, describe it? Nil.
7. At which angle of the land is the datum post fixed? North-east corner.
8. Did you affix a board or metal plate to the datum post? Yes.
9. What was written or painted on such board or plate? Application for M.L.
10. Where did you post the notices, Schedule 1? Post Office, Captain's Flat, and Warden's Clerk's Office.
11. When did you post such notices? 25th April, 1887, at 12 noon.
12. Did anybody claim or appear to be in possession of the land applied for, or any portion of it? No.
13. Did you serve notice in the form of Schedule 1 upon every such person? and when? \_\_\_\_\_
14. Have you obtained the consent of every such person to the granting of the lease for which you apply? \_\_\_\_\_

I, William Garland, on behalf of self, do hereby declare that the foregoing questions have been answered by me truthfully in every particular, and the answers thereto have been read over to me and are correctly taken down in writing. Witness to signature—

THOMAS CANNING, Warden's Clerk,  
Chief Draftsman.—E.F.P., 7/5/87. Mr. Greville, 11/5/87.

WILLIAM GARLAND,

Mineral Lease Regulations.—Schedule 4.

No. 4.0. 1887. Receipt for Rent.

RECEIVED this 25th day of April, 1887, the sum of Five pounds shillings, being the first year's rent in advance of Twenty acres of land at Captain's Flat, applied for by the undermentioned applicant under the Mineral Lease Regulations, for the purpose of mining for silver, Application No. 5.

THOMAS CANNING,  
Warden's Clerk, Captain's Flat.

Name and Address of Applicant:—  
WILLIAM GARLAND, Captain's Flat.

Mineral Lease Regulations.—Schedule 6.

Sir, Notice of Application and Deposit.

I have the honor to inform you that I have this day deposited with Warden's Clerk, at Captain's Flat, the sum of five pounds shillings, being the first year's rent in advance of 20 acres of land at Captain's Flat, for the purpose of mining for silver, and the sum of survey accepted shillings, being the fees for survey of the said land. The number of my application is 5.

Captain's Flat, 25 April, 1887.

I have, &c.,  
WILLIAM GARLAND.

The Under Secretary for Mines, Sydney.

Submitted.—The land applied for apparently identical with portion mineral lease 81, parish of Ballalaba, county of Murray, includes portion 12, measured as a site for Police Station, the date of survey (9th March, 1887, being prior to the date of application 87-5). Herewith (see report on tracings herewith).—W.S., 25/5/87. The Chief Mining Surveyor.

Perhaps the Lands Department may be asked whether they have any objection to the lease being granted.—E.F.P., 26/5/87. The Under Secretary for Mines. Approved.—H.W., 26/5/87. Lands Department asked (tracing), 30/5/87. May go on but not to be finally approved by the Executive till the decision of the Lands Department is made known.—H.W., 3/6/87. Chief Draftsman.—E.F.P., 4/6/87. Examined, &c., diagrams drawn, 30/6/87. Dealt with. Diagrams herewith. See above.—W.S.C., 1/7/87.

## B 2.

Minute for the Governor and the Executive Council recommending the approval of certain applications for mineral leases] Department of Mines, Sydney, 24 August, 1885.  
 THE applications for mineral leases of Crown Lands specified in the annexed schedule are submitted for the approval of His Excellency the Governor and the Executive Council in terms of the Mining Act of 1874.

J. P. ABBOTT.

The Executive Council advise that the course recommended be approved.—ALEX. C. BUDGE, Clerk of the Council.  
 Min. 85-27, 26/8/85. Confirmed 31/8/85.—A.L., 26/8/85.

SCHEDULE ALLUDED TO.  
*Tumut and Adelong Mining District.*

No.	Name.	Portion No.	Locality.	Area.	Period.	Date of Application.
14	Queanbeyan. W. J. Lewis & anr.	.....	County Murray, parish Ballalaba.	20	20	.....

48 Vic., No. 10.

*Tumut and Adelong Mining District.*

Department of Mines.

APPLICATION No. 14, Queanbeyan for a mineral lease submitted herewith for the consideration of the Honorable the Minister for Mines :—

The plans and descriptions have been checked.  
 No objections appear to have been made.  
 The number of men proposed to be employed appears reasonable.  
 The time for commencing work appears to be reasonable.  
 Application No. 14, Queanbeyan, Tumut and Adelong Mining District approved of.  
 Minute for the Executive Council, 24/8/85.

J. P. ABBOTT.

Sir,

Camp Eurobodalla, 6 July, 1885.

I have the honor to transmit herewith the plan of one portion of land containing 25 acres, numbered M.L. 117, in the parish of Bulladelah, in the county of Murray, applied for by W. J. Lewis and B. O. Holtermann, under the section of Mining Act, measured by me on 6th June, 1885, in accordance with instructions from Chief Mining Surveyor, dated 10th April, 1885.

Value of improvements, dam, £90.

Tracings have been forwarded to the D.S. and Mining Warden. This lease is situated within Q.R. 163, and encroaches partly on M.C.P. 82, Irving, 40 ac. I have, &c.,

T. WALTER RAYMOND,  
Mining Surveyor.

The Chief Mining Surveyor.

App. No. 85-14 at Queanbeyan herewith records, then to Mr. Neate and Chief Draftsman.—E.F.P., 13/7/85. 75 per cent. advance paid 14 July, 1885, con.; Balance on 30 July, 1885. Mr. Onslow, 23/7/85.

The portion applied for within is included within an area applied for by B. O. Holtermann, February 2nd, 1885, under section 28, "Mining Act of 1874" (papers No. 85-2,451). This application was refused by Ministerial minute 9/7/85. Also within quarry reserve No. 163, notified 20/9/82. Dealt with for diagrams.—W.S.C., 30/7/85.

## On a Reserve—Notice to make survey.

Mines, 10 April, 1885.

Sir,

An application for a mineral lease, particulars as per margin, having been lodged in this office, I request you will be good enough to survey, in accordance with the regulations relating to mineral leases, the area so applied for, and to furnish me at your earliest convenience with a plan and report. Your attention is particularly directed to the regulations for mineral leases numbered respectively 2, 3, 12, 13, and 14.

I have, &c.,  
EDWD. F. PITTMAN,  
Chief Mining Surveyor.

T. W. Raymond, Esq., Mining Surveyor, Sydney.

Copy of description of the land as given in the application :—On the east of Captain's Flat, Molonglo River, parish of Bullalaba, county of Murray, and on a reserve. The datum point is distant 40 ft., in an easterly direction, from the north-west corner of the area applied for. We require the whole of the surface.

Mining district, Tumut and Adelong; applicant's locality, east of Captain's Flat.

Application No. 14, at Queanbeyan.

## Description.

20 acres, county of Murray, parish of Bullalaba, portion M.L. 117: Commencing at the south-west corner of portion M.L. 81, and bounded thence on the north by the south boundary of that portion, bearing east 14 chains and 14 links; on the east by a line bearing south 14 chains and 15 links; on the south by a line bearing west 14 chains and 14 links; and on the west by a line bearing north 14 chains and 15 links to the point of commencement.

## Questions to be answered by Applicants to Lease.

WHEN receiving an Application to lease land for mining purposes, the Warden, Warden's Clerk, or an Agent, as the case may be, shall require the applicant or applicants, of his or their agent, to answer the following questions, and shall take down such answers in writing. The statement when complete, to be read over to, and signed by, the person furnishing the answers :—

- What was the date and hour of the day when you took possession of the land referred to in application No. 14? 10th day of February, 5 o'clock, p.m.
- Did you take possession by erecting posts and cutting trenches at each angle of the land? Yes.  
If No. 4 be replied to in the affirmative, then 5, 6, and 7.
- What was the diameter of the posts? Three inches.
- How high did they project above the surface when fixed in the ground? Over 3 feet.
- What was the length of each arm of each trench? and what was the depth of each trench? About 6 feet long about 9 inches deep.
- If a substitute for post or trench was used, describe it? Substitute for trench, in two corners being rocky (stones laid).
- At which angle of the land is the datum post fixed? Forty-feet easterly from the north-west corner.
- Did you affix a board or metal plate to the datum post? A board.

11.

No. 14, Queanbeyan, east of Captain's Flat, Molonglo River; area, 20 acres; names and addresses of applicants, Walter J. Lewis, Major's Creek, via Braidedwood; Bernhard Otto Holtermann, 647, George-street, Sydney.

11. What was written or painted on each board or plate? Mineral Lease applied for by Walter J. Lewis.
12. Where did you post the notices Schedule 1? Warden's Office, Queanbeyan, and Post Office, Captain's Flat.
13. When did you post such notices? On the 10th and 12th February, 1885.
14. Did anybody claim or appear to be in possession of the land applied for, or any portion of it? No.
15. Did you serve notice in the form Schedule 1 upon every such person? and when? No.
16. Have you obtained the consent of every such person to the granting of the lease for which you apply? No.

I, Walter J. Lewis, on behalf of self and B. O. Holtermann, declare that the foregoing questions have been answered by me truthfully in every particular, and the answers thereto have been read over to me and are correctly taken down in writing.

Witness to signature,—O. WILLANS.

WALTER J. LEWIS.

On a Reserve.

Mineral Lease Regulations.—Schedule 2.

Form of Application.

Sir,

Captain's Flat, Molonglo River, 16 February, 1885.

We hereby make application for a mineral lease for 20 years of that piece or parcel of land situated on the east of Captain's Flat, Molonglo River, parish of Ballalaba, county of Murray, and on a reserve, containing twenty acres, of which we took possession on the (10th) tenth day of February, at the hour of five o'clock in the afternoon, for the purpose of mining thereon and therein for silver, lead, and copper. Posts and L trenches at each angle thereof. The datum point is distant (40) forty feet in a easterly direction from the north-west corner of the area applied for.

Notice of our intention to make this application has been given in accordance with the regulations in that behalf, and we hand herewith a list of the persons who occupy or claim a right to the land aforesaid, or any part thereof, together with such consents as have obtained. We also hand herewith the sum of (£2) two pounds, being the first year's rent in advance of the said land, and the sum (£4) four pounds to cover the cost of survey.

We hereby acknowledge that this application is made upon the distinct understanding and condition that if we shall abandon or fail to proceed with it, or if it is refused, the Secretary for Mines for the time being may deduct from the sum of six pounds deposited as aforesaid any cost to which in his opinion the Crown may have been put in or about or in respect of this application; and this application shall thereupon become and be void, and the possession aforesaid shall cease and determine. And if the lease shall be granted, we shall and will commence mining operations upon or in connection with the demised land within one month from and after the granting thereof, and shall and will employ upon such land not less than four men during the first six months of the term thereby created, and not less than six men during the remainder of such term. And shall and will at any time when called upon in terms of the regulations relating to mineral leases, to do so, execute, and take delivery of such lease, or failing therein for a period of fourteen days, after being so called upon, we shall and will forfeit the said sum of six pounds, and all right, title, or interest in and to the said land and the possession thereof, and the said lease shall be forthwith cancelled. The land applied for is on a reserve, and we require the whole of the surface.

We have &c.,

WALTER J. LEWIS,

Major's Creek, *via* Braidwood.

BERNARD O. HOLTERMANN,

674, George-street, Sydney.

To the Honorable the Secretary for Mines, Sydney.

This application was received by me this 16th day of February, 1885, at the hour of 3 o'clock in the afternoon, and is numbered 14.

O. WILLANS.

Mineral Lease Regulations.—Schedule 6.

Notice of Application and Deposit.

Sir,

Queanbeyan, 16 February.

I have the honor to inform you that I have this day deposited with the Warden's Clerk at Queanbeyan the sum of £2, being the first year's rent in advance of 20 acres of land at Captain's Flat, for the purpose of mining for silver and copper, and the sum of £4, being the fees for survey of the said land. The number of my application is 14.

I have, &c.,

WALTER J. LEWIS

(For self and B. O. HOLTERMANN).

The Under Secretary for Mines, Sydney.

If the land herein referred to is within a reserve, you will please insert such word on the notice in accordance with instructions forwarded to you in November last, and return it.—T.C.B. (for U.S.), B.C., 19/2/85. The Warden's Clerk, Queanbeyan. The Warden's Clerk begs to state this is not an application for a lease, and is not properly a letter I should have anything to do with. The noting of a reserve will be found on the applications as directed by your memo. of 27 October last, and have been carried out since. This is, of course, on a reserve.—O. WILLANS, Warden's Clerk, 20/2/85, Queanbeyan. The Under Secretary for Mines.

Sir,

674, George-street, Sydney, 24 March, 1885.

I have to request that you will kindly receive this as a special application for the immediate survey and issue of a mineral lease of 20 acres, situate at Captain's Flat, Molonglo River, and applied for on the 16th February, 1885, at Queanbeyan, by myself and W. J. Lewis, as we are anxious to test the value of the same, prior to the removal of machinery from an adjoining locality, which has hitherto proved a failure. The number of my application is 14.

I have, &c.,

B. O. HOLTERMANN & Co.

The Honorable The Minister for Mines.

Application not received.—E.W.R., 27/3/85. The Warden's Clerk should be asked to forward the application for inspection, and to furnish his weekly returns of applications received during the end of month. Submitted.—R.N., 28/3/85. Warden's Clerk asked, 7/4/85. Approved.—G.E.H. (for U.S.), 30/3/85.

[Handed in by Mr. Waldron.]

C.

PROSECUTOR of the Vanderbilt Silver-mining Company (limited), Captain's Flat, N.S.W.

To be registered under "The Companies Statute, 1864."

Capital, £100,000, in 100,000 shares of £1 each.

50,000 shares, paid up to 15s., are offered to the public at 4s. on application and 4s. on allotment; the remaining 50,000 shares are issued to the vendors as paid up to 15s., and also the sum of £10,000 in cash as payment for the property. The balance, £10,000, goes to the credit of the Company, less cost of printing, legal expenses, &c., in connection with the formation of the Company.

Provisional

*Provisional Directors :*

W. P. Macgregor,	J. F. Turnbull,
C. W. Chapman,	W. Jamieson,
W. R. Wilson,	T. H. H. Goodwin, M.P., N.S.W.,
C. L. Garland, M.P., N.S.W.	

*Solicitor :*

W. J. Woolcott.

*Bankers :*

The Commercial Bank of Australia.

*Secretary :*

William Knox.

*Brokers :*

Chapman & Wakley, Melbourne,	Horn & Co., Adelaide,
R. M. Turner, Melbourne,	Keats & Temple, Adelaide.

THIS Company is formed to acquire and work for gold, silver, and lead, leases Nos. 1, 2, 4, 14, 19, 20, 21, 22, and 84, situate on the Molonglo gold-field (Captain's Flat), in the parishes of Bullongong and Ballallaba, Colony of New South Wales, and containing in all about 67 acres 2 roods; and also mineral lots Nos. 36, 37, 81, and 117, containing about 120 acres, together with a fifteen-head stamp mill now erected thereon.

The above properties have been carefully examined by mining experts engaged by the Provisional Directors, and highly satisfactory reports have been received, which can be seen on application to the Secretary.

It is not considered necessary to publish further particulars, beyond stating that active operations will at once be commenced under first-class management; and as the financial position of the Company will be a sound one, good results are confidently looked for within a reasonable time.

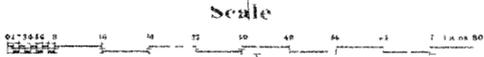
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NOTE.—The above is printed for public information only, as all the shares are allotted.

[One plan.]

# PLAN

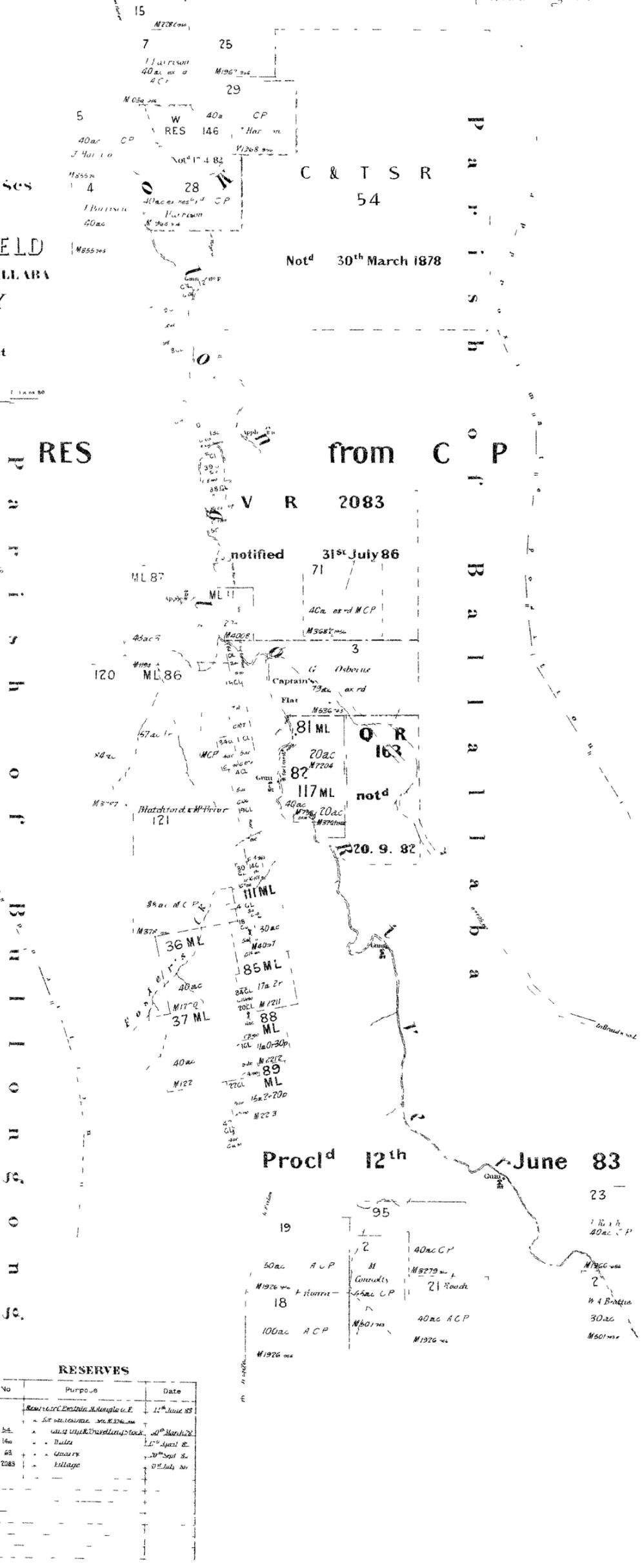
showing Gold and Mineral Leases  
**CAPTAIN'S FLAT**  
MOLONGLO GOLD FIELD  
PARISHES OF BULLONGONG AND BALLAHABA  
COUNTY OF MURRAY  
Queanbeyan Land District  
Tumut and Adelong Mining District



Boundaries shown thus  
Reserves ---  
ditto from C.P. ---  
Cancelled leases ---

Compiled in the Survey Branch Department of Mines  
Sydney

*Edward F. Pittman*  
Chief Mining Officer  
8th Dec 1878



## REFERENCE

Bullongong				Ballahaba			
Por	No	Ap	No	Por	No	Ap	No
1	58			1	66		
2	59			2	67		
3	60			3	68		
4	61			4	69		
5	62			5	70		
6	63			6	71		
7	64			7	72		
8	65			8	73		
9	66			9	74		
10	67			10	75		
11	68			11	76		
12	69			12	77		
13	70			13	78		
14	71			14	79		
15	72			15	80		
16	73			16	81		
17	74			17	82		
18	75			18	83		
19	76			19	84		
20	77			20	85		
21	78			21	86		
22	79			22	87		
23	80			23	88		
24	81			24	89		
25	82			25	90		
26	83			26	91		
27	84			27	92		
28	85			28	93		
29	86			29	94		
30	87			30	95		
31	88			31	96		
32	89			32	97		
33	90			33	98		
34	91			34	99		
35	92			35	100		
36	93			36	101		
37	94			37	102		
38	95			38	103		
39	96			39	104		
40	97			40	105		
41	98			41	106		
42	99			42	107		
43	100			43	108		
44	101			44	109		
45	102			45	110		
46	103			46	111		
47	104			47	112		
48	105			48	113		
49	106			49	114		
50	107			50	115		
51	108			51	116		
52	109			52	117		
53	110			53	118		
54	111			54	119		
55	112			55	120		
56	113			56	121		
57	114			57	122		
58	115			58	123		
59	116			59	124		
60	117			60	125		
61	118			61	126		
62	119			62	127		
63	120			63	128		
64	121			64	129		
65	122			65	130		

## RESERVES

No	Purpose	Date
1	Reserve for Captain's Flat Gold Field	12th June 83
2	for watercourse on E. side of road	20th March 72
3	for watercourse on E. side of road	11th April 82
4	for watercourse on E. side of road	10th Sept 82
5	for watercourse on E. side of road	10th July 82

1887-8.

LEGISLATIVE ASSEMBLY.

NEW SOUTH WALES.

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**MESSRS. HUGH M'NEILL AND PARTY—MINERAL LEASE  
AT CAPTAIN'S FLAT.**

(PETITION FROM HUGH M'NEILL AND PARTY TO BE HEARD BY COUNSEL OR SOLICITOR BEFORE  
SELECT COMMITTEE ON.)

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*Received by the Legislative Assembly, 5 June, 1888.*

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To the Honorable the Speaker and Members of the Legislative Assembly of New South Wales, in  
Parliament assembled.

The humble Petition of Hugh M'Neill, William Edwards, and John Huxham Blatchford, of  
Captain's Flat, in the said Colony,—

HUMBLY SHOWETH:—

1. That on the twenty-fourth day of April, one thousand eight hundred and eighty-eight, a Select Committee of your Honorable House was duly appointed by your Honorable House, with power to send for persons and papers, to inquire into and report upon the claims (if any) of Hugh M'Neill and party to compensation for losses sustained through the neglect of the Mining Department, to issue them a mineral lease at Captain's Flat.

2. That your Petitioners are the persons referred to as Hugh M'Neill and party.

3. That your Petitioners have been in possession of twenty acres of land at Captain's Flat aforesaid, since the eleventh day of August, one thousand eight hundred and eighty-four, on which date your Petitioners applied for a mineral lease of the said land, which application was refused.

4. That subsequently, namely, on the twenty-ninth day of January, one thousand eight hundred and eighty-five, your Petitioners again applied for a mineral lease of the said land, which application has also been refused.

5. Your Petitioners therefore humbly pray as follows:—That your Petitioners may be heard by Counsel or Solicitor before the said Select Committee, with liberty to adduce such evidence as they may be advised concerning the subject matter of the said inquiry in the interest of your Petitioners, and to examine and cross-examine such witnesses as may give evidence at such inquiry.

And your Petitioners, as in duty bound, will ever pray.

Dated at Sydney, this 4th day of June, 1888.

[3 signatures.]

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1887-8.

NEW SOUTH WALES.

MINING ACT FURTHER AMENDMENT ACT OF 1884.  
(REGULATIONS RELATING TO MINING LEASES.)

Presented to Parliament pursuant to Act 37 Vic. No. 13.

Department of Mines,  
Sydney, 2nd May, 1888.

NOTICE is hereby given that the following Regulations relating to Mining Leases under the Mining Act Further Amendment Act of 1884 are published for general information.

FRANCIS ABIGAIL.

REGULATIONS RELATING TO MINING  
LEASES UNDER THE MINING ACT  
FURTHER AMENDMENT ACT OF 1884.

WHEREAS, by the Mining Act Further Amendment Act of 1884, the Governor is empowered to make Regulations for certain purposes, to be dealt with as Regulations made by the Governor under the Principal Act: Now, therefore, His Excellency the Governor, by and with the advice of the Executive Council, doth make the Regulations following, that is to say:—

1. The holder or holders of any permit or authority granted under the Principal Act, and still in force, may make application in the form in the Schedule A hereto for the conversion of such permit or authority into a lease.

2. Upon receipt in the Department of Mines of such application, together with a sum of money equal to one year's rent of the land, and (if required) the fee for survey of the land, the Governor may, subject to the rents or royalties, or both, and to the covenants and conditions hereinafter prescribed, and to such special covenants and conditions as shall in certain cases appear to the Governor necessary, grant a lease of the land for the term applied for, or subject to such modifications as shall appear proper.

3. To obtain a lease of land referred to in section 2 of the said Act, not included in any permit or authority, the mode of taking possession, giving notice, and lodging application shall, where practicable, be the same as prescribed in the Regulations made under the Principal Act, relating respectively to Gold-mining and Mineral Leases; and such Regulations shall, except as otherwise expressly provided

in these Regulations, apply to all other matters relating to applications and objections thereto and to leases,—but the restrictions in such Regulations as to the form and dimensions of the land and the position of the boundary lines in regard to any vein, reef, or lode, shall not apply. Where, by reason of the land being under water, or from any other sufficient cause, possession cannot be taken, the applicant shall attach to his application a plan or sketch of the land applied for, and shall, in the notices and application, give such description as will lead to the ready identification thereof.

4. The Regulations made under the Principal Act relating to gold-mining shall, except as regards the form of application, the area, and the dimensions of the land, and the position of the boundaries in relation to any vein, reef, or lode, or as otherwise provided in these Regulations, apply to any Special Lease for gold-mining purposes. Every application for a Special Lease shall be in the form in the Schedule B hereto, and the extent of land demised by any such lease shall be in proportion to the number of men to be employed, and the capital to be expended in the purchase and erection of machinery, or the construction of costly works for the purpose of working the land, not exceeding 2 acres for every man employed, and 1 acre additional for every £200 to be expended in machinery, dams, or races, provided that the area demised by any one lease shall not exceed 100 acres.

5. Upon approval by the Governor of any application for a special lease, notice shall be published in the Gazette promising a lease of the land applied for, or so much thereof as may be available, upon condition that within a period to be named in such

notice, such a sum of money as may be approved by the Governor shall be expended in the purchase and erection of machinery or in the construction of works said in the application to be necessary, and upon compliance within such period or such extension thereof as may upon cause shown be approved by the Secretary for Mines, a special lease of the land aforesaid shall forthwith issue to the applicant; but upon the applicant failing to comply with the conditions aforesaid, the Governor may revoke the promise of lease and refuse the application, or may reduce the area of the land applied for to the dimensions proscribed for an ordinary lease.

6. Every lease granted under the Mining Act Further Amendment Act of 1884, shall be subject to the rents, or rents and royalties, and conditions following:—

7. Leases for mining for minerals, other than coal or gold, including the right to occupy the surface or some portion thereof, five shillings per acre per annum; (when no right to occupy any portion of the surface can be granted the Secretary for Mines may reduce the rent to two shillings and sixpence per acre per annum); for land wholly under water, one shilling and sixpence per acre per annum. Leases for coal-mining, including the right to occupy the surface or some portion thereof, two shillings per acre per annum; without the right to occupy any portion of the surface, one shilling and sixpence per acre per annum; for land wholly under water, one shilling per acre per annum. Leases for gold-mining, one pound per acre per annum. In respect of every ton of coal raised from the land demised, the sum of sixpence shall be paid as royalty: Provided that if the royalty payable in respect of the coal raised during any one year exceeds the rent paid for such year, the amount paid as rent may be deducted from the sum payable as royalty; but if the royalty as aforesaid in any one year amounts to less than the rent paid for such year, the lessee shall not for such year be required to pay royalty.

8. Upon or in connection with the land demised by any such lease, work shall be commenced within such period, and be carried on by such a number of men, in such manner, within such limits, and subject to such supervision as the Governor may in each case direct: Provided that the Secretary for Mines may at any time, and for any period, authorize the suspension, wholly or in part, of work upon or in connection with any such lease.

9. The term of any such lease shall be that named in the application, or such shorter term as shall be approved by the Governor, not being less than one year; and such term shall commence upon, and be computed from, the date on which the Governor shall approve of the granting of the lease.

10. The rents reserved under any such lease shall be paid in advance to the Colonial Treasurer, on or before the first day of each year of the term.

11. The royalties reserved under any such lease shall, subject to the deduction of rent as aforesaid, be paid to the Colonial Treasurer at the expiration of each year, or within one month thereafter, and with each such payment a statement shall be furnished, under the hand of the lessees, or some one of them, or of the manager of the mine, setting out the quantity and value of mineral raised from the land demised, and the accuracy of every such statement shall be verified by the statutory declaration of the person making it. The lessees or lessee shall keep a proper book, in which shall be entered the quantity of coal raised each day from the demised land, and such book shall at all times be open to the inspection of any officer of the Department of Mines.

12. If any lessee shall fail to execute his lease when called upon to do so, or shall fail to pay the rent or royalty reserved under his lease within the prescribed time, or shall fail to keep a proper record

of the quantity and value of the coal raised, or shall refuse to allow such record to be inspected by any officer of the Department of Mines, or shall fail to observe and perform the other conditions or covenants of his lease, or in the case of a special lease shall fail to expend in the purchase and erection of machinery, or the construction of dams, races, or other costly works, the amount of money proposed in the application to be so expended, he shall forfeit his right to such lease, and the Governor may thereupon, or at any time thereafter, cancel such lease, and upon publication in the Gazette of such cancellation the lease shall be absolutely void.

13. From and after the publication of these Regulations, the Regulations relating to Mining Leases, under the Mining Act Further Amendment Act, 1884, made by the Governor on the 16th day of March, 1886, and published in the Gazette, No. 164, on the 18th day of March, 1886, are hereby repealed; but such repeal shall not affect any proceeding, matter, or thing lawfully taken, done, commenced, or rights acquired before these Regulations came into operation; nevertheless, any application made under the repealed Regulations may be dealt with under these Regulations, and the holders of any lease granted under the repealed Regulations may surrender such lease with a view to obtain a lease of the same land under these Regulations, and upon such surrender being approved by the Governor, a lease in terms of these Regulations may forthwith issue to the holders of the surrendered lease.

#### SCHEDULE A.

To the Honorable the Secretary for Mines,  
being the holder of a \_\_\_\_\_ granted  
under section \_\_\_\_\_ of the Mining Act, 1874, to mine for \_\_\_\_\_  
all that piece or parcel of land being \_\_\_\_\_  
and containing \_\_\_\_\_ acres, more or less, do hereby apply for a  
lease of the said land for a period of \_\_\_\_\_ years, with the right  
to occupy \_\_\_\_\_ acres of the surface thereof in such position  
as may be approved of, and \_\_\_\_\_ undertake if such lease  
be granted to execute the same when called upon to do so, and  
within \_\_\_\_\_ days after the granting of such lease to commence  
work thereon [or upon adjoining land proposed to be worked  
in connection therewith, and to extend the underground works  
into such land with the utmost possible speed] and thereafter  
to employ in mining upon [or under] such land \_\_\_\_\_ men,  
and to observe and perform all the covenants and conditions  
contained in such lease; and \_\_\_\_\_ herewith tender  
the sum of \_\_\_\_\_ being the first year's rent of such land,  
and the fee for survey of the land, and \_\_\_\_\_ agree to  
forfeit such rent if \_\_\_\_\_ fail to accept and execute such  
lease when called upon to do so.  
Dated at \_\_\_\_\_ this \_\_\_\_\_ day of \_\_\_\_\_

Received at the Department of Mines, Sydney; this  
day of \_\_\_\_\_ 188 \_\_\_\_\_, at \_\_\_\_\_ o'clock in the \_\_\_\_\_ noon.  
Registrar.

#### SCHEDULE B.

To the Honorable the Secretary for Mines,  
hereby make application for a Special Lease for  
\_\_\_\_\_ years, of all that piece of land, being \_\_\_\_\_  
containing \_\_\_\_\_ acres for the purpose of gold-mining,  
possession of which was taken on the \_\_\_\_\_ day of  
188 \_\_\_\_\_, at the hour of \_\_\_\_\_ o'clock, m. The deposit proposed  
to be worked consists of \_\_\_\_\_ and by reason of \_\_\_\_\_  
requires for its proper development the  
erection or construction of the following machinery or works:—

the estimated cost of which is £ \_\_\_\_\_, and \_\_\_\_\_ propose to  
employ upon or in connection with such land \_\_\_\_\_ men; and  
herewith tender the sum of \_\_\_\_\_, being the first  
year's rent of such land and the fee for the survey of the land,  
and \_\_\_\_\_ agree, upon notification of approval of this applica-  
tion, to expend the sum of \_\_\_\_\_ in the purchase and erection  
of the machinery, or the construction of the works aforesaid,  
within \_\_\_\_\_ of notice of such approval, and to accept and  
execute the lease when ready, or failing therein to forfeit the  
rent deposited herewith.  
Dated at \_\_\_\_\_ this \_\_\_\_\_ day of \_\_\_\_\_ 188 \_\_\_\_\_.

Received this \_\_\_\_\_ day of \_\_\_\_\_ 188 \_\_\_\_\_, at the hour  
of \_\_\_\_\_ in the \_\_\_\_\_ noon.  
No. of application \_\_\_\_\_ Mining Registrar.

1887.

(THIRD SESSION.)

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LEGISLATIVE ASSEMBLY.

NEW SOUTH WALES.

---

MINING ON CHURCH AND SCHOOL LANDS BILL.

(MESSAGE No. 10.)

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*Ordered by the Legislative Assembly to be printed, 18 November, 1887.*

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CARRINGTON,  
*Governor.*

*Message No. 10.*

In accordance with the provisions contained in the 54th section of the Constitution Act, the Governor recommends for the consideration of the Legislative Assembly the expediency of making provision to meet the requisite expenses in connection with a Bill to make better provision for Mining on Church and School Lands.

*Government House, Sydney,*  
*18th November, 1887.*

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1887.

(THIRD SESSION.)

NEW SOUTH WALES.

## DEPARTMENT OF MINES.

(ANNUAL REPORT OF THE STOCK BRANCH, 1886.)

Presented to Parliament by Command.

TO THE HONORABLE FRANCIS ABIGAIL, ESQ., M.P., MINISTER FOR MINES.

Sir,

In submitting the Annual Report of the Chief Inspector of Stock for the year 1886, I have to express regret that, in consequence of the Branch being short-handed, and the pressure of work in the Government Printing Office, it could not be presented earlier; but the Progress Report furnished on the 10th of February last supplied such information as rendered the issue of this Report perhaps less urgent.

The return of horses for 1886 shows an increase for the year of 16,966, and a decrease of 5,040, as compared with the number at the end of the previous decennial period. The highest number—namely, 398,577—was reached in 1881; but in 1883 the number had fallen to 326,964. Since then there has been a steady increase.

The return of cattle for 1886 shows an increase for the year of 50,529, and a decrease, as compared with the number at the end of the previous decennial period, of 1,763,169. During the past ten years, with slight fluctuations, there was a steady decline, the lowest number being reached in 1885. In fact, in 1885 there were fewer cattle than at any time during the past twenty-six years.

The return of sheep for 1886 shows an increase for the year of 1,348,398. As compared with the number at the end of the previous decennial period, the number in 1886 shows an increase of 13,899,549. During the past twenty-six years the number of sheep has increased steadily from 6,119,169 in 1861 to 39,169,304 in 1886; while at the commencement of the present decennial period the number was only 21,521,662.

The total clip of wool for 1886 exceeds that of 1885 by 5,138,222 lb. Notwithstanding this increase, the quantity sent to Sydney in 1886 was less by 3,515,075 lb. than the quantity so sent in 1885; while the quantity sent to Melbourne shows an increase in 1886 of 4,431,839 lb., and to Adelaide of 5,047,323 lb.

The appendices to the Report contain interesting and important information, well deserving of careful consideration.

I have, &amp;c.,

HARRIE WOOD,

Under Secretary.

Department of Mines,

Sydney, 1st September, 1887.

6—A

The

## The Chief Inspector of Stock to The Under Secretary for Mines.

Sir,

Department of Mines, Stock Branch, Sydney, 1 July, 1887.

On the 10th February last I submitted a Progress Report for the year ending 31st December, 1886, giving the approximate number of the Horses, Cattle, and Sheep then in the colony; and I have now the honor to submit for your consideration my complete Report for that year on the working of this Branch, which is as usual based very much upon Inspectors' estimates, owners still showing very little inclination to furnish data. It will be seen that the actual numbers of Cattle and Sheep in the complete Report exceed those slightly in the Progress Report.

ALEX. BRUCE,  
Chief Inspector of Stock.

### I.—INSPECTORS AND THEIR WORK.

#### 1. *The Inspectors.*

There are now forty-five Inspectors, having charge of fifty-nine Sheep Districts.

#### 2. *The Inspections made.*

The inspections made during the year were as follows:—

Of Stock	...	...	...	...	...	12,844
Of Reserves	...	...	...	...	...	3,448
Of Pounds	...	...	...	...	...	442
Of Pastures	...	...	...	...	...	6,947
Of Dogs (imported)	...	...	...	...	...	921
Of Pigs (imported from the other colonies)	...	...	...	...	...	305

Total ... .. 24,907

This would give an average of 554 inspections made by each of the forty-five Inspectors.

#### 3. *Horses, Cattle, and Sheep inspected.*

*Horses.*—The number of horses inspected during the year was 70,612, by forty-two Inspectors.

*Cattle.*—The number of cattle inspected during the year was 706,037.

*Sheep.*—The number of sheep inspected during the year was 18,550,361. This is a decrease of 5,472,570 on last year's inspection. The decrease arises through their having been very few sheep travelling for feed during the year.

#### 4. *Inspections at Homebush Sale-yards.*

During the year bi-weekly visits to the Homebush Yards have been made by the Sydney Inspector, with the view to inspecting the stock yarded. The total number of stock submitted to auction was as follows:—Cattle, 88,214 head; sheep, 1,187,211 head, or a weekly average of 1,697 cattle and 22,830 sheep.

#### 5. *Distance travelled by Inspectors during the year on duty.*

The total number of miles travelled by forty-five Inspectors was 181,356, or an average of 4,030 each per annum, being a slight decrease on last year.

#### 6. *Prosecutions and Convictions.*

The prosecutions instituted during the past year were as follows:—

Under Sheep Act	...	...	...	...	133
„ Lands Act, trespass on reserves	...	...	...	...	1
„ Brands Act	...	...	...	...	7
„ Pastures Act	...	...	...	...	586
„ Public Watering Places Act	...	...	...	...	18
Total	...	...	...	...	745

This shows a very large decrease in the prosecutions under the Pastures Acts, and is accounted for by stockowners becoming better acquainted with the provisions of the Act and its enforcement by Inspectors.

The number of convictions were:—

Under Sheep Act	...	...	...	...	118
„ Lands Act	...	...	...	...	1
„ Brands Act	...	...	...	...	7
„ Pastures Act	...	...	...	...	398
„ Public Watering Places Act	...	...	...	...	12
Total	...	...	...	...	536

### II.—HORSES.

#### 1. *The Number.*

By returns the number of horses in the Colony during the twenty-six years previous to and including 1886 was as follows:—

Year.	No.	Year.	No.	Year.	No.
1861	251,497	1870	280,304	1879	360,038
1862	233,220	1871	337,597	1880	395,984
1863	273,389	1872	304,100	1881	398,577
1864	262,554	1873	328,408	1882	328,026
1865	284,567	1874	334,462	1883	326,964
1866	282,587	1875	357,697	1884	337,172
1867	278,437	1876	366,703	1885	344,697
1868	280,201	1877	328,150	1886	361,663
1869	280,818	1878	386,468		

This shows an increase of 16,966 during the year, and is due to the favourable season. The number of horses in each Sheep District will be found in Appendix A.

## 2. *The different Breeds.*

*Draught.*—The number returned under this head is ordinary, 90,509; thoroughbred, 15,473; total, 105,982.

*Light Harness.*—The number returned as ordinary is 87,820; thoroughbred, 12,294; total, 100,114.

*Saddle.*—The number of ordinary is given as 135,439; thoroughbred, 20,128; total, 155,567.

## 3. *Horses introduced.*

*From other districts.*—The number of stud horses introduced was 205, and stud mares, 286; ordinary mares, 1,774; and horses, 2,790.

*From other Colonies.*—The number introduced by sea was—stud horses, 86; stud mares, 92; and ordinary horses and mares, 1,188.

The number introduced overland was 85 stud mares and 65 stud horses; and ordinary, 117 mares and 102 horses.

*From England and other Countries.*—The numbers introduced under this head were 4 stud mares and 27 stud horses.

## 4. *Horses fit for Sale.*

The number returned as being fit for market during the present year is 17,979 draught, 16,422 light harness, and 26,380 saddle.

Of this number it is estimated that 14,877 are suited for the India and China Markets.

There were sent from five districts 690 horses to be shipped from Sydney, and from eight districts 847 horses to Melbourne for foreign countries.

## 5. *Improvement.*

In thirty eight districts the horses are said to be improving. The principal reasons given are—introduction of superior stud horses, breeding from good mares, more attention to the rules of breeding, and better prices obtainable. In seventeen districts the breed of horses is, so far as regards improvement, reported as stationary, and in four districts deteriorating; the reasons given being too much light blood introduced, breeding from weedy mares for racing purposes, and drought.

## 6. *Diseases in Horses.*

During the past year several cases of disease amongst horses were reported and investigated by the Government Veterinarian; amongst others, a disease termed "Australian Stringhalt," and chronic poisoning at Coonong, through the use of musty ensilage, particulars of which are detailed in Appendices B and C.

Besides this the only diseases reported were mild attacks of strangles in twelve districts, and a few cases of inflammation, worms, and colic.

In thirty-nine districts the horses are reported to have been entirely free from disease.

## 7. *Losses in Horses.*

The losses in horses from drought, starvation, wire in chaff, and other accidents as reported amount to 2,482. This must be considerably under-estimated.

## 8. *Wild Horses.*

The number of wild horses in the Colony is estimated at 7,443, which shows a decrease on the previous year of 2,179.

## 9. *Tax on Entire Horses.*

At the Rabbit Conference, held in Sydney in June 1886, the following resolution was carried on the motion of Mr. W. H. Walker, delegate for Tenterfield, viz.:—"That in view of the falling off in quality of the Australian horse, a tax of £5 be placed on entire horses over one year of age, and that the funds raised by this tax be distributed among the agricultural societies for prizes for horses, as the Government think fit." With the view of obtaining an expression of opinion from the various Pastures and Stock Protection Boards throughout the Colony, the then Secretary for Mines caused a circular letter (with copy resolution attached), dated 30th June, 1886, to be forwarded to the Chairman of each Board, with the request that it be submitted to the Board for consideration, and the decision arrived at to be intimated to this Department.

Out of fifty-nine Boards written to, forty have forwarded their opinions. Of this number twenty-three Boards approved of the tax suggested, some, however, consider the age should be eighteen months, while many are of opinion that it should be two years. One Board recommends that the tax should be increased to £10, so as to weed out inferior stallions. Two Boards only suggest a tax lower than that fixed in resolution.

Fourteen Boards are opposed to a tax; some as they consider it an interference with the liberty of the people, others that it would be a tax on the poor man's horse, others that it is not within the province of the Board, and others that the improvement of horses should be left to private enterprise.

One Board recommends the consideration of the resolution by the various Agricultural and Pastoral Societies; one Board considers the tax unnecessary so far as that particular district is concerned; the members of one Board are equally divided; and two Boards decline to express an opinion.

## III.—CATTLE.

1. *Number.*

The returns of cattle in the Colony during the twenty-six years ending 31st December, 1886, stand as follows:—

Year.	No.	Year.	No.
1861 ... ..	2,271,923	1874 ... ..	2,856,699
1862 ... ..	2,620,383	1875 ... ..	3,134,086
1863 ... ..	2,032,522	1876 ... ..	3,131,013
1864 ... ..	1,924,119	1877 ... ..	2,746,385
1865 ... ..	1,961,905	1878 ... ..	2,771,583
1866 ... ..	1,771,809	1879 ... ..	2,914,210
1867 ... ..	1,728,427	1880 ... ..	2,580,040
1868 ... ..	1,761,411	1881 ... ..	2,597,343
1869 ... ..	1,795,904	1882 ... ..	1,859,985
1870 ... ..	2,195,096	1883 ... ..	1,640,753
1871 ... ..	2,014,888	1884 ... ..	1,425,130
1872 ... ..	2,287,660	1885 ... ..	1,317,315
1873 ... ..	3,794,327	1886 ... ..	1,367,844

This shows an increase during the year of 50,529, and a decrease as compared with the year 1876 of 1,763,169.

The number of cattle in the several sheep districts will be found in Appendix A.

2. *Different Breeds.*

*Shorthorns.*—The number of pure-bred and stud Shorthorns is estimated at 34,819; and ordinary 526,099; total, 560,918.

*Herefords.*—Pure and stud, 15,430; ordinary, 151,801; total, 167,231.

*Devon.*—Pure and stud, 5,699; ordinary, 43,138; total, 48,837.

*Black-polled.*—Pure and stud, 368; ordinary, 719; total, 1,087.

*Ayrshire.*—Pure and stud, 942; ordinary, 2,595; total, 3,537.

*Alderneys.*—Pure and stud, 298; ordinary, 175; total, 473.

*Crosses.*—First crosses, 3,485; ordinary, 582,276; total, 585,761. The crosses are estimated as follows:—Shorthorn and Hereford, 220,463; Shorthorn and Devon, 75,618; Hereford and Devon, 34,533; Shorthorn and Black-polled, 2,560; Ayrshire and Shorthorn, 4,000; the balance, 248,247 being unrecognizable.

3. *Stock introduced.*

*From other Districts.*—Stud bulls, 218; stud cows, 764; total, 982; ordinary cattle, 53,267.

*From other Colonies by Sea.*—Stud bulls, 58; stud cows, 113; total, 171; ordinary cattle, 3,723.

*Overland.*—Stud bulls, 57; stud cows, 1,284; ordinary cattle, 68,172; total, 69,513.

*From England and other Countries.*—Nil. Importation prohibited.

4. *Increase and Decrease of Cattle.*

In thirty-three districts the cattle are reported to be increasing, for which the following reasons are given:—(1.) The good season. (2.) Considerable numbers of store cattle have been introduced from Queensland. (3.) More owners have taken to breeding cattle, and are selling off their sheep to replace them with cattle.

5. *The "Cast" of Fat and Store Cattle.*

The estimated "cast" of fat cattle to be sent to market during the coming year is 213,279, and store cattle, 139,269. From fifteen districts the fat cattle are principally sent to Melbourne; from three districts they are principally sent to Adelaide; and the remaining districts supply the markets of Sydney, Maitland, Mudgee, Bathurst, Orange, and Tamworth.

6. *How kept.*

The number of cattle kept wholly in paddocks is returned as 937,595; on open runs, 274,596; and the balance, 155,653, are depastured both ways.

7. *Improvement and Deterioration.*

In thirty-four districts the cattle are said to be improving; in twenty-one districts they are stationary; and in four districts deteriorating. The principal reasons given for the improvement are—introduction of good stud stock; more attention and care in selection; also, in culling and keeping in paddocks. The reasons given for deterioration are—inattention to breeding, many owners breeding from all sorts without respect to breed or quality.

8. *Their Diseases and Ailments (Pleuro-Pneumonia).*

In twenty-eight districts, on 177 runs, the cattle were reported as affected slightly with pleuro-pneumonia; and in thirty-one districts the cattle are reported as being free from that disease.

In twenty-five of the infected districts the disease was caused by contagion, from infected travelling stock from Queensland; in two districts its cause could not be traced, and in one district the cause not known.

From twenty-seven districts it is reported that inoculation was successfully performed on 117 out of 119 holdings or stations.

On the two holdings where the inoculation was unsuccessful the failure is attributed to bad virus, for a second operation proved successful.

In every case the result was satisfactory, the disease leaving the herds.

The number of owners in favour of inoculation is given as 4,592; against 1,106; undecided, 2,215; and 6,610 opinions not known.

The

The number of owners in favour of compulsory inoculation in the case of infected herds is given as 3,645; against it, 1,682; undecided, 2,066; and 6,628 opinions not known.

The Inspectors' reports show that the practice of inoculation for pleuro-pneumonia is becoming more and more general, and with very favourable results.

Having recently had occasion to obtain information with respect to the preservation of virus for inoculation, a circular was addressed to a few of the owners who have the largest dealings in cattle in the Colony; and in doing so the opportunity was taken to ask them to give their experience in inoculation. The questions asked, together with their answers, will be found in Appendix D to this report.

It is scarcely necessary to add that they thoroughly confirm the previous experience of this Colony; and it is inconceivable how any one, who is not utterly prejudiced against inoculation, can for a moment dispute its efficacy in the face of the statements here made by owners of such extensive experience as the gentlemen referred to, and who have been practising inoculation for upwards of twenty years,—for that would be tantamount to saying that our most intelligent and successful stock-owners are guilty of the absurdity of regularly going to the trouble, risk, and expense of performing an operation which is utterly useless—a conclusion to which, it is submitted, no sensible person will come.

But this is not all which can be adduced in support of inoculation.

It was stated at the Intercolonial Stock Conference held in Sydney, in September and October last, by Mr. John M'Kenzie, M.H.R., Otago, one of the delegates from New Zealand, that New Zealand having had to import cattle from Australia introduced pleuro into Otago, in the end of 1863, and that it existed there for two or three years; but that with careful regulations and inoculation they had been able to stamp it out, and that there was not a case of that disease now in New Zealand. (See page 93 of the Report of the Proceedings of the Conference.)

This is information of the greatest value, and ought, with the other confirmatory evidence, to lead to the introduction and passing of a law making inoculation compulsory in the case of all cattle infected or suspected of being infected with pleuro-pneumonia, and the slaughter of all those actually diseased.

#### 9. Losses from Disease and Drought.

The number of cattle reported to have died from Cumberland disease is 298; from blackleg, 12; from swelling in jaw or throat, 1,130; from ophthalmia, 527; from tuberculosis, 490; from red-water, 500; starvation, 500; and poisonous plants, 159; total, 3,616.

#### *Tuberculosis.*

This disease is attracting more attention year by year as its subtle character and incurable nature are better understood. It has in several instances been detected at the Homebush sale-yards, and brought under the notice of the police, who acting under instructions by the Board of Health, have seen that the cattle were destroyed as unfit for human food. At the Abattoirs too, cattle affected with this disease have been condemned, and the meat destroyed. As this disease is hereditary, and apt to be confounded with pleuro-pneumonia, and even may be communicated to the human subject by inoculation as well as by contact from one animal to another, it is very desirable that it should be stamped out by slaughter of all affected animals.

### IV.—SHEEP.

#### 1. The Number.

The number of sheep in the Colony during the twenty-six years ending 31st December, 1886, stands as follows:—

1861	...	...	6,119,169	1874	...	...	22,797,416
1862	...	...	6,550,896	1875	...	...	25,353,924
1863	...	...	7,169,126	1876	...	...	25,269,755
1864	...	...	9,082,463	1877	...	...	21,521,662
1865	...	...	9,650,106	1878	...	...	25,479,484
1866	...	...	11,644,593	1879	...	...	30,062,910
1867	...	...	15,066,377	1880	...	...	35,398,121
1868	...	...	16,000,090	1881	...	...	36,591,946
1869	...	...	16,848,217	1882	...	...	36,114,814
1870	...	...	16,218,825	1883	...	...	37,915,510
1871	...	...	16,766,012	1884	...	...	31,660,321
1872	...	...	17,873,696	1885	...	...	37,820,906
1873	...	...	18,990,595	1886	...	...	39,109,304

The number of sheep in the several sheep districts will be found in Appendix A.

#### Increase and Decrease.

This shows an increase of 1,348,398, which is attributable mainly to the favourable season, and good lambing in most of the districts. During the year 672,903 sheep crossed the border into Queensland.

2. *The different Breeds.*

## (1) Merino.

## Combing.

	Rams.	Ewes.	Wethers.	Lambs.	Total.
Pure and stud—Superfine ...	41,233	613,915	144,018	145,452	944,618
Ordinary ... ..	108,735	2,289,751	1,430,715	1,312,012	5,141,213
					<u>6,085,831</u>
Pure and stud—Medium ...	64,463	844,117	369,755	443,322	1,721,657
Ordinary ... ..	159,485	4,847,472	3,304,493	2,378,227	10,689,677
					<u>12,411,334</u>
Pure and stud—Strong ...	78,292	688,034	354,194	356,204	1,476,724
Ordinary ... ..	84,141	3,310,312	2,429,052	2,118,453	7,941,958
					<u>9,418,682</u>
Total, Combing ... ..					<u>27,915,847</u>

## Clothing.

Pure and stud—Superfine ...	9,658	145,301	82,187	79,444	316,590
Ordinary ... ..	42,104	497,183	353,674	219,528	1,112,489
					<u>1,429,079</u>
Pure and stud—Medium ...	25,716	258,102	157,775	118,423	560,016
Ordinary ... ..	124,703	2,198,484	1,436,558	1,137,980	4,897,725
					<u>5,457,741</u>
Pure and stud—Strong ...	62,805	280,370	135,160	140,778	619,113
Ordinary ... ..	40,735	1,069,898	1,025,332	509,729	2,645,694
					<u>3,264,807</u>
Total, Clothing ... ..					<u>10,151,627</u>

Total number of Merino Sheep ... .. 38,067,474

## (2) Long-woolled Sheep.

Pure and stud—Lincoln ...	2,838	31,514	23,401	21,685	79,438
Ordinary ... ..	3,184	67,633	40,664	31,045	142,526
Total, Lincoln ... ..					<u>221,964</u>
Pure and stud—Leicester ...	1,987	27,341	21,695	12,938	63,961
Ordinary ... ..	1,903	20,951	17,092	15,683	55,629
Total, Leicester ... ..					<u>119,590</u>
Pure and stud—Downs ...	413	3,307	957	2,000	6,677
Ordinary ... ..	1,260	7,285	7,712	3,710	19,967
Total, Downs ... ..					<u>26,644</u>
Pure and stud—Romney Marsh	10	100	154	19	283
Ordinary ... ..	428	4,466	3,715	1,293	9,902
Total, Romney Marsh ... ..					<u>10,185</u>
Total number, long-woolled sheep ... ..					<u>378,383</u>

## (3) Crosses.

Crosses of the above breeds (long-woolled) with Merino principally.	3,180	301,116	249,865	169,286	723,447
Total, crosses ... ..					<u>723,447</u>
Grand Total ... ..					<u>39,169,304</u>

### 3. Sheep introduced and imported.

- (1.) From other districts in this Colony.—Stud, 5,292; ordinary 1,164,449; total, 1,169,741.
- (2.) Overland from other Colonies.—Stud, 18,487; ordinary, 266,471; total, 284,958.
- (3.) By sea from other Colonies.—Stud, 2,199; ordinary, 44; total, 2,243.
- (4.) From England and Countries and Colonies other than Australian.—Nil.—Importation prohibited.

Number of sheep passed through quarantine and dressed.—During the year 1,500 stud sheep from the other Colonies (nearly all of which were from Tasmania) passed through quarantine and were dressed. The sheep from the inland districts in this Colony, through having been in contact with the imported sheep at the annual sales, were also dipped. The reports received from the various inspectors, into whose districts the sheep went after being dipped, show that the dipping has had no ill effects on the sheep either as to health or condition of wool. In one case only out of so large a number is it reported that a ewe died, and there is nothing to show that death was caused from the effects of the dip. For particulars of sales see Appendix E.

### 4. Long-woolled sheep.

Amongst the long-woolled sheep the Lincoln is said, in a large majority of the districts, to give the best returns in wool and in weight of mutton, the cross-bred sheep being second.

### 5. The "Cast" of Fat and Store Sheep.

The annual "cast" of fat sheep for the ensuing season is estimated at 3,824,333, and store sheep, 3,644,703.

### 6. How Sheep are kept.

Paddocked	...	...	...	...	...	36,682,801
Shepherded	...	...	...	...	...	1,504,904
Both ways	...	...	...	...	...	981,599
						39,169,304

### 7. Condition of the Flocks.

In forty-two districts the sheep are said to be improving; the principal reasons given being—more attention to breeding, paddocking, introduction of high-class rams and ewes, more careful classing and culling, and better season.

In ten districts they are said to be stationary, and in seven districts they are deteriorating. The reasons given are—effects of bad seasons, country not suitable, breeding from inferior ewes, bad management, and errors of judgment in selecting rams.

### 8. Lambing.

The general average for the whole of the Colony of the paddocked sheep is returned by Inspectors at 65½ per cent., and shepherded sheep at 61½ per cent. In thirty-three districts the lambing was high; in ten districts, ordinary; in eleven districts, low; and in three districts, very low. The reason given for the high percentage is the favourable season, sheep not harassed by dogs; while the ordinary and low percentages are attributable to the drought in early part of year, ewes weak and not able to rear lambs owing to scarcity of water and feed, followed by too much rain; and losses by dogs and eagle hawks.

The paddocked sheep show a higher percentage than the shepherded sheep by 4½ per cent.

### 9. The Clip.

#### Average per Sheep.

*Lambs.*—The number of lambs shorn in the grease was 5,525,350; the number washed, 62,100; total lambs shorn, 5,587,450.

*Sheep.*—The number of sheep shorn in the grease was 29,446,157; hot water and spout washed, 36,645; creek-washed, 494,544; and scoured, 965,874.

The average weights of the clip are estimated as follows:—

	Lambs.		Sheep.	
	lb.	oz.	lb.	oz.
Grease	1	9½	5	5½
Washed	.....	.....	.....	.....
Hot water and spout	.....	.....	3	6
Creek-washed	1	3½	3	0½
Scoured	.....	.....	2	14

#### Total Clip.

The total clip in the Colony for the year 1886, according to the number of sheep, would be 29,446,157 sheep shorn in the grease, average clip, 5 lb. 5½ oz. per sheep = 157,046,170 lb.; 36,645 sheep hot water and spout washed, average clip, 3 lb. 6 oz. per sheep = 123,677 lb.; 494,544 sheep, creek-washed, average clip, 3 lb. ¼ oz. per sheep = 1,491,359 lb.; 965,874 sheep scoured, average clip, 2 lb. 14 oz. = 2,776,838 lb. Lambs—5,525,350 lambs shorn in the grease, average clip, 1 lb. 9½ oz. per lamb = 8,719,693 lb.; 62,100 lambs washed, average clip per lamb, 1 lb. 3½ oz. = 75,634 lbs.; total clip, 170,233,471 lb.

#### Condition of Clip.

In twenty-six districts the clip is reported as very good and sound; in twenty-three districts, light and sound; and in remaining districts, light, tender, large quantity grass-seeds and burrs, and almost entire absence of yoke.

#### Exportation of Clip.

The clip grown in the Colony of New South Wales is shipped to England, America, France, and other countries, from the principal ports of the three Border Colonies, as well as from Sydney. The portion of our clip thus shipped from the other Colonies is often mistaken as the produce of those Colonies.

The

The following is an estimate of the clip sent to Sydney, and also the proportion sent across the Borders and to Melbourne, Adelaide, and Brisbane, for the years 1885 and 1886:—

Port of Shipment.	1885.			1886.		
	Greasy.	Washed.	Total.	Greasy.	Washed.	Total.
	lb.	lb.	lb.	lb.	lb.	lb.
Sydney .....	119,565,541	2,265,685	121,831,226	115,810,501	2,505,650	118,316,151
Melbourne .....	32,430,779	336,759	32,767,538	35,913,969	1,285,408	37,199,377
Adelaide .....	9,216,164	299,322	9,515,486	13,891,088	671,721	14,562,809
Brisbane .....	836,064	94,935	930,999	150,305	4,829	155,134
	162,038,548	2,996,701	165,035,249	165,765,863	4,467,608	170,233,471

The decrease in the quantity of wool sent to Sydney in 1886 is accounted for by the Murray, Murrumbidgee, and Darling Rivers being higher than ordinary during the latter part of the year, which enabled a large portion of the clip in the western and south-western districts to be sent by steamer to Echuca and Goolwa.

#### Classing the Clip.

In thirty-two districts the clip is reported as being well classed, and in the other districts it is not considered so; the reasons being—owners do not think it pays, want of convenience, sheds not large enough to warrant expense, and the difficulty of obtaining competent woolsorters.

#### Wool-presses.

A great number of different kinds of presses are used; those most in favour are Williams and Robinson's; rack, screw, and pinion presses are used. There is still room for improvement in the mode of pressing, especially by small owners.

#### Woolpacks.

The woolpacks used are mostly Calcutta and Dundee, of various sizes, from 4 ft. 6 in. × 2 ft. 2 in. to 5 ft. 3 in., and the weight from 10 to 12 lb.

On forty-two stations the wool is dumped before leaving.

#### 10. Sheep-brands and marks.

##### Ear-marking.

In most districts the system of ear-marking sheep is now properly carried out, and nearly all the owners approve of it.

##### Tattoo-marking.

This system of marking is mostly used by owners of stud sheep—not, as yet, to any great extent in the case of ordinary flock sheep; but where tried it has been found to act as a good preventive to sheep-stealing.

### V.—DISEASES IN SHEEP.

#### 1. Scab.

The flocks in this Colony, and in the Colonies of Queensland, Victoria, South Australia, and Tasmania are free from scab. It exists, but to no great extent, in New Zealand and Western Australia, and good progress in stamping out the disease is being made in both these Colonies. It is hoped they will soon be declared clean. The importation of sheep from New Zealand and Western Australia is prohibited.

#### 2. Anthrax—Splenic Apoplexy.

Anthrax was very disastrous in some districts last year, sheep dying by thousands; and at Dubbo the Government Veterinarian investigated an outbreak of this disease in which some 200 cattle in a travelling mob died.

It is so far satisfactory to know the cause is now well understood; and steps are being taken to cultivate a virus for protective inoculation, as the reports shown below, received from foreign countries in reply to questions submitted by this Department, recommend that course to be adopted:—

#### ABSTRACT OF REPORTS.

*Belgium.*—The only successful treatment for this disease is preventive treatment, which consists of Pasteur's method of inoculation, which has been tried against bacteridian anthrax with good practical results, the vaccine being procured from Paris. The virus of splenic apoplexy is not considered to be protective against all forms of anthraloid diseases, and is suitable for sheep, cattle, and horses as long as the bacteridian anthrax is being dealt with. Impossible to say if any danger would exist by introducing to this Colony a European form of anthrax by importing the attenuated virus of Pasteur; such should be tested,

tested. As it is probable colonial anthrax is the same as that in Belgium, it would present but little difference in animals of same species. Think that the cultivation of virus as in Paris could be carried on elsewhere. Have no special method, being too near place of production; but are studying mode of cultivation of vaccine. In practising inoculation we use Pravaz syringe, and conform to Mons. Pasteur's recommendations. The period animals are protected from disease—after successful inoculation has not been mathematically solved.

*America.*—Has taken no action in the matter.

*France.*—Forwarded book on treatment as practised by Mons. Pasteur, from which translations have been made, and steps are being taken to cultivate virus.

*England.*—Has not attempted the cultivation of virus for general inoculation.

### 3. *Anæmia.*

This ailment, which has carried off a good many young rams in the country lying between the Murray and Murrumbidgee, was investigated by the Government Veterinarian. His report appeared in my Report for the year 1885. The ailment again made its appearance last year in the Scone district to some slight extent.

### 4. *Foot-rot.*

In eight districts the sheep have been slightly affected with foot-rot during the year; the reasons given being—wet season, swampy ground, country not suitable, and overgrowth of hoof. The remedies principally used were paring, arsenic and blue-stone; carbolic acid, turpentine, &c., with satisfactory results.

### 5. *Fluke.*

In nine districts the sheep were slightly affected with fluke, through drinking stagnant water and depasturing on sour, unsound country. The remedies used were—removing to sound country, salt, tar and turps, sulphate of iron, and salt and sulphur, with good results.

### 6. *Parasitic Worms.*

In four districts the sheep are reported as having been infested with worms, caused by the rainy season and feeding on wet country.

Sheep suffer from many varieties at the same time. Amphistomes, in the runner or paunch; pentastomes, in the frontal sinuses; strongyles, in the intestines; flukes, in the liver; hydatids, in the brain; tænia, in the bowels; cysticercus, in the flesh; filaria, in the bronchial tubes; ascariæ lumbri-cordes, in the bowels; nematodes, eight ovine species; anchytostonum, in the stomach.

Of these, the most common and most injurious to the sheep, are the tænia (the tape-worm), the filaria (the lung worm), and the anchytostonum (the thread stomach worm).

It will be easy to understand that too much reliance should not be placed on the curative effects of any one anthelmintic. These remedies should be combined; as some act on one part of the animal, some on another; but the best remedy of all is to move to good feed on sound land.

It is during the first year, immediately after weaning, that worms are most likely to do harm, therefore that is the time to avoid their invasion, and to adopt preventive measures, such as keeping the sheep well supplied with Liverpool salt, and drenching, where necessary, with arsenic.

### 7. *Supposed Poison Plant—"Euphorbia Drummondii."*

*Euphorbia Drummondii* is no longer looked on as being poisonous in this Colony. In March, and again in December, the Government Veterinarian fed sheep on and otherwise experimented with this weed, and chemical analysis have been made in the Government Laboratory, which confirm the opinion that it contains no poison, while many of the sheep owners in the Riverina district have purposely allowed sheep to eat it experimentally in places where it has grown luxuriantly; and although they eat it voraciously and filled their stomachs with it, no ill effects whatever have followed.

It has been noted that this weed grows abundantly in parts of the Colony, and has been constantly eaten by sheep and cattle without any ill effects.

A probable explanation of its evil reputation among drovers and others may be that it might cause flatulency and indigestion to hungry stock, in the same manner as trefoil, clover, young thistles, and other succulent herbage would be liable to do under similar circumstances, especially where starving stock have gorged themselves on the weed, and then been allowed to drink freely of water.

### 8. *Losses through Drought.*

Although the returns for the year show a considerable increase in sheep, yet it will be seen, on reference to appendix A, that in some districts (the south-western) the ordinary increase has not been reached, through the continuance of the drought in the early part of the year.

## VI.—PIGS.

As pigs were declared by proclamation of 8th January, 1885, to be subject to the provisions of the Imported Stock Acts of 1871 and 1884, it is necessary that they should find a place in this Report.

The number of pigs in the Colony, as returned, is 209,576, being an increase of 882 as compared with returns for previous year.

### *Disease in Pigs.*

No disease has been reported amongst pigs.

## VII.—DOGS.

Thirty-two foreign dogs, *i.e.*, dogs from England, India, America, France, and Germany, and other places outside the Australasian Colonies, passed through a 6-months' quarantine during the year, and 632 Colonial dogs were inspected at the port of Sydney.

*Diseases in Dogs.*

Rabies has been more prevalent in England, France, and America than usual; outbreaks are also reported from South Africa and the Mauritius. In England packs of fox hounds have had to be killed, and the deer in Richmond Park became rabid from the bite of a dog; they had to be destroyed. In the United States of America a rabid dog bit a number of cattle and all had to be killed; the last case did not develop the disease until 160 days after being bitten.

Rabies never having been introduced into these Colonies it is of the greatest importance that no relaxation in the quarantine regulations be entertained; as the short time in which steamers make their passages increases the risk of the importation of this the most dreaded of all animal diseases.

## VIII.—TRAVELLING STOCK.

1. *Trespass on Reserves.*

In forty-three districts the driftways and reserves for travelling stock are reported as having been trespassed upon, more or less, by neighbouring lessees' and selectors' stock. In many instances the stripping of the reserves of pasture arises through their not being withdrawn from lease, and being used by the lessees of the run. In sixteen districts they are reported as being entirely free from trespass. Inspectors suggest, in order to enable them to exercise proper supervision over them, that the boundaries should be properly marked. Some of them also suggest fencing in the reserves and appointing care-takers.

The marking of the reserves has not yet been commenced, notwithstanding the urgent necessity for this work.

2. *Grass on Reserves and Driftways.*

In fifteen districts the Inspectors report that there is not sufficient grass on the reserves and driftways in their districts to enable fat stock to reach the market in good condition; in seven districts that there is only sufficient in good seasons; and in thirty-seven districts, that as a rule, there is sufficient grass on these reservations.

3. *Ringbarking Driftways and Reserves.*

Although the pasture on the driftways and reserves is not now, during the good season, short of the requirements of the stock traffic, it is urged that as the ringbarking of the driftways and reserves used by travelling stock would everywhere largely increase and improve the pastures upon them—in some cases to the extent of even 400 and 500 per cent., that this work be undertaken. It would give employment to a large number of the men now out of work, and could be carried out by contract at reasonable rates.

4. *New Roads for Travelling Stock.*

In seventeen districts new roads for travelling stock are required; and in forty-two districts no new droving roads are recommended, except those previously reported on.

5. *New Reserves for Travelling Stock.*

In sixteen districts new reserves for travelling stock are required; in forty-three districts there are sufficient reserves, with the exception of those previously recommended.

6. *New Wells, Tanks, or Dams.*

In twenty-five districts the Inspectors report that new wells, tanks, or dams should be constructed by the Government at places which they indicate.

7. *Travelling Charges for Stock.*

In twenty districts travelling charges for stock have been collected on sixty-two separate occasions; the total amount collected being £7,570 9s. 5d., of which £5,057 9s. 5d. has been refunded to date on appeal to the Boards.

8. *Laws relating to Travelling.*

In all the districts the Inspectors report that the provisions of the amended sheep Acts relating to travelling stock are working well, and have almost put an end to loafing.

9. *Sheep Travelling for Grass and Water.*

In the case of thirty-four districts the Inspectors report that during the year 2,290,250 sheep passed through, either making for country where they could obtain grass and water, or returning to their own runs. This shows a very large reduction in the number of sheep travelling for this purpose, attributable to the good season.

## IX.—REGISTRATION OF HORSE AND CATTLE BRANDS.

1. *Brands registered.*

The number of horse and cattle brands registered up to 31st December, 1886, was 55,049. The number of brands registered during the year 1886 was—horse brands (alone), 348; cattle brands (alone), 396; and horse and cattle brands, 817; making a total of 1,561, being a decrease of 3 applications on the previous year.

2. *Brands transferred.*

The brands recorded during the year 1886 as transferred were—horse brands, 11; cattle brands, 13; horse and cattle brands, 69; total, 93.

3. *Brands cancelled.*

The brands cancelled (horse and cattle) in 1886 were 6.

4. *Address changed.*

The number of addresses of owners changed in 1886 was 47.

5. *Compliance with the Act.*

In fifty-three districts the provisions relating to registration and the other requirements of the Act are reported as being duly carried out, and in the remaining six districts fairly so.

6. *Benefits of the Act.*

In all the districts the Inspectors, in alluding to the benefits of the Act, report that it prevents duffing, stock stealing, facilitates identification, assists in recovering lost stock, and otherwise is a great convenience and protection to stock-owners.

## X.—POUNDS.

1. *Number and Inspection.*

There are 291 pounds in the Colony, some of which are at present closed for want of pound-keepers. The whole of the pounds are inspected periodically by the various Inspectors of Stock.

2. *State of Yards.*

Thirty-four of the pound yards are reported to be old, and several require renewing, being unfit for the safe custody of stock; eight are reported as not being up to the requirements of the Act, and the remainder are said to be in a fair and good condition.

3. *Keeping and Depasturing Pound Stock.*

The provision made for the proper sustenance of impounded stock, according to the reports received, is satisfactory. As a rule poundkeepers have now paddocks for the stock.

4. *Management of Pounds.*

The poundkeepers generally are reported to be performing their duties in a satisfactory manner, except in one instance; and the appointment of Inspectors of Stock as Inspectors of Pounds has had a very beneficial effect.

## XI.—NOXIOUS ANIMALS.

1. *The Districts in which the Pastures and Stock Protection Act is in force.*

The Act has been brought into operation in all the districts, except Kiama.

2. *Receipts and Expenditure under the Act.*

The amount of assessment paid by stock-owners during the year 1885 was £61,754 15s. 4d., and the amount expended, £67,432 1s. 8d. The amount of assessment paid by stock-owners in 1886 was £41,585, and the amount expended £64,023 8s. 9d., the difference being accounted for by the subsidy granted by the Government to the Boards. Five districts are reported to be in debt to the amount of £1,177 5s. 6d.

In twenty districts full rates were levied, in seven districts half rates, and in twenty-six districts less than full rates, while in six districts no rates whatever were levied.

During the year the bonuses paid by the Boards for scalps ranged as follows:—For kangaroos, from 2d. to 1s. 6d; wallaby, from 1d. to 1s.; paddymelon, from 2d. to 1s; hares, from 2d. to 1s. 6d; eagle hawks, 3s. to 3s. 6d.; native dogs, from 10s. to 60s.; pups, 2s. 6d. to 10s.; wild pigs, 1s.; and opossums, 2d.

3. *Estimated number of Noxious Animals.*

The aggregate of the returns by Inspectors of the estimated numbers of noxious animals in their districts shows that there are supposed to be 2,225,700 kangaroos, 2,952,634 wallabies, and 33,618 native dogs, 301,532 hares, and 2,460 wild pigs in the Colony.

#### 4. Increase and Decrease.

Kangaroos are reported to be increasing in three districts, wallabies in six districts, native dogs in seven districts, hares in sixteen districts, and wild pigs in two districts. In forty districts kangaroos are reported to be decreasing, wallabies and native dogs in thirty-two districts, hares in four districts, and wild pigs in six districts.

#### 5. Number destroyed.

The number of kangaroos destroyed during the past year was 1,106,478; of wallabies, 594,603; of wild pigs, 562; of hares, 28,623; of native dogs, 9,560; and of eagle hawks, 137.

#### 6. Steps taken for their Destruction.

In the majority of the districts hunting with dogs, drives, shooting, and trapping have been adopted with satisfactory results. In thirty-six districts poison has been used with fair to best results, and only from six districts has it been reported as unsuccessful.

#### 7. Amendments suggested in the Act.

It is suggested that the Government should administer the Act, and grant subsidy at rate of 10s. in the £, irrespective of whether full rates have been levied or not; that uniform rates be levied; that all assessments be paid to a general fund at the Treasury; that the rates of bonuses be the same throughout the Colony; that all owners make returns of their stock on a particular day; and that all owners should contribute, irrespective of the number of stock.

#### 8. Losses from Tame and Native Dogs.

The losses in stock for the past year from the ravages of native dogs are estimated at 72,861 sheep, valued at £22,530; and from tame dogs, 67,979 sheep, valued at £23,319; making the loss from tame and native dogs together £50,849.

### XII.—COMMONS.

#### 1. Number and Extent.

The number of permanent commons in the Colony is 140, with an average extent of about 1,250 acres each. The number of temporary commons is 167, with an average extent of 2,000 acres each.

#### 2. Number of Commoners, Stock, &c.

The average number of commoners to each common is estimated at 148, and the average number of stock kept on each common is 237.

In twelve districts the commons are reported to be used for other purposes than that of grazing commoners' stock.

### XIII.—MISCELLANEOUS.

#### 1. Artificial Grasses.

In twenty-six districts artificial grasses have been sown during the year to a small extent, in fourteen districts to a large extent, and in remaining districts none; the most successful being lucerne, prairie, and rye.

#### 2. Number and Division of Runs.

The number of open or unenclosed runs in the Colony is 7,233; the number enclosed is 30,395; the number partially subdivided is 12,974; and the number properly subdivided is 17,389.

#### 3. Improvements, Fencing, Dams, Tanks, and Wells.

The number of miles of fencing throughout the Colony is estimated at 992,269, at an average cost of £50 Gs. 9d. per mile, amounting to £49,948,340 16s.

The number of dams used for stock purposes is estimated at 19,121, at an average cost of £84 13s. 9d.; number of tanks, 23,347, average cost of each, £167 10s. 6d.; and the number of wells used is estimated at 2,703, at an average cost of £208 4s. each.

Cost of fencing, £49,948,340 16s.; cost of dams, £1,619,326; cost of tanks, £3,911,291; cost of wells, £562,772; making a total of £56,041,730, as representing the amount expended by way of improvements, &c.

#### 4. Plants and Weeds.

In twenty-one districts Trefoil burr grows to a slight extent; in twenty-seven districts to a large extent; and in eleven districts there is none reported.

In twenty-eight districts variegated thistle is reported to a slight extent; in twenty to a considerable extent; and eleven districts are reported as free from it.

In thirty-two districts black thistle is reported to a slight extent; in twelve to a great extent; and fifteen districts are reported to be free from it.

In thirty-four districts the land is reported as being slightly infested with Bathurst burr; in twenty-one to a large extent; and in four the land is not infested.

Other noxious weeds are reported to a slight extent from twenty-six districts; to a great extent from eighteen districts; and fifteen districts are said to be free from them.

Darling pea reported in three districts; also roley poley, dandelion, barley green, and a plant known as "Saucy Jack" is making its appearance.

### 5. Cost of Clearing Commons, Reserves, &c., of Weeds.

The cost of clearing the permanent commons of noxious woods throughout the Colony is estimated at £20,321; the temporary commons, £35,817; the police paddocks, £1,990; the travelling stock reserves, £114,083; and the droving roads at £102,417; amounting in all to (say) £274,623.

### 6. Examination of intending Applicants for appointment of Inspector.

During the past year two examinations were held by the Stock Board of Examiners. The following table shows the result in each case.

Date of Examination.	Number of Candidates.	Names of Successful Candidates.	Nature of Certificate issued.
1886.			
February 26 .....	12	W. G. Dowling .....	1st Class.
		John A. Gamaack .....	2nd Class.
		B. O. Meek .....	2nd Class.
		Alfred Welman .....	2nd Class.
December 15 .....	4	Arthur James .....	2nd Class.

From the above it will be seen that sixteen candidates were examined, of whom one received 1st class, and four 2nd class certificates.

### 7. A Fresh Meat Trade.

Mr. Gilderoy W. Griffin, Consul for the United States, who has done so much to make our resources known there, and to promote trade between the Colonies and America, has kindly obtained from the Commissioner of Agriculture, Washington, an exhaustive and very valuable report on the fresh meat trade in the United States.

This Report, which is given at length as Appendix F, completely confirms the views frequently advanced by me during the last five or six years,—“That our fat stock should no longer be subjected to the terrible illusage and starvation from which they now so frequently suffer, but should be killed near the pastures, and the meat sent to market by rail;” for it shows that the fat stock trade in America, in spite of the powerful vested interests which exist there, is fast becoming a fresh meat one. In the short space of six years the volume of the fresh meat trade from the Western to the Eastern States of America, which only began in 1880, has increased with great rapidity, and has by this time overtaken and passed that of the live stock trade; and the Commissioner of Agriculture in reply to the question whether the fresh meat trade is likely to increase, very tersely observed that, “It must continue to increase unless there should be a revolution in trade affairs, and in the desire of the people to obtain the best meat for the smallest outlay,” a contingency which it would be simply absurd would ever arise.

When, again, we see by this report that fresh meat is now regularly carried at all seasons of the year from the States in the far West to the Eastern seaboard; and when we know that some 2,000 bodies of beef chilled (not frozen) are regularly sent every week 1,000 miles from Chicago to New York or Boston by rail, thence by steamer across the Atlantic, over 3,000 more, to Liverpool, and thence by rail to London, there to be sold in such good condition that the consumers who purchase it do not know but they are being served with Scotch beef—it is ridiculous to assert, as some of those in the live stock trade in Sydney do, that we cannot kill our fat stock at Bourke and send the meat down safely for sale in Sydney, seeing that the meat from there can be delivered in Sydney in twenty-six hours, while it must take at least ten or twelve days before meat from Chicago can be delivered in London.

Then as to the cost of conveying the cattle alive and dead to market,—it is found, as was supposed, that fully one-third more bodies of beef can be carried on the train in the same space than live cattle, so that taking the charge for the conveyance of a bullock from Bourke to Sydney at 25s., the current rate for live stock, under the Fresh Meat Trade (as four more bodies of beef can be put in a truck than live cattle) there would be a saving in cost of freight of (say) £5 on the truck load. This would, of course, far more than cover the cost of ice (in America with the temperature at from 90° to 110° in the shade, the ice for the same distance costs 2s. per body), and other necessary expenses incurred in carrying out the fresh meat system. In fact, it is believed that there would be a direct saving of 15s. a head by killing and chilling cattle at Bourke instead of sending them down alive, while at the same time the following other highly important advantages would accrue from the adoption of a fresh meat trade:—

- (1.) The terrible illusage and cruelty to which the live stock are now subjected would, to a very large extent, be prevented. Fat stock trucked at Bourke, or even 100 miles nearer Sydney, are on an average six or seven days at least without any food whatever.
- (2.) All the flavour and nutriment of the meat would be preserved.
- (3.) The heavy shrinkage in the weight of the stock which occurs through this treatment would be saved.
- (4.) The Railway Department, by being able to make use of the meat-vans for all kinds of back loading, would save tens of thousands a year now spent in hauling empty sheep and cattle trucks back up country, as there are very few sorts of ordinary loading which can be put into these trucks. Whatever trouble may be taken to clean them the smell of the stock can never be got rid of.

Nor would this be all the advantages which would be attained by the change. With the completion of the spacious meat market on the railway line at Darling Harbour, now being fitted up with salemen's stalls and chill-room, we will very shortly see extensive Freezing, Tinning, and Salting Works erected in the vicinity of the market (they would create no nuisance whatever), and in this way the whole of the meat, and every part of it, will be turned to the best possible account, and the heavy losses which have been entailed on owners in bypast years through glutted markets will, to a very large extent, be avoided; for the meat thus killed up country will, as a rule, be of the primest quality and fit for any market

in the world, and when the requirements of the Sydney trade are met the balance will, as the case may be either be sold for freezing and shipment to London, or for tinning or salting, and the market cleared. If, our fat stock trade were conducted this way, and due care exercised in its management, Sydney, with its large ocean-going steamers, cheap coals, and the railways running to Hay, Bourke, and Tenterfield, ought to do by far the largest meat export trade of any port in the Australian Colonies.

Besides the completion of the meat market and chill-rooms at Darling Harbour, it will be necessary that proper meat trucks with refrigerating fittings should be placed on the line, and that a killing and chilling depôt should be established at Bourke, and another at (say) Dubbo or Wellington on the Western line, and at (say) Hay and Junee on the Southern. When they are, others at places such as Orange and Goulburn would very soon follow, and also on the Northern line when it is completed.

It is understood that the Railway Department will provide the necessary meat trucks.

As regards again, the killing and chilling depôts, these will have to be provided by Joint Stock Companies, in which both owners of stock and the trades people of the towns in which they are established will take shares, the owners to enhance the value of their stock and the tradespeople to increase their business.

It is believed that £5,000 or £6,000 will be sufficient capital to erect and work a killing and chilling depôt, as the business will be a purely agency one.

The companies will receive and slaughter the stock, and chill and put the meat in the trucks at a moderate charge per head, as they will take such of the offal as they can utilize as part payment.

For particulars *re* surplus meat of the Colonies see paper by Mr. Coghlan, Government Statistician given as Appendix G.

#### S. Intercolonial Stock Conference.

With the view to assimilating the regulations in force in the Australasian colonies, relating to stock and noxious animals and plants, the Government of this colony on 30th July, 1886, addressed a circular letter to the other colonies inviting them to send their Chief Inspectors of Stock, and two (afterwards altered to three) gentlemen connected with stock breeding, to a conference on these subjects to be held in Sydney.

This invitation was accepted by all the colonies (except Western Australia), and the Conference met on the 27th September following; but not in equal numbers from all the colonies. The Delegates were:—

New South Wales.—Mr. A. Bruce, Chief Inspector of Stock; Mr. R. G. Higgins, Stock Breeder; Mr. E. Stanley, F.R.C.V.S., Government Veterinarian.

Victoria.—Mr. E. M. Curr, Chief Inspector of Stock.

Queensland.—Mr. P. R. Gordon, Chief Inspector of Stock; Hon. H. C. Wood, M.L.C., Stock Breeder.

Tasmania.—Mr. T. A. Tahart, Chief Inspector of Stock; Mr. A. Park, M.R.C.V.S., Government Veterinarian; Mr. J. Meredith, Stock Breeder.

New Zealand.—Hon. W. S. Peter, M.L.C., Stock Breeder; Mr. J. D. Iance, M.H.R., Stock Breeder; Mr. J. Mackenzie, M.H.R., Stock Breeder; Mr. G. S. Cooper, Under-Secretary, Wellington.

The Conference held ten meetings, and dealt with the following subjects:—

1. Diseases in animals and their treatment.
2. Interchange of Australasian animals.
3. The introduction of foreign animals.
4. Publication of information with respect to diseases.
5. Destruction of noxious animals.
6. Destruction of noxious plants.
7. Branding and marking of stock.
8. A Triennial Intercolonial Stock Conference.

These matters were fully discussed and resolutions passed with respect to them, which, if adopted by the several colonies, will, it is believed, effect the object of the Conference; and while they will increase the protection of the stock from disease, and the land from noxious animals and plants, they will also remove unnecessary restrictions from the Intercolonial Stock Traffic.

I have, &c.,  
ALEX. BRUCE,  
Chief Inspector of Stock.

#### APPENDIX A.

##### RETURN of Stock in the Several Sheep Districts.

Districts.	Year 1885.					Year 1886.				
	Acreage.	Horses.	Cattle.	Sheep.	Pigs.	Acreage.	Horses.	Cattle.	Sheep.	Pigs.
Albury .....	.....	5,846	12,698	598,171	.....	834,801	5,624	11,772	539,561	.....
Armidale.....	.....	8,502	63,262	1,307,099	.....	2,925,707	9,103	60,049	1,347,235	.....
Balranald .....	.....	2,447	3,142	881,655	.....	5,419,209½	2,539	3,123	1,058,772	.....
Bathurst .....	.....	12,862	28,822	419,932	.....	1,224,969	14,002	28,265	402,795	.....
Berrima .....	.....	3,631	21,822	17,706	.....	216,751½	3,490	22,457	12,383	.....
Bombala .....	.....	3,348	11,570	284,187	.....	537,710	3,348	10,275	251,020	.....
Booligal .....	.....	2,863	2,340	1,091,045	.....	3,794,208	2,856	2,932	1,013,532	.....
Bourke .....	.....	5,819	34,247	2,184,680	.....	2,417,601	5,648	29,490	2,193,743	.....
Braidwood .....	.....	3,908	23,962	58,148	.....	364,553	3,638	24,243	48,649	.....
Brewarrina .....	.....	2,428	8,680	845,244	.....	3,717,170	2,305	10,577	927,795	.....
Broulee .....	.....	2,449	19,593	1,690	.....	263,698½	2,554	13,148	2,080	.....
Cannonbar .....	.....	2,210	11,622	856,592	.....	3,153,168	1,980	10,515	919,040	.....
Carcoar .....	.....	6,718	10,712	495,916	.....	994,742	6,768	10,469	499,184	.....
Casino .....	.....	13,296	144,361	2,141	.....	2,018,482	14,555	135,050	1,634	.....
Cobar .....	.....	1,908	3,769	1,044,443	.....	6,158,654	2,002	6,395	1,198,951	.....

District.	Year 1885.					Year 1886.				
	Acreage.	Horses.	Cattle.	Sheep.	Pigs.	Acreage.	Horses.	Cattle.	Sheep.	Pigs.
Condobolin .....	2,481	4,476	1,253,437	.....	.....	5,813,830½	2,760	5,067	1,253,127	.....
Cooma .....	7,536	24,369	835,587	.....	.....	1,571,724	7,588	22,478	697,969	.....
Coonabarabran .....	2,813	4,562	675,025	.....	.....	2,392,684½	2,808	4,402	611,600	.....
Coonamble .....	2,916	5,140	994,895	.....	.....	2,824,459	2,934	8,366	1,248,163	.....
Corowa .....	3,079	3,045	759,196	.....	.....	1,132,329½	3,265	3,798	764,906	.....
Deniliquin .....	4,845	6,578	1,240,260	.....	.....	2,819,615	4,716	6,173	1,323,780	.....
Dubbo .....	4,627	6,671	782,781	.....	.....	3,524,824½	5,281	13,094	1,025,483	.....
Eden .....	2,341	21,866	1,498	.....	.....	354,543	3,321	28,332	1,459	.....
Forbes .....	3,584	7,239	915,865	.....	.....	2,551,715½	4,556	10,919	860,434	.....
Glen Innes .....	10,934	77,698	763,288	.....	.....	2,125,135½	11,181	73,280	623,547	.....
Goulburn .....	8,641	26,940	359,909	.....	.....	885,335	8,381	26,737	326,650	.....
Grafton .....	13,211	60,577	3,445	.....	.....	1,000,675½	14,042	59,608	2,626	.....
Gundagai .....	11,114	36,951	1,082,061	.....	.....	1,427,698½	9,389	36,955	837,915	.....
Hay .....	3,272	3,974	1,035,905	.....	.....	3,180,049	3,164	4,198	1,121,128	.....
Hume .....	5,210	19,542	519,298	.....	.....	1,291,294½	5,391	17,638	482,482	.....
Ivanhoe .....	1,952	1,848	1,143,780	.....	.....	7,764,278	1,944	2,465	1,270,632	.....
Kiama .....	9,085	60,196	4,583	.....	.....	337,010½	8,583	64,595	2,731	.....
Maitland .....	15,953	52,868	10,307	.....	.....	689,275	16,157	52,101	7,904	.....
Monindie .....	3,360	2,150	1,140,550	.....	.....	11,850,176½	4,462	2,558	1,418,094	.....
Merriva .....	2,371	7,454	309,864	.....	.....	747,628½	2,675	7,325	324,972	.....
Molong .....	7,945	10,434	633,157	.....	.....	1,727,808½	6,615	9,909	568,287	.....
Moree .....	4,746	29,282	563,823	.....	.....	2,952,392½	5,364	35,926	676,341	.....
Mudgee .....	7,491	18,024	442,273	.....	.....	1,172,265	8,180	20,082	466,359	.....
Murrumbidgee .....	5,180	22,502	411,677	.....	.....	786,393	5,303	22,107	397,018	.....
Narrandera .....	2,638	7,103	1,109,777	.....	.....	2,859,526	2,741	6,553	1,017,003	.....
Narrabri .....	2,301	2,583	297,740	.....	.....	1,380,359	2,652	4,778	366,438	.....
Pictou .....	2,779	12,964	5,344	.....	.....	227,650	3,291	14,584	5,790	.....
Pilliga .....	1,419	4,558	262,405	.....	.....	1,589,889	1,568	8,665	304,156	.....
Port Macquarie .....	7,103	33,100	1,723	.....	.....	582,132	8,271	36,099	1,783	.....
Port Stephens .....	6,445	43,590	1,672	.....	.....	710,637	7,143	43,995	2,409	.....
Queanbeyan .....	3,641	12,800	363,163	.....	.....	940,592	4,070	24,525	398,863	.....
Singleton .....	9,065	43,781	116,445	.....	.....	727,473	9,143	48,740	95,332	.....
Sydney .....	19,000	16,000	6,000	.....	.....	196,700	23,348	16,099	15,524	.....
Tamworth .....	12,841	31,612	1,529,128	.....	.....	3,878,184	14,055	43,208	1,581,807	.....
Tenterfield .....	5,554	64,966	191,916	.....	.....	1,902,842½	5,476	61,139	168,253	.....
Urana .....	2,388	2,468	841,126	.....	.....	1,414,595	2,329	3,023	835,898	.....
Wagga Wagga .....	5,172	9,122	1,314,883	.....	.....	2,417,378	5,915	10,526	1,284,745	.....
Walgett .....	3,520	13,761	899,917	.....	.....	5,156,553	3,544	16,893	1,138,956	.....
Warialda .....	8,384	40,151	664,222	.....	.....	3,632,848½	8,832	43,207	776,940	.....
Wentworth .....	1,561	1,631	498,870	.....	.....	7,348,481	1,592	1,402	504,005	.....
Wilcannia .....	5,517	16,344	2,039,344	.....	.....	20,553,784	6,525	17,865	2,368,918	.....
Windsor .....	8,358	16,384	15,935	.....	.....	280,538½	8,795	15,310	6,385	.....
Yass .....	4,654	9,630	396,021	.....	.....	813,156	4,515	9,673	373,837	.....
Young .....	9,385	19,770	1,294,648	.....	.....	2,089,758	9,426	18,742	1,252,141	.....
Total .....	.....	344,697	1,317,315	37,820,906	208,694	163,566,642½	361,663	1,367,844	39,169,304	209,576

N.B.—The total number of pigs in the Colony, as shown above, is taken from the Police Returns, many persons owning pigs who do not possess any other stock.

## APPENDIX B.

### REPORT ON AUSTRALIAN STRINGHALT IN HORSES.

#### *Horse Disease—Australian Stringhalt.*

Sir,

Department of Mines, Stock Branch, Sydney, 30 July, 1886.

Having given the above subject a good deal of consideration since I commenced its investigation, at the instance of the Hon. Jno. Lackey, and your instructions received last May, I have the honor of submitting the following report:—

The peculiar ailment to which I give this name is new to me. Although a veterinarian for twenty-five years in Great Britain and in India, I had never seen such extraordinary abnormal symptoms as are manifest in this disease until investigating an outbreak of it in this Colony.

There is no record of its existence in other countries.

A disease must have a name, and the name, however inappropriate to the pathology, will, nevertheless, be accepted by the public if it leads them to recognize the disease when they see it.

Hence the word "Stringhalt" is retained as being well understood by horsemen to mean a spasmodic affection of one or both hind legs, which is occasionally met with all over the world. At the same time, it is rarely so severe as to incapacitate an animal from work. Its pathology is not well understood; but it differs in many important features from the disease under consideration, so that it will be well to dismiss from the mind any idea of those two diseases being identical, or, indeed, of bearing any relation to each other. Therefore, the words "Australian Stringhalt" are used, being distinctive and leading, as they will convey to the reader the geographical locality of the affection and its most prominent symptoms.

From information I have been able to gain from various sources, it is a disease long known to have existed in the colony of Victoria, and has from time to time been under inquiry by the Victorian authorities and veterinarians; and I cannot understand why Mr. Curr, the Chief Inspector of Stock for Victoria, should have been so reticent of the information thus obtained, when, at my suggestion, the Chief Inspector of Stock for New South Wales asked for the result of their inquiries, at the time when a serious outbreak of this disease induced this Department to enter on the investigation.

It is both interesting and important to know that this disease can be clearly traced to direct introduction from the sister Colony; and it now occupies very limited areas in the counties of Cumberland and Camden; it has also been seen at Orange, and on the Victorian borders.

*History*

*History of this disease in New South Wales.*

The first case brought under notice was at Richmond, in a brood mare, sent from Dandenong, in Victoria, five or six years ago; she came for stud purposes, and was noticed to be badly affected with Stringhalt in both hind legs. At the time this attracted little attention; but the following year many brood mares occupying the paddock she had been in were seen to be affected with Stringhalt, all within a few weeks of each other. These mares were of different ages and breeds, and came from various districts. Inquiry was diligently made in the neighbourhood, but nothing of the sort could be found outside this one paddock; and, strange to say, this paddock has retained its reputation for producing this disease, outbreaks having occurred in it from time to time; but no fresh case has been seen there for the last two years, for this reason,—that cattle and ponies have, during that time, occupied the paddock, instead of mares. In May, of this year, I visited Moss Vale in consequence of serious losses being reported from this disease. I found that a very few cases only had been seen in 1885, and it was never seen in that locality previous to that year, when a stud mare had been sent to the breeding station first named, and returned with Stringhalt. The following year, almost an epidemic of this singular affection suddenly appeared amongst the breeding mares, colts, and fillies in the paddock she had occupied. The disease this season was wide-spread throughout the district, and many horses, of all descriptions, were found to be more or less affected; and being so general it was impossible to trace the source of contamination. It was certain, however, nothing of the kind had previously been seen.

I visited a third centre of the disease at Camden, and found the history of this outbreak agreed so far as the year of invasion was concerned, but the actual method of its introduction could not be defined; two sources were open, one being by purchased animals from an infected place brought on to the station, although showing no symptom of the disease at the time; the second probable source being a river frontage, so shallow from drought that trespassing horses may have introduced the disease.

It is most satisfactory to find, from a circular letter sent to all Inspectors of Stock in New South Wales, that the disease is unknown beyond the places already named in this report. The disease is only seen in the horse species; I believe it to be communicated indirectly from one horse to another, and therefore it is contagious.

It is certain that one animal may contaminate a paddock, so that others will have the disease; and it may spread by water, dust storms, and food, as well as by other means.

*Nature.*

It is a local, nervous affection, characterized by an involuntary spasmodic action of the muscles of both hind legs, continuing for several weeks, or months, then most frequently recovery slowly takes place; in others the disease becomes chronic, and in some instances degeneration and paralysis are the results.

Death occurs from animals being unable to extricate themselves from difficult situations, or being unable to get about after food and water.

*Causes.*

Hitherto the cause has been enveloped in considerable obscurity, and I find that Veterinary Surgeon Kendal, in his book on "Diseases of Australian Horses," describes the disease as so common to Australian horses that some breeders attribute it to a certain herb, prevalent in certain localities, others to a species of dandelion. Kendal evidently considers it to be rheumatic in origin, and not dietetic, and that a sudden chill may be a sufficient exciting cause to develop it.

The Richmond outbreak was attributed to a metallic poison known as vanadium, which was found on analysis to exist in the clay taken from the waterhole supplying the affected paddock, the water being very low at the time, and the fact of the disease being only in this paddock, and recurring year after year in it, strengthened the assumption.

With the kind assistance of Messrs. Watt and Hamlet, the Government Analysts, I obtained information on the poisonous action of this mineral, the Tribasic sodium vanadate, being used for experiments by Professor Gamgee, and it was found to act upon the central system of the spinal cord, and medulla oblongata, especially affecting the respiratory nerve centres. This action does not agree with the symptoms exhibited in this disease, which is excited action in the periphery of nerves. However, to satisfy myself, I visited the North Shore (Sydney) brick-yards, which are working identically the same formation of clay as that found at Richmond, and which extends over a very large geographical area. From these yards lightly burnt bricks, richly tinted by the yellowish-green oxide of vanadium are to be seen in many of the surrounding buildings. I also made inquiries of horse owners and shoeing-smiths as to the prevalence or otherwise of the disease, and failed to get information of a single case of Australian Stringhalt having ever been across the harbour, although horses are drinking water from these clayholes continually. Further, at Moss Vale I found a similar clay formation; also the vanadium efflorescence on burnt bricks in several places, which were free from disease. This metal exists probably in very minute quantities, and has undoubtedly been present in these clays for all time; but no case of poisoning has occurred, and this particular disease was quite new in the localities, never having been seen to attract attention until the recent outbreak.

At Camden, where the disease was very severe, and in one paddock only, the water supply was from a running stream, and no vanadium could be detected, so that the vanadium theory is untenable.

The Victorians say a dandelion causes it. The weed suspected is not a dandelion; it is the *hypochaeris radicata*, the common names being cat's ear, or flat weed. It was introduced from Great Britain, is hardy, spreads rapidly, and smothered other herbage. It is wholesome and nutritious. Horses and ruminants eat it freely, and for weeks together have little else to live on, and apparently did well on it. That *hypochaeris radicata* has no connection with Australian Stringhalt is proved by great numbers of horses eating it, and never having the disease. The disease is known to exist in localities free from this weed. The weed has no medicinal or poisonous properties. It is very prevalent in many parts of this colony which are free from this disease. After deliberate inquiry and a close investigation of many cases, *post-mortem* and microscopic examinations, with a very careful analysis of facts, I have formed the opinion that the origin of this disease is *intestinal parasites*; in other words, it is caused by worms attacking the mucous membrane of the horses' digestive organs. This they do in countless numbers, and as larva, or as they escape from their ova, set up intense irritation in the bowels. This is conveyed by certain nerves to a certain set of muscles, as will be explained further on, and involuntary muscular action is the consequence. Based on this foundation, my hypothesis is fully supported by the symptoms, peculiarities, and progress of this singular affection.

No one is able to produce this disease at will, but certain places are known to be liable to produce it; and again, it is noticed to originate at certain seasons of the year, and recoveries take place under well defined conditions.

The localities favourable to its production and propagation are grazing paddocks. It has never occurred in stable-fed horses, but may and does occur in horses that run into a paddock and are stable-fed also. Such paddocks are cold, wet, and badly drained, with swampy patches, claysoil where gum and oak trees, and sour herbage, such as coarse and fine tussocky grasses, and the weeds, sorrel, rumex acetosa, hypochaeris radicata helichrysum, scorpioides apiculatum grow. These have no poisonous properties, but thrive in moist places. Hills, vales, and river borders possessing the above characteristics are liable to become the home of this plague; but there is little fear of its appearance without being introduced.

Its commencement is only noticed in the summer months, most of the cases I have seen having cropped up in January and February of this year. About Christmas there was a slight rainfall after a long drought, and at the end of spring there was a rush of vegetation, and at the same time of parasitic life. No combination of circumstances could be more favourable for the development of the lower organisms from their ova, in which condition they have been dormant waiting a suitable season for their development; and this is the season that the migratory parasites of the horse enter his stomach and bowels with food and water in the form of minute larva, there to find their natural habitat and food, grow and attain sexual maturity; and during the ensuing months they are entertained at the expense of their host, finally discharging their ova, or being themselves discharged in the animal's excrement, and so scattered abroad. Some become incepted in the animal's tissues, and in that manner enter the stomach of a carnivorous animal or bird of prey, and thus their distribution is extended and their cycle of development ensured.

The symptoms of this extraordinary affection are very marked and distinctive, but require a veterinarian's discrimination to show its distinction from other diseases to which horses are liable.

#### *Symptoms.*

There is nothing to indicate the disease so long as the horse is stationary, and although nervous on a stranger approaching, he will not move; the pulse, temperature, and respiration are normal, his coat is harsh, and the skin sticks to his ribs; usually he is in poor condition, the eye is bright, and the conjunctiva often stained, of a brownish colour, and unhealthy looking; the fœces are hard, dark-coloured, and coated with mucous, although on green feed. The urine is gelatinous and dark-coloured; the disease makes the evacuation of these excretions difficult; this must be remembered, as it influences their appearance; any limb can be picked up and manipulated without inconvenience to the animal; but if urged to go forward, he will advance first one fore foot, and then the other, taking two short steps, stretch his head forward, and put his ears back, fix his neck and the muscles of his back, and then with extreme suddenness one hind leg is spasmodically flexed right up to the belly, and for a second it appears fixed in that position, the fetlock touching the belly; during this action the fore feet are shuffled a few inches further forward, the back is arched, and the body is drawn forward by the muscles of the back, assisted by the weight of the head and neck, so that the hind leg on the ground is behind the centre of gravity; then this is suddenly snatched up close to the belly, and the first leg as suddenly released, or stamped down to save the animal's hind quarters from falling; so suddenly is it released, and so straight is it put down that often the front of the fetlock strikes the ground, the foot being flexed backwards, and foothold is regained with a struggle.

Progression is not assisted by the hind limbs, but is begun by the fore feet, and finished by contraction of the back, and the jumping, not propelling, motion of the hind legs. These movements being repeated in rapid succession, both legs being now flexed together, and as the movement is kept up the spasmodic action decreases, and a slow gallop is maintained, not unlike the hopping of a kangaroo, but with very short contracted strides. On stopping to a trot the spasm returns, and, in two or three spasmodic steps with alternate legs, the animal comes to a standstill. He is found blowing hard, and evidently much distressed by the exertion, in some cases breaking out into a profuse perspiration. Others will not show the spasmodic action until they pull up after a gallop, or on being suddenly urged to start; and others, less affected, only show it on being made to turn or move backwards. This movement is most difficult, because the hind legs cannot be flexed while the weight is upon them, and the raised foot cannot be either carried forward or backward, being forcibly thrust straight down; the horse, having himself no control over the affected muscles, the disease prompts him to contract his back and throw all the weight forward on to his front feet, the more he begins progressively shifting them forward. He has great difficulty in lateral movement of his quarters, and to move back is impossible. It is to be noticed that these animals lie down and get up at will, and without difficulty. In many cases pain is absent. I have seen a horse gallop up to his mob, pull up, go through the peculiar spasmodic hopping, and, before he could properly steady himself, he would bite at one, and attempt to kick at another, showing the inconvenience was functional, or mechanical, and caused him no suffering, as it immediately returned after an attempt at a frolic. The spasmodic symptoms never entirely leave a badly affected animal, but get less marked as he moves, and vary very much in degree in others. The spasm or tetanic action is confined to the hind legs, both being affected in about the same degree, although as time progresses one limb often makes more rapid recovery than the other. Out of several horses of mixed breeds and all ages exposed in the same paddocks, every degree of the spasmodic affection may be seen, from scarcely perceptible to very severe cases; and many in the same paddocks escape being attacked altogether, because their systems are less favourable habitations for the parasites, or it may be their nervous system is less irritable.

The sufferers continue for weeks and months in about the same state, and as soon as abatement of the spasms is noticed, it is observed to gradually subside week by week; but months after apparent recovery it affects the animal on being made to go backward, showing that complete recovery is a very slow process indeed. Nevertheless, recovery does take place in from three to six months after the attack, and in slight cases earlier. This will depend a good deal on the treatment of the animal—whether still exposed to the same influences or removed into the same pasture, or stable fed; also, his age and condition; all these circumstances favour recovery, or the reverse, as the case may be. The majority recover; but if the symptoms are severe, and unaltered for several weeks, structural changes of tissues follow the functional excitement, and then grave consequences supervene. As the spasms cease, weakness of the

hind limbs becomes apparent, the muscles surrounding the thighs from the hock to the stifle have wasted away, the hind legs are advanced with difficulty, the toe dragging on the ground, the fetlock joints knuckle forward from want of tone in the extensor and flexor muscles. This state may be arrested, and even eventual recovery achieved, but not until several months have elapsed. More frequently, as a sequel, the joints suffer, and lameness aggravates the case. The poor sufferer—for now he is a pitiable object—is unable to move out of a walk, and with difficulty lifts his feet over a door-sill, being scarcely able to recover his balance if he stumbles. Such cases are hopelessly incurable.

#### *Pathology.*

The pathological changes are chronic inflammation and thickening of the mucous membrane of the stomach and large intestines, with abscesses and ulcers infested with worms, living and dead. The intestines literally swarm with parasites, male and female. Some are embedded in the tissues; others are attached by their heads. Some are free, and vary in size from the *trichonema arcuata*—microscopic objects, to the large common *ascaris megalocephalus*, a foot long. These worms are of several distinct varieties, and are in myriads. The spinal cord and nerves present nothing abnormal to the naked eye until the popliteal region is reached, where clots of extravasated blood and serous effusions are seen; also an unusual amount of fatty matter surrounding the bundles of nerves within their sheath. The arteries and veins are healthy, and free from any obstruction whatever. The muscles of the back, loins, and haunch are all healthy; but the muscles surrounding the thigh are flabby and wasted in a most conspicuous manner, the stifle-joint looking very prominent. The muscles are progressively paler as their lower attachments are reached, their texture getting tendinous, from atrophy, and yellow, from fatty metamorphosis of the muscular fibres. The affected muscles were,—the biceps femoris, vastus externus and internus; these were atrophied and pale, but the gastrocneinii, solens, flexor perforans, perforatus, and popliteus, flexor metatarsi, and extensor pedis were extremely atrophied, and of a dirty, oily appearance, all undergoing fatty metamorphosis. I found the tibio femoral joints, in chronic cases, to be seriously diseased. The posterior attachment of the capsular ligament was ruptured, and synovia, of a slight bloody colour, extravasated into the popliteal space and surrounding tissues, the synovial membrane being in a state of chronic inflammation. The cartilage on the inner condyle of the femur was worn flat, and so thin that the congested blood-vessels could be easily seen through it on the bony surface. The tibia had over-ridden the articular surface during extreme flexion, and had rested on the outer neck of the femur, the friction exposing the bare bone, and the crucial ligaments were also roughened by the attrition with sanguineous effusion, and small blood-clots in the joint. The fetlocks also bore evidence of inflammatory changes in the synovial membranes, the sheaths of both tendons and ligaments, and also the synovial fringes, being highly congested and fatty, and the cartilages being almost worn through in patches. The hoofs become deformed, the soles sink, and the toe elongates; and the other minor structural changes are seen, consequent on the prolonged perverted muscular action. That this disease may not be mistaken for others, I will briefly describe the most important of them:—

Spinal injury causes more or less paralysis. If the horse is down, he sits like a dog, and cannot rise without great difficulty and after many attempts; he has a helpless swaying motion of the hind quarters, the tail hangs limp, and almost useless; he cannot walk straight and steady, but strikes one hind fetlock with the other foot, and places one hind foot across the front of the other; he can move backward with difficulty, but without any snatching up or spasmodic action of the hind legs. Chronic cases show atrophy of the muscles of the loins and haunch.

Recovery is rarely complete, on account of the injury involving the spinal cord and some branches of nerves.

A horse suffering from a chronic spinal injury is called chinked in the back, or a shiverer. Such an one can go forward and trot with ease, frequently without any snatching up of the hind legs; but make him go backwards, and the muscles of the haunch and tail tremble or shiver with slight spasm, the hind legs are snatched up and held outwards in a rigid manner, and set down on the ground carefully. Such animals sleep standing, and if they fall down, rise with difficulty.

Stringhalt, as ordinarily understood, is an intermittent spasmodic affection of one hind leg, which disappears when warm at work, and scarcely interferes with the horses usefulness. It seldom affects both legs. Recovery rarely occurs, and it is incurable. He can advance the foot and place it on the ground voluntarily, and propel himself and draw a load. There is no alteration of external structure to indicate the existence of this disease.

A comparison of these diseases will show they are distinct from Australian Stringhalt; and the prognosis of the latter is favourable, although from 20 to 50 per cent., or even more in a mob, may become affected, but only a small percentage will retain the affection sufficiently long to become chronic and incurable. My theory being correct, the disease is then not only under control, but can be cured in the early stages; and what is more important, it can be prevented. The contagion is the ova or larvæ of worms eaten in the spring and autumn on young, fresh herbage, or taken in the water.

The drought and heat of summer and the frosts in winter arrest germ life. It is almost needless to say that spontaneous generation of life has no place in science in these days; a horse can no more breed worms than an orchard grow oak trees, unless ova and acorns have been first deposited. It is interesting to know that horses are infested with several distinct varieties of worms at the same time, and they are far more numerous and wide-spread in these colonies than many suppose. To give an idea of their procreative properties, Krause mentions a two-year old horse, which contained 500 ascarides, 190 oxyurides, 214 stronguli armati, several millions of stronguli tetracanthi, sixty-nine tæniæ, 287 filaria, and six cysticeri. Sixty millions of eggs have been counted in a single worm; and in a colony of a tape worm a thousand millions of eggs. These figures show how extremely easy it is for one animal to infest a paddock with ova, and should the soil, herbage, season, and weather be favourable, and the unfortunate victims, a mob of horses, be brought together and only graze for a few hours, under such circumstances they cannot fail to become infested; and I believe such has been the cause of every outbreak of this disease that has recently been investigated; and this will account for travelling horses becoming suddenly attacked, assuming the sudden invasion of myriads of these minute pests into the digestive organs of the horse, in a few days after being hatched, and getting active, they individually attack the mucous membrane, some boring right through it, and take up their abode in its structure, others attach themselves to its surface

surface, all feed on its nutrient juices. The result is intense irritation, and interference with the circulation and nutrition, the irritation disturbing the sympathetic nervous system is conveyed through the mesenteric nerves and communicates the impression through the lumbar and sciatic ganglia to the great crural and sciatic nerves, and acting on their peripheries, or terminal extremities, produces the spasmodic muscular movements which are so diagnostic a symptom of this disease. This phenomenon is known to physiologists as reflex nervous action. Reflex nervous action is shown in young dogs, when infested with worms, by cerebral disturbance they have fits, and when teething suffer from convulsions, vomiting is a familiar illustration of reflex action. It is also seen in horses, after eating wheat, they have laminitis,—tetanus, arising from a wound, is also from similar reflex nervous action; and many other instances could be cited. We see the same effects in a horse suffering from cholera, or spasm of the bowels; irritation, pain, restlessness, and its results, are remarkably identical; it causes a peculiar and diagnostic symptom called "kicking at the belly," supposed to indicate the seat of pain. This action is spasmodic and quite involuntary, and is caused by reflex nervous action, indicated by sudden spasmodic contraction of the flexor muscles of the hind legs. We know that various articles of food, introduced to a horse's stomach, will cause colic, such as change of food, new corn, green food, dry coarse feed, also worms. Each of these may cause pain, irritation, altered peristaltic action, cramp or spasm of the bowels. Ruminants are far less subject to spasmodic colic, because their nervous system is more lowly organized, and they are less susceptible to pain.

The persistence and continuation of the affection is coincident with the development of the parasites; they increase in size and activity, and the irritation they set up only subsides as they arrive at maturity. Such an explanation of cause and effect agrees in every particular with the facts observed in the history of this disease. The disease may only be seen in one paddock, or a run, showing it must contain a special infective material, as horses in the next paddock, with the same formation of soil, herbage, water, and climatic influences, all escape. The disease is only seen on cold, wet, retentive soils, and in horses that have been in such paddocks, whether temporarily or otherwise. Complete recovery is very remarkable, clearly proving that the disease arose from a temporary cause, and that it was strictly functional in character, *there could have been no actual change of structure as in most diseased processes.*

#### *Susceptibility.*

Horses of all ages and classes are equally liable to attack; brood mares perhaps suffer most; cobs and ponies seem the least susceptible, and young animals suffer less than the aged, whether horses are working, unbroken, or for breeding purposes, makes no difference, and strange horses contract the disease quicker than local ones. The recovery of horses brought into the stable, or taken on board ship for a voyage, is well known, and proves that feed and situation are important elements in connection with recovery. That it is not a poison either mineral or vegetable, or sand in the stomach, is proved by history, symptoms, progress, and *post-mortem* examinations. Foals never show it whilst sucking their affected mothers.

That it is not rheumatism, or the result of over-driving, a sudden chill, exposure to rain or cold wind, must be apparent, because such influences have for ever existed everywhere, and this disease is of recent introduction, and its geographical extent can be clearly defined, at least in this Colony.

#### *Treatment.*

The curative treatment is to expel the parasites by the administration of anthelmintics, and dose after dose may be required for this purpose. It is necessary to remember that brood after brood have to be poisoned; and that when they are ensconced in a living being, whose tissues are also liable to suffer from the introduction of drastic drugs, it is impossible to effect our object without perseverance; and to prevent reinfection it is advisable to move the patients to a sound paddock, or, better still, into a yard or stable, to feed liberally, and also constantly supply salt with their food.

#### *Prevention.*

Preventive measures, I consider, are very important; with this object avoid putting an affected animal into a paddock at all favourable for the development of worms. Infected paddocks should not be used by horses, even temporarily; half an hour's grazing may effect them, especially during the spring and autumn. The first grass after summer will scour animals, and has been known to cure them, because at that season the parasites are prepared for exit, microscopical examination shows this, for many males are encysted and dead, and females pregnant with fully developed eggs, some are viviparous; and it is to be noted that this is the time the paddocks get contaminated, and suitable soils may retain the ova for an indefinite period; so that one affected animal introduced, though he may be eventually cured, means later on (all circumstances being favourable) a hot-bed of infection for future tenants of the paddock.

An interesting case came under my notice of a recovery, almost as sudden as the attack, it occurred accidentally; the owner jumped on the affected horse which had only been attacked a few days, to help to yard an obstreperous beast; and warmed with the excitement he worked hard and fast, and afterwards he was astonished to find his horse had recovered. The explanation is that the excitement increased the peristaltic action of the horse's bowels, and purged him, and so expelled the parasites; and subsequent stable feeding established a cure. The obscurity of the subject, and its importance, has entailed my giving much detailed information, which has increased considerably the length of this report.

My thanks are due to those gentlemen who assisted me in the inquiry, by generously giving their horses for observation, and subsequent *post-mortem* examination, as this proved to be of great importance in making the investigation.

I have, &c.,

EDWARD STANLEY,

Fellow of the Royal College of Veterinary Surgeons, London,  
Government Veterinarian. N.S.W.

To Alex. Bruce, Esq., Chief Inspector of Stock.

## APPENDIX C.

## HORSE DISEASE AT COONONG.

THE following is a copy of a report upon the recent outbreak of disease among horses at Coonong, forwarded to the Chief Inspector of Stock by the Government Veterinarian, Mr. Edward Stanley, F.R.C.V.S.L. :—

“Stock Branch Office, Department of Mines,

“Sydney, 16 July, 1886.

“Having concluded my official investigation of this outbreak of disease among horses, I have the honour to report that for the last six months the station and working horses have been fed entirely on ensilage, and are said to have put on fat for the first few weeks while they were idle. At that time they were having a spell. When put to work they were soft, and soon lost their condition.

“About the middle of June a second silo was opened. This contained about 100 tons of wheaten hay, cut while green and with grain in the ears, grown on 130 acres in the swamp paddock. This paddock was flooded early in September, when the crop was yellow from drought and about 6 inches high. It grew rapidly until cut, and was not noticed to have been otherwise than healthy. No one remarked rust or blight of any kind, but such a condition may or may not have existed.

“The ensilage appeared to be good, but the horses were remarked to be sluggish and spiritless. They sweated a good deal while at work, and all got thin. Some had diarrhoea. These matters were not heeded at the time, beyond the manager thinking that the work was reducing the animals. The manager gave a few oats with the ensilage to the horses engaged in tank sinking. This silo pit being 2 miles from the station and 3½ miles from the tank work, necessitated a three or four days' supply being fetched from the silo twice a week, instead of being fresh every day, as it ought to be. If kept over three days it becomes whitened with a fungus like mould, and became rotten and stinking. Usually, the feed troughs were cleaned out before fresh ensilage was given, but not always; hence, the mould fungus was cultivated.

“This went on for three weeks, some of the horses working down thin. As soon as the tank was finished, they were turned into paddocks for a spell. (Grain is very scarce in this district.)

“The first case of illness noticed was a station mare in a yard standing at the feed trough at mid-day on July 3. She was bled, and a dose of oil was given her. She died on the evening of that day. This mare had eaten nothing but ensilage for the preceding eight days. Previously she had been in a grass paddock.

“The next animal noticed to be ill was one of a pair used to draw out the dead animal. She had eaten ensilage for nine days. She was in a low condition, and was nearly knocked up while employed at the work. On the same day she died.

“The third animal taken ill was a valuable four-year-old draught entire horse. He had never been in the paddock, nor had he been worked. He was kept in the yard during the day, and was put in a stable at night. He had been fed on ensilage only for the last six weeks. It was noticed that he was lying in the yard on Saturday. He was bled, and oil was given to him. He died the same night.

“The fourth animal attacked was a station hack. He had been fed on ensilage only for six weeks; was taken ill on Sunday, and died on Tuesday.

“The fifth animal taken ill was a draught horse. He had been tank-sinking, and had been kept at the tank with the other horses. He was 5 or 6 miles from the station, and there fed on ensilage and a few oats for six weeks. He was turned into a paddock situate 4 miles from the station with several others when the work was completed. On Monday he was seen ill, and was too weak to walk home. He fell and died in the paddock during Tuesday night.

“The sixth, a draught horse (companion to the last-mentioned), seemed all right on Monday. On Tuesday he was lying down. Upon being roused up, he walked weakly. He staggered a quarter of a mile, fell into a crab hole, and died the same night.

“And so on with ten more hacks and draughts, everyone of them working horses, fed on similar ensilage. Their water supply had been obtained from various sources—crab holes in the paddocks filled by the recent rains, tanks, and station creek water. Water from the same sources was used for domestic purposes and for cattle, sheep, dogs, and swine.

“This mortality had occurred before my arrival. There were several horses still alive, but ill. The symptoms in all the cases I saw were alike, varying only in degree. These were listlessness, prostration of strength, sore throat, without swelling or pain upon manipulation. Extreme irritation was shown by liquids being swallowed with great difficulty, although thirst was marked. Food and water were both returned through the nostrils; this often being accompanied by fits of coughing. This abnormal process is still seen in the convalescents, now feeding well. The bowels were constipated, with straining, the dung was dark coloured and most offensive. The urine was passed freely in large quantities. It was of the usual colour and clear. It presented nothing diagnostic on examination.

“The pulse was small, hard, feeble, and indistinct. The heart was irritable and laboured, ranging from 40 to 60 beats per minute. Respiration was slightly accelerated; but with feeble chest and abdominal movements. Visible mucous membranes were of a dirty brownish-yellowish colour. The tongue was pasty and dry, emitting a horrid nauseating odour, almost unbearable. The temperature ranged from 95 to 100 degrees. The extremities were cold.

“There was no indication of suffering from pain, of inclination to lie down, or of cerebral or spinal disturbance. The animals were conscious up to the last and attempted to eat and drink, even when lying prostrate and unable to rise. Mastication was very slow, as if from muscular weakness, and quids were often retained in the mouth. The horses could scarcely swallow fluids, but could eat dry oaten hay. Drenching always caused coughing so that medicine had to be given in other ways.

“Assisted by Mr. Day, I made two *post-mortem* examinations. One was of a horse that died on the night preceding our arrival; the other animal died on the night after our arrival. None of the animals under treatment died during our stay.

“The *post-mortem* appearances I give as briefly as possible, avoiding technicalities. They were as follow :—Congestion of the nasal passages, larynx, tracheæ. This was more marked in the first case. The tongues were dry and thickly furred. The pharynx was inflamed, but free from ulceration or diphtheritic deposit. The stomachs and large intestines were of a brownish black colour, the mucous membrane being deeply stained. The stain would not wash off. The contents were soft. The bowels were less affected.

The

The contents of the rectum were dry and hard. The peritoneum was stained in large patches of a ruddy colour, and the mesenteric veins were filled with black coagulated blood. The bladders were ecchymosed in a most remarkable manner. The heart was flabby, dark in colour. Extravasations of blood occurred along the course of the blood vessels, and also on the fleshy pillars inside the ventricles. Both right and left cavities contained firm clots of blood, formed partly of yellow lymph and almost black blood, separated by gravitation. The liver was dark, and slightly ecchymosed. The spleen was healthy in appearance. The lungs, in one case, were full of congested blood, and the tracheæ and bronchial tubes were greenish black in colour. In the other case, the lungs were nearly normal.

"I noticed the entire absence of fat, which circumstance is very unusual in the horse. I also noticed the presence of many intestinal worms, four varieties being recognised.

"Death was the result of failure of the heart's action, the blood being in a state of chronic poisoning, and the vital powers consequently exhausted. No bacilli were in the blood.

"Mr. Day's successful treatment, carried out by Mr. Morales, who undertook the hospital duty, consisted in evacuating the poison, and restoring the blood to its normal condition by the judicious administration of salines and antiseptics, with easily-digested and nutritious food. The sufferers were sheltered at night from the cutting winds. General attention was given to cleanliness and comfort.

"As a means of prevention, I suggest the institution of change of feed for ensilage, such as chaff, with bran, oats, oaten hay, and grass—and a constant supply of salt within their reach.

"It is to be noted that these horses have been living on ensilage from the first pit for the last six months, getting a fresh supply daily, and that they did satisfactorily on it.

"Cattle and sheep do well on this artificially-preserved food; but it is never advisable to limit animals to one article of diet. Change of food is as necessary for them as it is for human beings. No doubt ruminating animals, which have only to eat and sleep and time to browse over the paddocks, stand a far better chance of thriving on food of this character than the single-stomached, hard-worked horse, who is required to exhaust his muscular strength day by day, so that he cannot thrive and work unless fed on clean and wholesome food with concentrated nutriment in small bulk. Hence, grain of some kind or other is his usual fare.

"I cannot call to mind any record of ill-effects arising from the use of ensilage, which is now largely in use in Great Britain, Europe, and America. No doubt it will prove to be a very valuable means of preserving food for stock in these colonies. If possible, it should be used in conjunction with other feed, and care should be taken that it is not used if damaged by age or exposure to the air. Mixed grasses would make a more nutritious ensilage for horses than growing grain. Wheat and wheat straw are both unsuitable, and are bad feed for horses; and, in the form of ensilage, being heated by fermentation is soft, and not wholesome as a stable diet. Consequently the strength of the horses is lowered.

"The unfortunate fatality leads me to the conclusion that ensilage exposed to the air for a very few days, under favourable climatic conditions, such as moisture and temperature heat, forms an excellent seed-bed and nourishing medium for fungoid growths, such as moulds and low forms of vegetable life. Their germs, being always present in the air, are increased to myriads under favourable conditions, and such undoubtedly existed in this outbreak. Rain having recently fallen, following on a long period of heat and drought, and the horses being weak, predisposed them to the ill-effects of the fungus, which not only entered their systems through the stomach, but also during respiration. Being exposed to the same poisonous agents day after day, chronic poisoning and fatal consequences followed.

"Sixteen valuable horses died. Eleven horses were treated by Mr. Day, in consultation with me. Ten of the latter are convalescent, recovery being a slow process. One animal, I fear, is incurable, it being dangerously ill, utterly prostrate and delirious.

"There are several other horses scattered on the station; but these have not had ensilage. They are all healthy.

"I cannot conclude without expressing my sympathy for Mr. Craig, the station manager, and thanking him for his assistance in carrying out the inquiry. Mr. Inspector P. R. Brett deserves especial thanks, for he spared neither himself nor his horses. From his long experience in the district and his practical knowledge of stock and their management, his services, so willingly rendered, were most opportune.

"EDWARD STANLEY, F.R.C.V.S.L.,

"Government Veterinarian.

"To A. Bruce, Esq., Chief Inspector of Stock."

Accompanying the report were three packages of ensilage obtained from the station. The samples are of "Fresh Ensilage," "Ensilage, three or four days exposed, showing mould fungus—as given to the horses on the station," "Ensilage, showing fully-developed mould fungus."

#### APPENDIX D.

##### PLEURO-PNEUMONIA.

Question No. 1.—What number of cattle on an average pass through your hands during the year?

Names of Owners.	Replies.
Mr. Thos. Mitchell	... Now about 300.
Mr. Edward White	... Varies much with the season, but would average about 4,000.
Mr. Thos. Hungerford	... About 3,000 or 4,000.
Mr. G. Loder	... 5,000.
Mr. J. K. Mackay	... 2,000 or 3,000.
Mr. D. F. Mackay	... 2,000 head of store bullocks have been placed on Ravensworth within last twelve months from my Tilpah Station, Rockhampton.

Question

Question No. 2.—What is your experience in inoculation for pleuro-pneumonia?

- (1.) When did you first inoculate?
- (2.) How often (approximately) have you done so?
- (3.) How many cattle (approximately) have you inoculated?

Names of Owners.	Replies.
Mr. Thos. Mitchell	... If properly done believe in it, never having known it to fail, except on one occasion of a mob of 100 bullocks. (1.) About twenty-eight years ago I was instructed how to do it by a gentleman from the Cape of Good Hope, and have continued to do so ever since. (2.) About twice annually. (3.) 50,000 head, but could say with truth nearer 100,000.
Mr. Edward White	... I believe inoculation to be an absolute preventive of pleuro-pneumonia, and even ameliorates an attack if performed in the earlier stages of the disease. (1.) I first inoculated cattle in 1864. (2.) Have inoculated on an average 2,000 head per annum. (3.) From 40,000 to 50,000.
Mr. Thos. Hungerford	... My experience has effectually satisfied me that inoculation is an effective preventive. (1.) Inoculated first in 1863. (2.) Inoculated all cattle newly purchased when I could get good virus. (3.) About 20,000 head or over.
Mr. G. Loder	... (1.) 1862, with effect. (2.) (3.) I should think 7,000.
Mr. J. K. Mackay	... I believe in it thoroughly. (1.) When pleuro first appeared in this district, some thirty years back. (2.) (3.) Perhaps 10,000 head.
Mr. D. F. Mackay	... I am in favour of inoculation, and have inoculated my stock for the last 15 years when I can get virus, and would recommend every one to inoculate their weaners when 12 months old. I have also inoculated store bullocks, and always found it beneficial, as regards stopping disease. I cannot say how many I have inoculated, but many thousands. The above also answers your question No. 3.

Question No. 3.—Do you believe in the efficacy of inoculation, if so, why?

Names of Owners.	Replies.
Mr. Thos. Mitchell	... Yes, from long experience; have never known it to fail except on one occasion.
Mr. Edward White	... I thoroughly believe in its efficacy; have inoculated one portion of a draft and left the other uninoculated; the former have become sound and the latter continued to die of pleuro. On one occasion I purchased a draft of mixed cattle (stores and fats) travelling through Denman, on the way to market, the owner was with them and they had pleuro very badly; the owner offered them to me at a low figure, and I accepted the risk, selected the best of the fats (40), and inoculated the balance 160. Out of the 160, I lost none and fattened them off; of the 40 I lost several, and then sold them to save further loss. On one occasion I halved a lot of stores with a neighbour, who did not believe in inoculation; these cattle proved to have pleuro. I inoculated my half and the disease soon disappeared, but the other half left to chance continued dying for months and the losses were very heavy. After this my friend inoculated his store cattle, and now there is hardly a grazier in this district who does not inoculate.
Mr. Thos. Hungerford	... I have great faith in inoculation; I have known it to stop pleuro; and have seen uninoculated cattle dying while running with inoculated cattle, while the latter were perfectly healthy.
Mr. G. Loder	... In all cases, with proper virus, a change or staying of disease the result.
Mr. J. K. Mackay	... Because it always stops disease and does good.

Question No. 8.—Do you know any case in which cattle which had recovered for a time, and afterwards had a relapse, infected others; if so, after what length of time?

Names of Owners.	Replies.
Mr. Thos. Mitchell	... No; having always inoculated, they never got a chance of taking the disease.
Mr. Edward White	... I do not think these cattle can communicate the disease to sound ones, as the <i>post mortem</i> appearances in this case display no signs of actual pleuro; death seems to arise in these cases from ulceration of the lung and gradual wasting of the system extending over months and even years, hastened by want of nourishment, and retarded by soft succulent vegetation.
Mr. Thos. Hungerford	... I have never known any case of this kind.
Mr. J. K. Mackay	... Cannot answer.
Mr. D. F. Mackay	... I do not think cattle that have been inoculated take the disease a second time.

Question

Question No. 10.—How soon after inoculation of an infected herd would it be safe to mix them with healthy cattle?

Names of Owners.	Replies.
Mr. Thos. Mitchell	... About three months; but if healthy cattle were well inoculated they could mix any time, I think, with safety.
Mr. Edward White	... Twenty-eight days.
Mr. Thos. Hungerford	... I should not like to mix them before two months.
Mr. G. Loder	... Immediately after they recover from effects of inoculation.
Mr. J. K. Mackay	... Perhaps one month or six weeks.
Mr. D. F. Mackay	... I have known diseased cows suckling a diseased calf, and <i>vice versa</i> ; but cannot say if the disease is contagious or not, having seen it act in different ways. I have known cattle in different paddocks, only divided by the fence, with disease in one paddock and none in the other.

## APPENDIX E.

## ANNUAL SHEEP SALES.

The following lots of sheep, bred by the several New South Wales, Queensland, and Tasmanian owners, were disposed of at the Annual Stud Sales held in July 1886:—

Names of Breeders.	Address.	Number of Rams.	Number of Ewes.	Total.	
				Rams.	Ewes.
Sold by Messrs. Mort & Co., Ltd., on account of—					
<i>New South Wales.</i>					
A. Lucian Faithfull, Esq.	Springfield, Goulburn	8	1	.....	.....
H. R. F. Hume, Esq.	Everton, Rye Park	3	4	.....	.....
Hon. G. H. Cox	Mudgee	7	.....	.....	.....
Richard Rouse, Esq.	Guntawang, Gulgong	.....	10	.....	.....
James D. Cox, Esq.	Mudgee	3	4	.....	.....
F. & A. Cox, Esqs.	Mudgee	.....	7	21	26
<i>Tasmania.</i>					
James Gibson, Esq.	Bellevue	216	.....	.....	.....
David Taylor, Esq.	St. Johnston	20	.....	.....	.....
W. H. Gibson, Esq.	Fairfield	54	.....	.....	.....
Thos. Parramore, Esq.	Beaufront	54	25	.....	.....
George Parramore, Esq.	Wetmore	21	.....	.....	.....
Robert Jones, Esq.	Riccarton	12	.....	.....	.....
J. B. Gibson, Esq.	Perth	24	.....	.....	.....
G. W. Keach, Esq.	Chiswick	26	5	.....	.....
Chas. Field, Esq.	Cressy	36	5	.....	.....
Wm. Gatenby, Esq.	Woodburn	26	12	.....	.....
Robt. D. Finlay, Esq.	Douglas Park	20	8	.....	.....
W. H. Bennett, Esq.	Bloomfield	9	10	.....	.....
Percy W. Archer, Esq.	Panshanger	12	.....	.....	.....
D. M'Kinnon, Esq.	Dalness	44	.....	.....	.....
James Cox, Esq.	Clarendon	3	.....	.....	.....
E. Dowling, Esq.	Quorn Hall	15	.....	.....	.....
Henry S. Smith, Esq.	Evandale	18	.....	.....	.....
Messrs. T. & W. A. Gatenby	Lake River	18	.....	.....	.....
Arthur Gatenby, Esq.	Lemon Springs	18	.....	.....	.....
John L. Smith, Esq.	Camboch	7	12	.....	.....
Thos. Riggall, Esq.	Somercotes	8	.....	661	77
<i>Queensland.</i>					
Messrs. G. Clark & Co.	East Talgai	16	.....	.....	.....
Messrs. Marshall & Slade	Glengallan	12	6	28	6
Sold by Messrs. Bruncker & Wolfe on account of—					
<i>Tasmania.</i>					
Messrs. W. Gibson & Son	Scone	203	16	.....	.....
Thos. Gibson, Esq.	Eskvale	21	42	.....	.....
Robert Taylor, Esq.	Valleyfield	11	25	.....	.....
Robert Viney, Esq.	Fernhill, Lynton	11	.....	.....	.....
Chas. B. Grubb, Esq.	Strathray	41	.....	.....	.....
Herbert Gatenby, Esq.	Rhodes	40	.....	.....	.....
A. M. Mackinnon, Esq.	Mountford	35	.....	.....	.....
Miles Bennett, Esq.	Esk Farm, Longford	6	4	.....	.....
Basil Archer, Esq.	Woodside, Cressy	12	.....	380	87
Grand total		.....	.....	1,090	196

N.B.—Particulars of other sales effected not to hand.

APPENDIX F.

## APPENDIX F.

## AMERICAN CHILLED MEAT TRADE.

## REPORT of the U.S. Commissioner for Agriculture.

The Hon. Jas. D. Porter, Assistant Secretary of State, Washington, D.C.

Sir,

Your favour of the 2nd ultimo, enclosing a despatch from Mr. G. W. Griffin, U.S. Consul at Sydney, New South Wales, requesting information relating to the subject of "Chilled Meat," which had been requested by the Premier of that Colony, was duly received. The information desired occasioned considerable correspondence with parties engaged in the dressed meat business, and this must be my apology for an apparent delay in replying to your request. In the following pages and accompanying enclosures I think will be found answers to the questions propounded by Mr. Griffin:—

*The Dressed Meat Traffic.*

1. By whom is the dressed meat traffic conducted, and how?—The dressed meat traffic in the United States is conducted almost exclusively by firms employing large amounts of capital and many men in the work.

[This may ultimately be the case in Australia; but at first it is thought the business will be conducted by companies killing, chilling, loading, and icing for owners at per carcase, the meat being sent on for sale in the public meat market.]

The greatest part of the slaughtering is done in Kansas City, Mo.; Omaha, Nebraska; St. Louis, Missouri; and Chicago, Illinois. (These places are from 1,000 to 1,500 miles from the seaboard and eastern markets.) All of these places are centres to which the live stock of the western and middle states are sent for sale. The slaughter-houses are in nearly every instance near the stock-yards in which the animals to be slaughtered are received from the railroads and are fed, watered, and sold, or are shipped to other markets. Firms engaged in the dressed meat traffic employ professional buyers who receive liberal salaries for their services, because of their ability to judge accurately of the weight and quality of the animals offered for sale. In all cases the cattle or sheep are weighed after purchase, the price per cent. having been first agreed upon by the purchasers and sellers. The scales are so arranged that from fifty to eighty cattle may be weighed together upon the platform.

[The sales should be conducted the same way here. All the cattle should be weighed alive. This leaves only one thing to judge—the quality, and owners get paid for every pound their stock weigh.]

Within the last two years an abattoir has been established on the line of the Northern Pacific Railway in Dakota (1,500 miles from Rolton) for the purpose of killing cattle grazed and fattened on the range near the abattoir, and of sending the beef from such cattle in refrigerator cars or vans to the markets of the eastern States, of Great Britain, and the Continent.

[The meat when offered in London could not be less than from ten to fourteen days killed; and yet the consumers do not know but they are eating Scotch beef.]

2. In what part of the States is it carried on?—Chiefly Eastern Kansas, Nebraska, Missouri, and Illinois. At Kansas City large numbers of cattle, sheep, and swine are received from Arizona, Colorado, New Mexico, the Indian Territory, Kansas, and Missouri. At Omaha live stock from Idaho, Utah, Wyoming, Kansas, Dakota, and Nebraska are received. The stock so received is either sold to resident buyers, who slaughter in houses in the town named, or who ship to other markets farther east, or the animals are forwarded to those other markets without having been sold. Agents of the refrigerator car companies are called upon to furnish cars for a large number of western points, some of them in the heart of the range country where grass-fed cattle are cheap and abundant. Cattle that could not endure the hardships of transportation "on the hoof," can be shipped in refrigerator cars with profit.

[If this is the case with respect to American cattle, it is very much more so here, where the cattle are never taken out of the trucks to be watered and fed (as they are in America every twenty-four hours), although the journey by train may occupy more than two days, and that too after perhaps a long tramp of from 200 to 400 miles on foot with scanty feed.]

3. Is the business carried on to the same extent all the year round, or more at one season than another, and if it varies, why?—This business is carried on throughout every month, and the traffic is extending each year into more distant parts; the extent of the trade depending largely upon the available supply of cattle and not upon the condition of the weather, for heat or cold in the weather seems to have little effect upon the volume of the business. In the winter here it is as necessary that the meat shall be kept from freezing as it is that it shall be protected from the effects of heat in the summer. The receipts of dressed beef at New York City may be taken as showing fairly the volume of the traffic month by month throughout the year, therefore the subjoined statement has been prepared. As the greater part of the traffic in dressed meat has its origin in Chicago, another statement has been prepared showing the number of tons of 2,000 pounds sent to the eastern markets by Chicago houses. That question (No. 18), "What proportion does the dead meat trade now bear to the fat stock trade?" may be answered at the same time in convenient form. I have included in that table shipments of cattle from Chicago to the same eastern markets for the same years.

STATEMENT of Tons of Dressed Beef received at New York between January 1, 1882, and December 31, 1885—by months.

Months.	1882.	1883.	1884.	1885.	Average.
January .....		1,201	1,913	3,643	2,252 3
February .....		1,555	1,846	3,246	2,216
March .....		1,590	1,937	3,564	2,364
April .....		1,311	1,960	4,593	2,621
May .....		769	3,176	4,237	2,727
June .....		748	3,122	4,074	2,648
July .....		921	3,024	4,050	2,665
August .....		1,321	3,187	4,577	3,028
September .....		1,670	3,526	5,392	3,529
October .....		1,783	3,941	5,638	3,787
November .....	1,283	1,569	3,555	4,953	3,770
December .....	1,400	1,919	3,869	5,377	4,155
Total .....	2,683	16,365	34,956	53,344	36,821

In July of each year cattle from Texas and the plains of the south-west generally begin to reach the great live stock markets named above. The arrivals generally increase in number until they are joined in August and later by cattle from the ranges of the States and territories further north. The receipts of the plains cattle continue until December, at which time the supply from the plains ceases, but its place is at once occupied in the market by the stock which has fattened on the grass of the pastures of the States east of Missouri River.

## COMPARATIVE STATEMENT.

SHIPMENTS of Cattle and Dressed Beef during Calendar Years 1880-85, inclusive, from Chicago.  
Tons of 2,000 lbs.

Destination.	1880.	1881.	1882.	1883.	1884.	1885.
New York City--						
Cattle .....	222,262	265,367	257,281	238,828	191,736	182,199
Beef .....	114	.....	3,812	23,160	32,722	45,112
Boston--						
Cattle .....	81,914	96,222	56,391	75,689	54,845	39,931
Beef .....	9,860	14,405	18,683	29,139	29,644	37,724
Philadelphia--						
Cattle .....	19,280	30,403	36,137	20,225	15,759	23,235
Beef .....	.....	.....	475	9,033	14,299	22,825
Baltimore--						
Cattle .....	4,053	3,807	5,085	8,167	8,211	6,916
Beef .....	.....	.....	1,393	4,160	4,208	7,676
New England States--						
Cattle .....	45,145	12,021	146	1,003	1,151	2,587
Beef .....	20,845	29,227	38,672	52,936	53,006	60,252
New York State--						
Cattle .....	39,632	22,908	21,778	14,491	16,995	7,262
Beef .....	.....	18	907	16,605	24,552	25,506
New Jersey and Delaware--						
Cattle .....	1,580	1,017	1,664	1,558	514	199
Beef .....	.....	.....	630	6,237	10,619	14,041
Pennsylvania--						
Cattle .....	1,050	1,283	2,584	3,838	18,590	15,863
Beef .....	.....	.....	370	5,893	8,746	9,438
Maryland and South--						
Cattle .....	1,308	572	2,594	8,415	4,539	2,830
Beef .....	.....	.....	878	2,557	5,545	7,701
Eastern Canada--						
Beef .....	.....	.....	.....	.....	1,592	1,359
Cattle .....	416,204	433,600	383,660	372,214	310,410	281,002
Beef .....	30,705	43,774	65,775	149,640	184,993	231,634

[Nothing can be more encouraging than these statements. They show that the fat stock trade is fast—notwithstanding the powerful vested interests—becoming a fresh meat trade in America, and there are much stronger reasons for its doing so in Australia.]

4. Do those engaged in it carry on the trade on their own account as dealers in stock or in meat or as agents for others? If as agents on what terms?—This trade is in the control of firms using their own capital, owning the slaughter-houses, and in some cases the refrigerator cars used in the business. These firms buy, kill, transport, and in some cases even retail their meat to the consumers. At the termini they have built and own cold storage rooms for their own uses, and are in almost every way independent of all outside dealers or agents, so far as concerns the buying of the cattle in the west, the selling to the actual consumer in the east, and all intermediate transactions necessary to the business, except the hauling of the refrigerator cars over the railways. I do not intend to convey the idea that the firms in the business do sell large quantities of their meat to the consumer, for they do not; but they are able to do so at any time. They do not carry on any part of the business as agents for others.

[Here the Railway Department will provide the meat trucks, as they will be able with a fresh meat, instead of a live stock trade, to take any kind of goods back in the meat trucks, and thus save the expense of hauling empty sheep and cattle trucks back long distances like those to Bourke and Hay.]

5. How are the stock awaiting slaughter kept?—Beeves and sheep are brought from day to day at the stock-yards named above; the supply is scarcely ever below the needs of the shippers of dressed beef or mutton, therefore there is never any need of keeping a supply on hand for the next coming day. On arrival in the stock-yards, usually at an early hour in the morning, the stock receives hay; after eating the hay they receive water in practically unlimited quantities. They are then, if sold, weighed and delivered to the buyer. His assistants drive the stock to the slaughter-houses near, and there they are killed, very often almost immediately after arrival at the slaughter-houses.

6. Describe the yards, slaughter-houses, and appurtenances, sending plans and lithographs where procurable.—The stock-yards of Chicago are the largest in the world, and may be considered representative yards; but they are perhaps less perfectly planned than are those built at a comparatively recent date in Kansas City, Missouri. The latter are on the sandy bank of the Kan River, to which the drainage of the yards flows freely through the sewers of ample size. These sewers underlie nearly every street in the yard, as their branches underlie nearly every alley. The area covered by the yards is divided by streets and alleys into blocks as nearly square as the nature of the ground permits. The blocks are subdivided into pens of various sizes by fences made of strong cedar posts deeply planted in the earth, and of pine planks 2 inches thick firmly nailed to the posts. The planks are 6 inches wide, and are surmounted by a broad plank 2 inches thick extending along the entire length of the fences, including the tops of the many gates. This broad plank thus affords a continuous walk from one part of the yard to any other part, high above the ground. At frequent intervals elevated bridges span the streets and alleys, that there

there may be no necessity for descending to the level of the ground. To each block a letter is given to distinguish it from the others, as block A, &c. To each pen in a block a number is given. When a lot of stock is put into a pen a record is made on the books of the company operating the yards, as for illustration, if a car load of cattle was received for John Doe, the record would read: "16 cattle, John Doe, lot 34, block G." At convenient places in the yards scales are placed for weighing the stock. These scales are made expressly for this purpose, and are each covered by a substantially built house. Of their capacity something has been said above. The pens are floored with pine planks 4 inches thick, resting on other planks of like description. The latter rests in turn upon their edges upon planks lying upon the ground. In places where the pens are not so floored, they are paved or macadamized. For cattle-pens no roofs are provided, but pens for sheltering hogs and sheep are roofed. In every pen is a water-trough of ample size, filled, when desired, from cocks in pipes connecting with a water-tank. In Chicago the water supply is taken from a stand-pipe, 100 feet in height and 7 feet in diameter. This pipe is filled by engines driving strong pumps, taking their supply from artesian wells, some 1,200 to 1,300 feet deep. The stock-yards of Chicago cover 360 acres. The slaughter-houses are of brick. From the stock-pens at one side of the houses, an inclined plane, 7 or 8 feet wide, extends to the height of the second floor. Between the side of the building and the drive-way mentioned is a row of pens, each 8 feet long and 4 feet wide. Each of these pens connects by a strong door with the drive-way, and at the other end is another door covered by a plate of iron, through which door access can be had to the interior of the slaughter-house. In the operation of the business cattle are driven up the inclined plane to the level drive-way, and a gate closes behind them. The gates of the small pens are open, and the cattle naturally enter to escape the crowd and the shouting drivers behind. Only one animal, or at the least two small beasts, can enter one of these pens at a time. The door is closed behind the animal, and it finds itself imprisoned in a space so small that it cannot turn itself around, but must stand with its nose close to the ironclad door, beyond which are the butchers. Over the heads of the beast awaiting death is a running board or walk 1 foot wide. Along this goes a man armed with a rifle carrying a ball 44:100 calibre, or with a piece of iron pipe  $\frac{3}{4}$  inch in diameter, in the end of which a lance-shaped point has been fastened. With the rifle placed within a few inches of the head of the animal the trigger is pulled, and the heavy ball tears its way through the menulla oblongata and the brain, or if the lance is used, the spinal cord is severed by its sharp edge; either way causes instant death. The ironclad door is raised when the butchers within are ready, and a chain is passed around the horns of the beast. This chain is operated by a steam engine, and quickly drags the bullock into the dressing-room, where it lies upon a floor sloping slightly toward a gutter through which runs a stream of water, carrying away all the blood and offal that is not saved in the operations of slaughtering. When the throat of the bullock is cut, the blood is caught in shallow pans and saved. The skin is quickly stripped from the warm carcass, which is then hoisted by steam machinery, split along the backbone, and the sides, hanging by hooks depending from wheels running upon a suspended rail of iron, are pushed into the cooling-room, there to hang until their temperature shall have fallen to that of the outer air. The sides are then taken to the chill-rooms to be kept until they shall be ready and wanted for shipment.

[This was asked in order to obtain information as to the system (companies killing for owners) which it is expected will exist here.]

7. What is the cost of slaughtering the stock?—No definite answer can be given to query No. 7, for the reason that so many elements enter into the cost that it is quite impossible for any one not having access to the books of the slaughterers to arrive at it. The cost varies, being less in some houses having the best appliances and superior management than it is in smaller or less completely appointed establishments, or large ones not so nicely managed as others. Those engaged in the business naturally object to telling what the cost is of their operations.

8. Are beasts slaughtered at a price for their owners,—if so, at what rate?—As a rule, animals are not so slaughtered. It is said, however, that it is the intention of those who have recently started slaughtering establishments in the plain country of the west to slaughter for any and all who may bring them a cartload or more at a time for that purpose.

9. Are fat, tongues, or the offal taken by slaughterers as part payment for their work?—This query is answered by the reply to No. 8.

10. Describe the chill-rooms,—how they are built, and of what material?—Chill-rooms are prepared by making next to their walls, a dead air-space, as nearly air-tight as possible. In some of the rooms racks or cribs rise from the floor of the room to that of the room next above. These cribs are filled from time to time with ice, traps in the floor above being opened for the purpose. Means for ventilation are provided at the top of the chill-room. In most chill-rooms, and in cold storage houses in the north, naturally-formed ice is used; but in the cold storage houses in the south artificial means are used for reducing the temperature. They are of brick or of wood.

[From the specifications, advertisements, and plans furnished, it would seem that the cheapest mode of chilling is by one of the processes like Mori's at Darling Harbour, and at the Sydney Ice-making Company, while the best for freezing for export would seem to be Bell & Coleman's, and Haslam's machines.]

11. Describe the cooling machinery, and state which is the best?—Without personal experience of the workings of the different kinds of refrigerating machinery, I would not be competent to decide as to which is the best adapted to the purposes of the dressed beef business.

12. What are the modes, extent, and cost of cooling meats per pound or per carcass?—Without knowing the cost of ice, of coal, or other fuel and the other elements of cost, it will be difficult to answer the question quoted, and the operators are as reluctant about answering this as they are about answering other queries as to the cost of the several operations necessary to their business. The cost of the operation may be ascertained approximately from the statements of the matter of cooling machines in the circulars sent herewith.

13. Describe the van by which the meat is carried by rail, the mode of sending it, and give full details as to how cold is provided on the way where necessary and the cost?—Several different cars are used for the purpose of carrying fresh meats long distances by rail; of these the oldest in use is that invented some twenty years ago by Mr. Wm. Chandler. Since that gentleman put the first refrigerator car into service, hundreds of patents have been taken out in the United States for devices of the kind. Of these none are more generally used than is the one known as the Tiffany refrigerator car. As at present constructed these are 30 feet long inside, and provided with hooks for suspending the fore and hind

hind quarters into which the meat is cut just before it is placed in the car. In the top of the car are ice boxes, which are filled with ice before the meat is placed in the car. The car is closed as quickly as possible after the meat is placed in the car. From thirty to sixty minutes are required in loading a car with 20,000 lbs. (20,000 lbs. would be equal to twenty-five bodies) of beef quarters, four men clad in white frocks doing the work. While hanging in the cooling or chill-room the meat is usually in halves or sides, and is cut apart by workmen as it leaves the hook on the scale where it is weighed at the place of loading. The ice tanks are examined two or three times on the way from Chicago to New York or Boston, or once in twenty-four or thirty-six hours, and, if necessary, are replenished with ice and salt. The larger concerns attend to this at their own expense, having ice and men ready at the stations where required. The cost depends upon the condition of the weather at the time the beef is in transit and also at the time of putting up the ice used. In a favourable winter ice can be housed in the north for less than one dollar per ton. From 1,000 to 1,200 lbs. are placed in each car, the quantity depending on the season. During the hottest part of August last dressed beef was sent from Chicago to New York and to Boston in cars in which 900 lbs. of ice were placed at Buffalo, and 600 lbs. at Albany, to replace that which was put in before starting from Chicago. (That is three iceings altogether, one at starting, and two by the way, for 1,005 miles.) Several cars safely took their loads of beef from Chicago to New York, using only 1,800 lbs. of ice in the trip. It may be said that the average cost of iceing will range from 5d. to 7d. per car at each iceing station.

[Taking the distance from Bourke to Sydney at 505 miles, and the average cost of an iceing of a car with 20,000 lbs. meat at 25s.; and supposing that two iceings would be required in the height of summer, one before starting, and one at Dubbo or Wellington, the cost of ice for a car load of meat, 20,000 lbs., would be 50s., or one-thirty-third of a penny per lb., or (say) 2s. per body, while only one iceing would be sufficient for a good part of the year, and in the winter none would be needed. The cost is, however, so little that it would be bad policy to run any risk.]

14. Say how trains with chilled meat are run, the distances they run, their average speed, and the average cost per mile per ton, or per body, for carrying and for keeping cool?—It is the custom with railroad companies carrying meats from Chicago to make up special trains carrying fresh meats and other perishable freight to the seaboard. Each day such a train consisting of twenty or thirty cars is made up, to which are added those containing butter, cheese, and fruit, all in refrigerator cars. Such trains run at the rate of twenty-five or thirty miles per hour, including stoppages. Trains not infrequently make the run from Chicago to Buffalo, 523 miles, in twenty-six hours, including one stop at Cleveland, when it is found necessary to ice there. As Buffalo is a common point at which eastward bound trains meet on their way from the west to New York and Boston, all refrigerator cars are examined there, and iced if re-icing appears to be required. The tariff rate on dressed beef is 65 cents per 100lb. (£3 10s. 8d. per ton) from Chicago to New York. To this charge is to be added the cost of iceing as given above. In answering the above questions I have been largely guided by the conditions of the trade of Chicago, because this city has done by far the greater part of the dressed meat business of this country. In the year 1884 shipments of dressed beef from Chicago amounted to 694,026 carcasses, and they have since that time increased. Perishable property is, it may be added here, carried to the Atlantic seaboard (making a journey altogether of 2,000 miles) in refrigerator cars named, from points 1,000 miles or more west and south-west from Chicago, at which points the temperature ranges from 90° to 100° F., in the shade, during the heated months. In trips through such heated districts new supplies of ice are put into the tanks in the cars three times in each 1,000 miles.

15. Whether the meat ever arrives in bad condition? If it does, what is the cause and the percentage of loss from this cause?—In the earlier days of this business, when people were experimenting for the purpose of overcoming the obstacles then met, some cargoes reached their destinations in bad order, the cause having been imperfect insulation, and the ignorance of employees; but it is now held that there is little, if any, risk of loss in shipping fresh meats or other perishable property. The percentage of loss of goods in refrigerator cars is too small to be estimated.

16. What are the form and construction of the meat markets, and of the cold store attached; the rate of market dues and the charges per day for keeping meats in the chill rooms?—As the markets are largely owned or rented by private parties who make leases, when they do lease, upon private terms, no answer that would have value in another country, or in other conditions, can be made. In a few cities, stalls are rented by retailers from the municipal authorities; but the rates and conditions vary greatly. In regard to the construction of the markets, it may perhaps be well to try to answer by describing the retail market of one of Chicago firms, which ships large quantities of fresh beef to the eastern States, to Europe, and to many interior points in this country. In the market referred to, a counter extends the entire length of the room, the walls of which are frequently covered by a coating of whitewash, and the floor thickly carpeted each day with fresh clean fine pine sawdust. Through the middle of the room is a row of square pine posts supporting the floor above. These posts are also whitewashed, and each has attached to it brackets which support bunches of fresh flowers during the season when the flowers bloom in the open air here. The top of the counter on which the meat is served to customers is of marble, smoothly polished. Behind the counter are rows of strong hooks upon which are suspended a few—and only a few—pieces of meat in a fresh state, most of the meats thereon being cured hams or bacon, or sausage. On the heavy cutting blocks under the rows of hooks the butchers cut such pieces as the buyers require. Immediately after the wants of the buyer are satisfied the quarter of beef from which the cuts have been taken is returned to the cool room from which it was brought. It remains there until another piece is wanted for another buyer. Scales are suspended behind the counter for weighing the meats as they are served to the buyers. The chill room or cold store in which the meat is kept while awaiting the coming of the buyers, has walls insulated by dead air spaces, or by other devices, or is kept cool by ice stored in proper receptacles so arranged that while the chilled air falls in the room below, the moisture thereupon passes away without coming into contact with the meats. Great care is used in all cold store arrangements to prevent the cold air bearing moisture to the goods to be preserved, and so perfect are some of the cooling devices in use that not the slightest trace of moisture can be seen in the apartment where the goods are stored. In this room the ice is placed in a receptacle at one side. From the ice the cold air falls into a store-room below where it becomes slightly warmed by passing over the meats or other food placed there. The warm air rises through the open floor of the second chill-room, and thence through openings near the ceiling into the room where the ice is stored to again make the round as before. Arrangements are made so that valves close the opening near the ceiling the instant the door of either of the

the cold storage rooms is opened. The closing of the valves stops the current of warm air, which would but for this fall upon the ice and cause it to waste rapidly away. When the door is again closed, the valve is opened and the circulation of air goes on as before.

17. Describe the receiving of meat intended for sale in the market; the mode of selling and delivery?—Upon arrival of the train conveying fresh meat, say in New York, the cars are run into a storage establishment. The meat is carried into the cold storage room, and remains there in a temperature of about 36 deg. to 42 deg. F. until wanted. As a rule the quarters are sold to retailers, who come at an early hour in the morning, or who send in their orders in the afternoon of one day for the meats they want for the next morning. Waggon prepared for the purpose go about in the morning delivering the meats ordered by the retailers. In some cases hotel managers and others using large quantities of meat order one or two car loads at a time, and keep the meat in cold storage rooms until required for their daily business. Poultry and game are also kept in this way.

18. What proportion does the dead meat now stand to the fat stock trade? Is the dead meat increasing and likely to increase?—This question is in part answered by the reply to query No. 3. The traffic in fresh meats grew rapidly, but not steadily, almost from its inception. It must continue to increase unless there shall be a revolution in trade affairs, and in the desire of the people to obtain the best meats for the smallest outlay. During the last five years the growth of the trade in dressed beef has been as follows:—From 1881 to 1882 the increase was 42.5 per cent. over the trade of 1880; in 1882 the gain was 52.3 per cent. over the traffic of 1881; in 1883 it was 127.5 per cent.; in 1884 it was only 23.6 per cent., and in 1885 it was 25.2 per cent. The relation borne by the entire dressed beef trade of Chicago to the fat stock traffic of that city may be seen by a glance at the figures given in the second table sent herewith.

19. What distances are live stock carried by rail, and are they taken out and fed on the journey; if so, how often?—Cattle have been sent by rail from Oregon on the Pacific Coast to New York on the Atlantic seaboard. It is a law that cattle shall not be kept confined in cattle cars for a period longer than twenty-four hours without being unloaded for food, water, and rest. In the region west of Chicago trains do not, as a rule, run at as high a rate of speed as trains maintain on railways east of Chicago. Such trains now run from 250 to 500 miles without stopping for feeding and resting the stock.

20. What is the average cost of carrying a fat bullock per mile for 100 miles and upwards?—From Kansas city to Chicago the distance is 500 miles, and the rate is 65 dollars (that is, at 4s. 1d. for the dollar, £13 5s. 5d. for the truck for 500 miles or (say) 16s. 8d. per head) per car load for cattle, nominally 20,000 lb. but really often nearly or quite 24,000 lb. From Chicago to New York the rate charged is £22 per truck for 1,005 miles, or £1 8s. per head. The average number of cattle in a car load is sixteen, the range being from twelve fat heavy cattle to twenty thin and small ones.

This shows that while it costs in this Colony 25s. to convey a fat bullock by rail 500 miles, in America it only costs from 14s. to 16s. 3d.

Very respectfully,  
NORMAN J. COLMAN,  
Commissioner of Agriculture.

Washington, D.C., 19 July, 1886.

#### APPENDIX G.

THE question of meat supply has lately attracted a considerable amount of attention, and opinions have been expressed by well known authorities amongst the stock breeders of this Colony and Queensland, that the supply of meat was little, if any, in excess of the demand. The matter appeared of so much importance, that, at my request, Mr. Coghlan, the Government Statistician, made an investigation of the requirements of Australia, and the supply available. A copy of this gentleman's report is appended, from which it will appear that the time is still fairly distant when, if our present rate of consumption continue, the demand will overtake the supply.

##### *Increase of Population.*

The ratio at which the population of the Colonies tends to increase, intimately concerns the question of food supply. We are not only our own chief customer for meat in ordinary seasons, but in the most abundant times the surplus, after the wants of the Colonies have been supplied, is but a small proportion to the total quantity produced.

In the year 1871, the population of the five Colonies, New South Wales, Victoria, Queensland, South Australia, and Western Australia, numbered 1,610,382. Ten years afterwards it reached 2,193,730, which gives a ratio of increase of about 3.14 per cent. per annum. The probabilities are, that towards the end of the decennial period the increase was larger than at its commencement, for since 1881, the increase of population has been at the rate of 4.15 per cent. It will therefore be safe to take 4.0 per cent. as the probable rate at which the population of the Colonies may be expected to increase during the coming decade.

##### *Increase of Stock.*

There has been no regularity in the increase of either sheep or cattle, the numbers especially of the latter have increased for a series of years, and then have declined, have risen and again fallen, and though the upward tendency will be visible over a long series of years, it cannot be discovered from viewing a short period. Thus there were less cattle in 1885, and less sheep in 1884, than in 1880. Yet, taking a long series of years, the general law of increase of stock is plainly visible, and it would appear that the ratio of increase is inversely as the number of stock. The numbers of sheep and cattle in the five Colonies during each year, from 1876 to 1885, were:—

Year.	Number of Sheep.	Number of Cattle.	Year.	Number of Sheep.	Number of Cattle.
1876... ..	50,896,507	6,612,756	1881... ..	63,230,862	7,880,465
1877... ..	44,807,810	6,498,279	1882... ..	65,981,116	7,608,307
1878... ..	47,737,531	6,733,941	1883... ..	68,154,228	7,568,618
1879... ..	52,047,975	7,176,386	1884... ..	59,850,111	7,440,075
1880... ..	60,389,987	7,399,955	1885... ..	65,896,190	7,230,891

The

The number of sheep tends generally to increase, but bad years succeed good years, and it often happens the gains of three or four years of plenty are swept away by one bad season. Taking the largest number of sheep in any year of a series of fair years between two bad seasons and compare it with the largest number in any other series of a similar kind, a fair ratio of increase may be established. The same result will be got by taking the lowest of any series with the lowest of another series of years. Thus in the table given above the number of sheep in 1877 was 44,807,810, in 1884 the number had risen to 59,850,111, being an increase of 15,042,301 in seven years, or at the rate of 4.22 per cent. per annum. This ratio fairly represents the increase for the whole of Australia.

The rate of increase of cattle is not so apparent, inasmuch as the number at the close of 1885 was considerably less than in 1880. Leaving out the year 1876, and commencing with the following year we have a series of five years in which the number of cattle increased year by year till 1881, the average number of each year of the five being 7,137,800; then follows a period of five descending years from 1881 to 1885; the average of which is 7,445,670. The number of years between these two means is four, and the total increase for the four years is 307,870. This gives a rate of increase of only 1 per cent., a very small increase truly, but one which seems to agree with the experience of Queensland, where the bulk of the cattle are grazed.

Having established the respective rates of increase of sheep and cattle it will be necessary to find the ratio of increase of sheep and cattle combined, as the deficiency in the supply of mutton may be, and is, made good by beef, and *vice versa*; for, though the consumption of meat per head may remain the same in quantity per annum in the various divisions of Australia, it differs in kind in different places, mutton being the predominating diet in some parts, beef in others, and an almost equal proportion of each in other places, as in Sydney.

Working on the basis of the last year of the series given above (1885), the increase of sheep and cattle, after allowing for all the requirements of the country, should be—

65,896,190 sheep ... ..	@ 4.22 % =	2,770,829
7,230,891 cattle ... ..	@ 1.00 % =	72,309

The weight of the annual increase, assuming 700 lb. as the weight per head of cattle, and 48 lb. per head of sheep, would be—

Sheep ... ..	2,770,829 @ 48 lb. =	132,999,792 lb.
Cattle ... ..	72,309 @ 700 „ =	50,616,300 „
Giving a total increase of ... ..		<u>183,616,092 „</u>

The total equivalent weight of the sheep and cattle at the close of 1885 would be—

Sheep ... ..	65,896,190 × 48 lb. =	3,163,017,120 lb.
Cattle ... ..	7,230,891 × 700 „ =	5,061,623,700 „
Total ... ..		<u>8,224,640,820 „</u>

The net annual increase has been found to be 183,616,092 lb. on a total weight of sheep and cattle of 8,224,640,820 lb., or equal to 2.23 per cent.

Having determined the respective rates of increase of population, and of food, it will be necessary to ascertain the amount of the surplus supply which obviously exists. In order to do this, the whole Colonies must be taken as one run, otherwise the individual experience of any one district, or even Colony, will be likely to mislead, by making the "cast" appear on the one hand too high, if a fattening country be taken as a standard, or on the other hand too low if a breeding station is adopted. I have preferred taking a representative herd or flock of 20,000 head, and applying the experience of qualified persons to arrive at a general notion of the cast or yield.

In a herd of 20,000 cattle there would be on an average about 5,000 breeding cows, and from these cows there would be obtained 72 per cent. of calves, or 3,600 in all—1,800 male and 1,800 female. In five years the males would be fit for market, and the females at eight years. During these years the loss of stock would be about 5 per cent. for bullocks and 6 per cent. for cows, for each year.

Out of 1,800 males born, 1,710 would survive at the end of the first year, 1,625 at the end of the second, 1,544 at the end of the third, 1,467 at four years, 1,394 at five years, and would be then available for market.

Similarly with the cows there would be out of 1,800 born—

1,692 surviving at 1st year
1,591 „ 2nd „
1,496 „ 3rd „
1,406 „ 4th „
1,322 „ 5th „
1,243 „ 6th „
1,170 „ 7th „
1,100 „ 8th „

Or 1,100 ready for market at eight years old.

Meanwhile the herd would be increasing, as already shown, at the rate of 1 per cent. per annum so that a herd of 20,000 would number 21,920 in five years, and in eight years would reach 21,658, giving an average of 21,339 head when the 1,394 bullocks and 1,100 cows were fit for slaughter. The "cast," therefore, would virtually be 2,494 on a herd of 21,339, or at the rate of 11.7 per cent.

At the close of 1885 the total stock numbered 7,230,891, and the cast of fat stock at the rate of 11.7 per cent. would be 846,014 head, which at 700 lb. per head gives the total weight of beef available, viz., 846,014 × 700 lb., = 592,209,800 lb.

Similarly in regard to sheep, out of a flock of 20,000 there will be on an average about 6,500 breeding ewes. The general average of lambing is in round numbers 60 per cent., so that the lambing may be set down at 3,900. Allowing a loss of 4 per cent. alike on male and female, out of 1,950 ewes, 1,458

would reach seven years, at which age they would probably be ready for market; and of a similar number of wethers, 1,648 would reach four years, when they too would be available for slaughter, thus:—

Year.	Ewes.	Wethers.
0	1,950	1,950
1	1,872	1,872
2	1,797	1,797
3	1,715	1,715
4	1,648	1,648
5	1,582	.....
6	1,519	.....
7	1,458	.....

The total available would, therefore, be 1,458 + 1,648, or 3,106 sheep. In four years the flock of 20,000 would, increasing at the rate of 4.22 per cent., number 23,604, and in seven years 26,724, giving an average of 25,165 sheep, upon which there would be a cast of 3,106, or 12.34 per cent. The sheep at the close of 1885 numbered 65,896,190, and 12.34 on this would be 8,131,590. Taking 48 lb. as the weight of each, the cast would represent  $8,131,590 \times 48 \text{ lb.} = 390,316,320 \text{ lb.}$

The total quantity of stock available for consumption would then be:—Beef, 592,209,800 lb.; mutton, 390,316,320 lb.; total, 982,526,120 lb.

Against this there is a demand for meat equivalent to 799,500,000 lb. In this Colony there is a consumption at the rate of 2.5 sheep and 0.18 cattle for every inhabitant. Taking this as true of the rest of Australia, we have a consumption of—

Beef	...	...	...	...	...	$0.18 \times 700 \text{ lb.} = 126 \text{ lb.}$
Mutton	...	...	...	...	...	$2.50 \times 48 \text{ lb.} = 120 \text{ ,,}$
						246 lb.

The average annual consumption per head is therefore, say 246 lb. for the whole of Australia, though the respective quantities of beef and mutton consumed very probably differ from those given above, while the total would remain the same. At the end of 1885 the population was approximately 3,250,000, and at 246 lb. per head the year's consumption would be 799,500,000 lb., as against a total cast of 982,526,120 lb., showing an estimated surplus of 183,026,120 lb., which is practically the same amount as already ascertained.

According to these figures there would be, in ordinary seasons good and bad, an annual meat surplus of nearly 183 million lb. A series of good seasons, by diminishing the losses of stock, may materially increase this surplus; but on the other hand we have no reason to rely on the clemency of future seasons to a greater degree than is warranted by the experience of the seasons that have gone.

It has already been shown that past experience determines the yearly rate of increase of food supply to be 2.23 per cent. The increase of population is, however, 4.0 per cent., and the demand therefore must eventually, if the present rate of consumption continue, overtake the supply, no matter how great the surplus may be. How long it will be before this happens is of course doubtful, but with a surplus supply of 183 million lb., increasing at the rate of 2.23 per cent., and with a population increasing as it does at 4.0 per cent., the time cannot be more than twelve years.

New South Wales, however, is much more favourably situated than any other continental colony in respect to meat supply derived from its own territory. It has relatively more stock than any other colony, and the yearly cast therefrom is larger than the average of all Australia. Against this, its population increases much more rapidly. Thus though the meat supply increases at the rate of 3.50 per cent. in each year, as against 2.23 per cent. for Australia, and shows a present surplus of nearly 100,000,000 lb., or five-ninths of the entire surplus, the population of this colony increases at the rate of 5 per cent.; and so to a great extent, counterbalances the gain from the larger cast and proportionately larger flocks. The total consumption of meat in the colony at the end of 1886 amounted to 250,000,000 lb., while the total cast or return from cattle and sheep amounted to nearly 350,000,000 lb.

The former increasing at 5 per cent., will overtake the latter at 3.5 per cent. per annum in 23.4 years.

16th March, 1887.

T. A. COGHLAN,  
Statistician.

1887-8.

NEW SOUTH WALES.

## DEPARTMENT OF MINES.

(ANNUAL REPORT OF STOCK BRANCH, 1887.)

Presented to Parliament by Command.

TO THE HONORABLE FRANCIS ABIGAIL, ESQ., M.P., MINISTER FOR MINES, &amp;c., &amp;c.

Sir,

I have the honor herewith to submit the Report of the Chief Inspector of Stock upon the working of the Branch of this Department under his charge for the year 1887.

The increases in the number of horses, cattle, and sheep respectively are very satisfactory. The number of sheep in 1887 was considerably larger than in any previous year since 1861, but the number of horses has been exceeded in two years, namely, 1880 and 1881, while the number of cattle in 1887 was less than half the number in 1873, and little more than half the number in 1875 and 1876.

The clip for 1887 exceeds that of 1886 by 21,334,089 lb. Of this excess 9,835,003 lb. was exported from Sydney, 9,813,610 lb. by way of Melbourne, 1,491,754 lb. by way of Adelaide, and 193,722 lb. by way of Brisbane. However, more than two-thirds of our total clip is shipped from Sydney, which, considering all the circumstances, may be regarded as satisfactory.

Some of the appendices contain matter of great interest to stock owners.

I have, &amp;c.,

HARRIE WOOD,

Under Secretary for Mines.

Department of Mines,

Sydney, 21st April, 1888.

The

## The Chief Inspector of Stock to The Under Secretary for Mines.

Sir,

Department of Mines, Stock Branch, Sydney, 1 March, 1888.

On the 1st February last I submitted a Progress Report for the year ending 31st December, 1887, giving the approximate number of the horses, cattle, and sheep then in the Colony; and I have now the honor to submit for your consideration my complete Report for that year on the working of this Branch, which is as usual based very much upon Inspectors' estimates—owners still showing very little inclination to furnish data. It will be seen that the actual number of cattle and sheep in this Report exceed those in the Progress Report.

ALEX. BRUCE,  
Chief Inspector of Stock.

## I.—INSPECTORS AND THEIR WORK.

1. *The Inspectors.*

There are now forty-six Inspectors, having charge of fifty-nine Sheep Districts.

2. *The Inspections made.*

The inspections made during the year were as follows:—

Of Stock	...	...	...	...	...	...	15,669
„ Reserves	...	...	...	...	...	...	4,254
„ Pounds	...	...	...	...	...	...	389
„ Noxious Animals	...	...	...	...	...	...	4,914
„ Dogs	...	...	...	...	...	...	637
„ Pigs	...	...	...	...	...	...	147
Total	...	...	...	...	...	...	26,010

This would give an average of 565 inspections made by each of the forty-six Inspectors.

3. *Horses, Cattle, and Sheep inspected.*

*Horses.*—The number of horses inspected during the year was 78,509, by forty-five Inspectors.

*Cattle.*—The number of cattle inspected during the year was 1,011,357.

*Sheep.*—The number of sheep inspected during the year was 22,021,120. This is an increase of 3,470,759 on last year's inspection.

4. *Inspections at Homebush Sale-yards.*

During the year bi-weekly visits to the Homebush Yards have been made by the Sydney Inspector, with the view to inspecting the stock yarded. The total number of stock submitted to auction was as follows;—Cattle, 91,659 head; sheep, 1,433,921, or a weekly average of 1,762 cattle and 27,575 sheep. These inspections are called for not only for the prevention of disease but also to check stock stealing, and with that view the Inspector sees that the brands and marks of the stock correspond with those in the permits or travelling statements accompanying the stock, which are collected and filed in this office for future reference, should, as it at times happens, enquiry be made with respect to stock suspected of having been stolen.

5. *Distance travelled by Inspectors during the year on duty.*

The total number of miles travelled by forty-six Inspectors was 179,081, or an average of 3,893 each per annum, being a slight decrease on last year.

6. *Prosecutions and Convictions.*

The prosecutions instituted during the past year were as follows:—

Under Sheep Act	...	...	...	...	...	80
„ Brands Act	...	...	...	...	...	14
„ Pastures Act	...	...	...	...	...	505
„ Public Watering Places Act	...	...	...	...	...	7
Total	...	...	...	...	...	606

This shows a decrease in the prosecutions under the Pastures Acts, and is accounted for by stock-owners becoming better acquainted with the provisions of the Act and its enforcement by Inspectors.

The number of convictions were:—

Under Sheep Act	...	...	...	...	...	68
„ Brands Act	...	...	...	...	...	13
„ Pastures Act	...	...	...	...	...	394
„ Public Watering Places Act	...	...	...	...	...	5
Total	...	...	...	...	...	480

## II.—HORSES.

1. *The Number.*

The number of horses in the Colony during the twenty-seven years previous to and including 1887 was as follows:—

Year.	No.	Year.	No.	Year.	No.
1861	251,497	1870	280,304	1879	360,088
1862	233,220	1871	337,597	1880	395,984
1863	273,389	1872	304,100	1881	398,577
1864	262,554	1873	328,408	1882	328,026
1865	284,567	1874	334,462	1883	326,964
1866	282,587	1875	357,697	1884	337,172
1867	278,437	1876	366,703	1885	344,697
1868	280,201	1877	328,150	1886	361,663
1869	280,818	1878	336,468	1887	390,609

This shows an increase of 28,946 during the year, and is due to the very favourable season. The number of horses in each Sheep District will be found in Appendix A.

2. *The different Breeds.*

*Draught.*—The numbers returned under this head are ordinary, 112,026; thoroughbred, 17,255; total, 129,281.

*Light Harness.*—The number returned as ordinary is 89,610; thoroughbred, 13,098; total, 102,708.

*Saddle.*—The numbers of ordinary are given as 136,168; thoroughbred, 22,452; total, 158,620.

3. *Horses introduced.*

*From other districts.*—The numbers of stud horses introduced were 186, and stud mares, 320; ordinary mares, 1,597; and horses, 1,811.

*From other Colonies.*—The number introduced by sea was—stud horses, 30; stud mares, 43; and ordinary horses and mares, 388.

The number introduced overland was 71 stud mares and 86 stud horses; and ordinary, 261 mares and 271 horses.

*From England and other Countries.*—The numbers introduced under this head were 2 stud mares and 10 stud horses.

4. *Horses fit for Sale.*

The numbers returned as being fit for market during the present year are 19,731 draught, 18,103 light harness, and 26,938 saddle.

Of this number it is estimated that 15,446 are suited for the India and China Markets.

There were sent from six districts 464 horses to be shipped from Sydney, and from nine districts 994 horses to Melbourne for foreign countries.

5. *Improvement.*

In forty-four districts the horses are said to be improving. The principal reasons given are—introduction of superior stud horses, breeding from good mares, more attention to the rules of breeding, and better prices obtainable; and in twelve districts there is no improvement. In three districts they are deteriorating,—the reasons given being too much light blood introduced, breeding from weedy mares for racing purposes, and the effect of the drought in 1884.

6. *Diseases in Horses.*

*Horse Fever.*—An epizootic contagious equine fever broke out in South Australia in 1886, and the infection was carried by teamsters and coaching horses from that Colony to the horses in the Silverton district in the end of that year and the beginning of 1887. It continued with considerable virulence during the hot dry summer, but disappeared with the autumn rains. It will be found fully described in Mr. Government Veterinarian Stanley's report on the outbreak, which forms Appendix B to this report.

*Australian Stringhalt.*—This ailment again appeared in this Colony at Perricoota, on the Murray below Moama, but subsided under the treatment prescribed by Mr. Stanley. His report on the case forms Appendix C to this.

*Rheumatism and Pneumonia.*—These ailments, especially the former, attacked horses on several holdings in the south-western portion of the Colony, and caused some losses. The Government Veterinarian attributes these ailments to the wet changeable weather and rank grass. (See his report, Appendix D.)

*Strangles.*—This disease has been somewhat widely spread, and, in a few instances, of a malignant type, as in that reported on as per Appendix E.

In most of the other outbreaks of this disease the attacks were mild and caused few losses.

In thirty-four districts the horses are reported entirely free from disease.

7. *Losses in Horses through accidents, &c.*

The losses in horses from wire in chaff, and other accidents as reported amount to 1,632.

8. *Wild Horses.*

The number of wild horses in the Colony is estimated at 6,220, which shows a decrease on the previous year of 1,223.

9. *Tax on Entire Horses.*

A large majority of owners are still in favour of a special tax being placed on entires.

## III.—CATTLE.

1. *Number.*

The returns of cattle in the Colony during the twenty-seven years ending 31st December, 1887, stand as follows:—

Year.	No.	Year.	No.
1861 ... ..	2,271,923	1875 ... ..	3,134,086
1862 ... ..	2,620,383	1876 ... ..	3,131,013
1863 ... ..	2,032,522	1877 ... ..	2,716,385
1864 ... ..	1,924,119	1878 ... ..	2,771,583
1865 ... ..	1,961,905	1879 ... ..	2,914,210
1866 ... ..	1,771,809	1880 ... ..	2,580,040
1867 ... ..	1,728,427	1881 ... ..	2,597,348
1868 ... ..	1,761,411	1882 ... ..	1,859,985
1869 ... ..	1,795,904	1883 ... ..	1,640,753
1870 ... ..	2,195,696	1884 ... ..	1,425,130
1871 ... ..	2,014,888	1885 ... ..	1,317,315
1872 ... ..	2,287,660	1886 ... ..	1,367,844
1873 ... ..	3,791,327	1887 ... ..	1,575,487
1874 ... ..	2,856,699		

This shows an increase during the year of 207,643, and a decrease as compared with the year 1877 of 1,170,898.

The number of cattle in the several sheep districts will be found in Appendix A.

2. *Different Breeds.*

*Shorthorns.*—The number of pure-bred and stud Shorthorns is estimated at 43,402; and ordinary 642,140; total, 685,542.

*Hereford.*—Pure and stud, 17,534; ordinary, 179,131; total, 196,665.

*Devon.*—Pure and stud, 7,502; ordinary, 56,240; total, 63,742.

*Black-polled.*—Pure and stud, 312; ordinary, 831; total, 1,143.

*Ayrshire.*—Pure and stud, 1,277; ordinary, 3,297; total, 4,574.

*Alderneys.*—Pure and stud, 242; ordinary, 340; total, 582.

*Jersey.*—Pure and stud, 19; ordinary, 240; total, 259.

*Brittany.*—Pure and stud, 106.

*Crosses.*—First crosses, 2,230; ordinary, 620,644; total, 622,874. The crosses are estimated as follows:—Shorthorn and Hereford, 218,065; Shorthorn and Devon, 64,641; Hereford and Devon, 34,065; Shorthorn and Black-polled, 1,551; Black-polled and Devon, 200; Ayrshire and Shorthorn, 2,700; Jersey and Shorthorn, 1,000; the balance, 300,652 being unrecognizable.

It will be observed that there is a proportionately large increase in the milking breeds of cattle. This arises through many of our cattle owners in the coast districts having turned their attention to dairying instead of fattening for market; and it is believed that this change will continue and increase.

3. *Stock introduced.*

*From other Districts.*—Stud bulls, 323; stud cows, 672; total, 995; ordinary cattle, 75,726.

*From other Colonies by Sea.*—Stud bulls, 52; stud cows, 136; total, 188; ordinary cattle, 347.

*Overland.*—Stud bulls, 126; stud cows, 937; ordinary cattle, 115,785; total, 116,848.

*From Countries outside the Australian Colonies.*—Nil. Importation prohibited.

4. *Increase and Decrease of Cattle.*

In fifty-one districts the cattle are reported to be increasing, for which the following reasons are given:—(1.) The good season. (2.) Runs heavily stocked. (3.) Increase in number of owners. (4.) Considerable numbers of store cattle have been introduced from Queensland. (5.) More owners have taken to breeding cattle, and are selling off their sheep to replace them with cattle.

5. *The "Cast" of Fat and Store Cattle.*

The estimated "cast" of fat cattle to be sent to market during the coming year is 278,081, and store cattle, 160,319. From twelve districts the fat cattle are principally sent to Melbourne; from two districts they are principally sent to Adelaide; and the remaining districts supply the markets of Sydney, Maitland, Mudgee, Bathurst, Orange, and Tamworth.

6. *How kept.*

The number of cattle kept wholly in paddocks is returned as 1,150,511; on open runs, 254,592; and the balance, 170,384, are depastured both ways.

7. *Improvement and Deterioration.*

In thirty-seven districts the cattle are said to be improving; in twenty districts they are stationary; and in two districts deteriorating. The principal reasons given for the improvement are—introduction of good stud stock; more attention and care in selection; also, in culling and keeping in paddocks. The reasons given for deterioration are—inattention to breeding, many owners breeding from all sorts without respect to breed or quality.

8. *Their Diseases and Ailments.*

*Pleuro-Pneumonia.*—In forty-two districts, on 467 runs, the cattle were reported as affected with pleuro-pneumonia; and in seventeen districts the cattle are reported as being free from that disease.

In thirty-eight of the infected districts the disease was caused by contagion, from infected travelling stock from Queensland; in three districts supposed to be latent in herds, and in one district the cause not known.

From

From forty-one districts it is reported that inoculation was successfully performed on 328 out of 333 holdings or stations.

In two cases only was it unsuccessful through using bad virus.

In almost every case the result was satisfactory, the disease leaving the herds without further loss.

The number of owners in favour of inoculation is given as 5,531; against, 582; undecided, 2,324; and 7,871 opinions not known.

The number of owners in favour of compulsory inoculation in the case of infected herds is given as 4,268; against it, 1,519; undecided, 2,209; and 8,439 opinions not known.

This shows a very large majority of owners in favour of the compulsory inoculation of all herds in which the disease appears; and I am glad to say that there is now a near prospect of this being brought about, as the Stock Conference held in Sydney in May last, for the purpose of revising the Stock and Pastures Bill, passed an almost unanimous resolution to that effect, and the necessary provisions have been included in the Bill.

#### 9. Losses from Disease and other causes.

The number of cattle reported to have died from Cumberland disease is 1,780; from blackleg, 87; from swelling in jaw or throat, 1,598; from ophthalmia, 409; from tuberculosis, 724; from poisonous plants, 52; and from pleuro-pneumonia, 260; total, 4,910.

*Tuberculosis* still prevails in cattle, although the importance of stamping it out is now recognized by breeders, and cattle sent into the Sydney markets are condemned and destroyed as unfit for food. As tuberculosis is hereditary, infectious, and liable to be communicated to human beings, it is most important that it should, as far as possible, be eradicated from our herds. It is to be feared, too, that this disease is at times mistaken for pleuro-pneumonia in inoculating for that disease; and inoculation with such virus must be attended with disastrous consequences.

*Blaine*.—This disease was reported at Jamberoo in April last, and the attack is the first which has been brought under the notice of the Department. The Government Veterinarian's report on the case will be found as Appendix F.

### IV.—SHEEP.

#### 1. The Number.

The Number of sheep in the Colony during the twenty-seven years ending 31st December, 1887, stands as follows:—

1861	...	...	6,119,169	1875	...	...	25,353,924
1862	...	...	6,558,896	1876	...	...	25,269,755
1863	...	...	7,169,126	1877	...	...	21,521,662
1864	...	...	9,082,463	1878	...	...	25,479,484
1865	...	...	9,650,106	1879	...	...	30,062,910
1866	...	...	11,644,593	1880	...	...	35,398,121
1867	...	...	15,066,377	1881	...	...	36,591,946
1868	...	...	16,000,090	1882	...	...	36,114,814
1869	...	...	16,848,217	1883	...	...	37,915,510
1870	...	...	16,218,825	1884	...	...	31,660,321
1871	...	...	16,766,012	1885	...	...	37,820,906
1872	...	...	17,873,696	1886	...	...	39,169,304
1873	...	...	18,990,595	1887	...	...	46,965,152
1874	...	...	22,797,416				

The number of sheep in the several sheep districts will be found in Appendix A.

#### Increase and Decrease.

This shows an increase of 7,795,848, which is attributable mainly to the very fine season, and good lambing in most of the districts. During the year, 500,000 sheep crossed the border into Queensland.

#### 2. The different Breeds.

##### (1) Merino.

##### Combing.

	Rams.	Ewes.	Wethers.	Lambs.	Total.
Pure and stud—Superfine ...	42,940	461,875	124,571	214,593	843,979
Ordinary ... ..	76,031	1,744,904	1,341,129	1,221,672	4,388,736
					<u>5,227,715</u>
Pure and stud—Medium ...	68,142	995,278	435,152	660,987	2,159,559
Ordinary ... ..	171,128	5,796,684	3,857,549	3,579,810	13,405,171
					<u>15,564,730</u>
Pure and stud—Strong ...	49,286	877,332	414,860	601,024	1,942,492
Ordinary ... ..	116,878	4,179,713	2,647,385	2,795,268	9,739,244
					<u>11,681,736</u>
Total, Combing... ..					<u>32,474,181</u>

Clothing

Clothing.					
Pure and stud—Superfine ...	10,977	208,276	107,626	136,404	463,283
Ordinary ... ..	25,019	536,257	572,454	302,941	1,486,671
					<u>1,899,954</u>
Pure and stud—Medium ...	24,074	314,945	205,617	203,741	748,377
Ordinary ... ..	65,203	2,579,689	1,752,776	1,550,674	5,948,342
					<u>6,696,719</u>
Pure and stud—Strong ...	19,349	299,520	175,550	215,425	709,844
Ordinary ... ..	49,794	1,811,695	1,191,705	1,175,818	4,229,012
					<u>4,938,856</u>
Total, clothing ... ..					<u>13,535,529</u>
Total number of Merino Sheep ... ..					<u>46,009,710</u>
(2) Long-woolled and cross-bred Sheep.					
Pure and stud—Lincoln ...	3,075	31,338	27,301	23,471	85,185
Ordinary ... ..	3,342	36,631	37,890	21,564	99,427
Total Lincoln ... ..					<u>184,612</u>
Pure and stud—Leicester ...	2,957	29,860	29,747	21,485	84,049
Ordinary ... ..	2,545	22,638	19,947	15,990	61,120
Total, Leicester ... ..					<u>145,169</u>
Pure and stud—Downs ...	626	3,678	1,991	2,949	9,244
Ordinary ... ..	1,003	7,747	10,948	5,267	24,965
Total, Downs ... ..					<u>34,209</u>
Pure and stud—Romney Marsh	10	91	173	69	343
Ordinary ... ..	613	5,086	10,195	4,292	20,186
Total, Romney Marsh... ..					<u>20,529</u>
Total number, long-woolled sheep ... ..					<u>384,519</u>
(3) Crosses.					
Crosses of the above breeds (long-woolled) with Merino principally.	1,828	213,494	197,580	158,021	570,923
Total, crosses ... ..					<u>570,923</u>
Grand Total ... ..					<u>46,965,152</u>
Sexes and Classes.					
Rams ... ..					734,820
Ewes ... ..					20,156,721
Wethers ... ..					13,162,146
Lambs ... ..					12,911,465
					<u>46,965,152</u>

### 3. Sheep introduced and imported.

- (1.) From other districts in this Colony.—Stud, 6,403 ; ordinary, 1,702,058 ; total, 1,708,461.
- (2.) Overland from other Colonies.—Stud, 16,211 ; ordinary, 597,907 ; total, 614,118.
- (3.) By sea from other Colonies.—Stud, 3,399 ; ordinary, 195 ; total, 3,594.
- (4.) From England and Countries and Colonies other than Australian.—Nil. Importation prohibited.

Number of sheep passed through quarantine and dressed.—During the year 2,199 stud sheep from the other Colonies by Sea (nearly all of which were from Tasmania) passed through quarantine and were dressed. The sheep from the inland districts in this Colony, through having been in contact with the imported sheep at the annual sales, were also dipped. The reports received from the various Inspectors into whose districts the sheep went after being dipped, show that the dipping has had no ill effects on the sheep, either as to health or condition of wool. In one case only out of so large a number is it reported that a ram died, and there is nothing to show that it died from the effects of the dip. (*For particulars of Sales see Appendix G.*)

### 4. Long-woolled and cross-bred Sheep.

Amongst the long-woolled sheep the Lincoln is said, in a large majority of the districts, to give the best returns in wool and in weight of mutton, the cross-bred sheep being second.

5. *The "Cast" of Fat and Store Sheep.*

The annual "cast" of fat sheep for the ensuing season is estimated at 5,182,890, and store sheep, 6,711,716.

6. *How Sheep are kept.*

Paddocked	...	...	...	...	...	...	...	44,725,073
Shepherded	...	...	...	...	...	...	...	1,238,868
Both ways	...	...	...	...	...	...	...	1,001,211
								46,965,152

7. *Condition of the Flocks.*

In forty-five districts the sheep are said to be improving; the principal reasons given being—more attention to breeding, paddocking, introduction of high-class rams and ewes, more careful classing and culling, and better season.

In ten districts they are said to be stationary, and in four districts they are deteriorating. The reasons given are—effects of bad seasons in 1884 and 1886, breeding from inferior ewes, bad management, and country not suitable for sheep.

8. *Lambing.*

The general average for the whole of the Colony of the paddocked sheep is returned by Inspectors at 76½ per cent., and shepherded sheep at 68½ per cent. In thirty-one districts the lambing was very high; in fourteen districts, high; in seven districts, fair; in five districts, low. The reason given for the high percentage is the very fine season, sheep in good condition and not harassed by dogs; while the fair and low percentages are attributable to the rams not being in good condition, want of attention, lambs lost in long grass, and deaths through continuance of wet weather.

The paddocked sheep show a higher percentage than the shepherded sheep by 8½ per cent.

9. *The Clip.*

## Average per Sheep.

*Lambs.*—The number of lambs shorn in the grease was 8,185,458; the number washed, 123,745; total lambs shorn, 8,309,203.

*Sheep.*—The number of sheep shorn in the grease was 31,082,201; hot water and spout washed, 90,000; creek-washed, 647,945; and scoured, 554,687.

The average weights of the clip are estimated as follows:—

	Lambs.		Sheep.	
	lb.	oz.	lb.	oz.
Grease	1	12½	5	9
Hot water and spout	.....	.....	3	12
Creek-washed	1	5	3	1½
Scoured	.....	.....	2	14

## Total Clip.

The total clip in the Colony for the year 1887, according to the number of sheep, would be 31,082,201 sheep shorn in the grease, average clip, 5 lb. 9 oz. per sheep = 172,894,743 lbs.; 90,000 sheep hot water and spout washed, average clip 3 lb. 12 oz. per sheep = 337,500 lbs.; 647,945 sheep, creek-washed, average clip, 3 lb. 1½ oz. per sheep = 1,997,830 lbs.; 554,687 sheep scoured, average clip, 2 lb. 14 oz. = 1,594,725 lbs. Lambs—8,185,458 lambs shorn in the grease, average clip, 1 lb. 12½ oz. per lamb = 14,580,347 lbs.; 123,745 lambs washed, average clip per lamb, 1 lb. 5 oz. = 162,415 lbs.; total clip, 191,567,560 lbs.

## Condition of Clip.

In twenty-eight districts the clip is reported as sound and full of yolk; in twenty-six districts, sound, but light in yolk; and in the ten remaining districts, light and tender. On the whole the clip was clean and free from burrs, but in a few districts the value of the wool was considerably affected by grass-seed.

## Exportation of Clip.

The clip grown in the Colony of New South Wales is shipped to England, America, France, and other countries, from the principal ports of the three neighbouring Colonies, as well as from Sydney. The portion of our clip thus shipped from the other Colonies is often mistaken as the produce of those Colonies, more particularly for that of Victoria, and South Australia.

The following is an estimate of the clip sent to Sydney, and also the proportion sent across the Borders and to Melbourne, Adelaide, and Brisbane, for the years 1886 and 1887.

Port of Shipment.	1886.			1887.		
	Greasy.	Washed.	Total.	Greasy.	Washed.	Total.
	lb.	lb.	lb.	lb.	lb.	lb.
Sydney	115,810,501	2,505,650	118,316,151	125,167,424	2,983,730	128,151,154
Melbourne	35,913,969	1,285,408	37,199,377	45,922,914	1,090,073	47,012,987
Adelaide	13,891,088	671,721	14,562,809	16,054,563	.....	16,054,563
Brisbane	150,305	4,829	155,134	330,189	18,667	348,856
	165,765,863	4,467,608	170,233,471	187,475,090	4,092,470	191,567,560

Through the Murray, Murrumbidgee, and Darling Rivers being navigable during the wool season a considerable portion of the clip in the northern, north-western, and western districts of the Colony have been sent by steamers to Echuca and Goolwa, consigned to Melbourne and Adelaide.

Classing

### Classing the Clip.

In twenty-seven districts the clip is reported as being well classed, and in the other districts it is not considered so; the reasons being—owners do not think it pays, want of convenience, sheds not large enough to warrant expense, and the difficulty of obtaining competent woolsorters.

### Wool-presses.

A great number of different kinds of presses are used; those most in favour are William's and Robinson's; rack screw, and pinion presses are used. There is still room for improvement in the mode of pressing, especially by small owners.

### Woolpacks.

The woolpacks used are mostly Calcutta and Dundee, of various sizes, from 4 ft. 6 in. x 2 ft. 2 in. to 5 ft. 3 in., and the weight from 10 to 12 lb.

On forty-six stations the wool is dumped before leaving.

## 10. *Sheep-brands and marks.*

### Ear-marking.

In most districts the system of ear-marking sheep is now properly carried out, and nearly all the owners approve of it.

### Tattoo-marking.

This system of marking is mostly used by owners of stud-sheep—not, as yet to any great extent in the case of ordinary flock sheep, but where tried it has been found to act as a good preventive to sheep-stealing.

## V.—DISEASES IN SHEEP.

### 1. *Scab.*

The flocks in this Colony, and in the Colonies of Queensland, Victoria, South Australia, and Tasmania are free from scab. It exists, but to a very slight extent, in New Zealand and Western Australia, and it is hoped they will soon be declared clean. The importation of sheep into this Colony from New Zealand and Western Australia is prohibited.

### 2. *Anthrax—Splenic Apoplexy.*

This most fatal disease continues its ravages in several parts of the Colony, and pastoralists seem content to trust to moving their sheep from the dangerous ground and leaving it idle during the height of summer rather than attempt to eradicate the infection from it altogether, or to protect their sheep by inoculation, as advised by M. Pasteur. If, however, M. Pasteur's nephew comes to Australia, as it is expected he will, with the view to the introduction of the microbes of chicken cholera for the destruction of rabbits, the Minister for Mines intends, if possible, to make an arrangement with him to teach some qualified person here the culture of the germs of splenic apoplexy (Cumberland disease) for the protection of our flocks in the infested country. This disease and the method of its treatment are occupying the attention of the veterinary profession in England, and much valuable information will no doubt be gained by watching the result of the inquiries carried out there. A fatal attack of anthrax in travelling sheep is reported on by the Government Veterinary Surgeon as having taken place in a flock near Bourke, in August last. (*See Appendix H*).

### 3. *Foot-rot.*

In twenty-two districts the sheep have been more or less affected with foot-rot during the year; the reasons given being—wet season, long grass, swampy ground, and unsuitable country. The principal remedies were careful paring, butter of antimony and bluestone for hand-dressing, and arsenic, carbolic acid, in shallow bath—with satisfactory results.

### 4. *Fluke.*

In thirteen districts the sheep were slightly affected with fluke, through the continued wet season and depasturing on sour, unsound country. The remedies used were—removing to sound country, salt, tar, and turps, sulphate of iron and Liverpool salt and sulphur—with good results.

### 5. *Parasitic Worms.*

In twenty-five districts the sheep are reported as having been infested with worms, to an extent of (say) 14 per cent., caused by the rainy season, feeding on wet country, and rank pasture.

Of these worms the most common and most injurious to the sheep have been the *tenia* (the tapeworm), the *anchytostonum* (the thread stomach worm), and the *filaria* (the lung worm).

It is during the first year, immediately after weaning, that worms are most likely to do harm, therefore that is the time to avoid their invasion, and to adopt preventive measures, such as keeping the sheep well supplied with Liverpool salt, and drenching, where necessary, with arsenic, which has proved the most effective drench, and for which the prescription has already been published in the various country papers. Some owners have used turpentine and linseed oil with fair success. Turpentine, sulphur and salt, and an infusion of tobacco, have also been tried.

## VI.—PIGS.

The number of pigs in the Colony, as returned at 31st December, 1887, is 263,900, being an increase of 54,324 as compared with the returns for the previous year.

### *Diseases in Pigs.*

No disease whatever has been reported amongst pigs.

VII.—

## VII.—DOGS.

Twenty-two foreign dogs, *i.e.*, dogs from England, India, America, France, and Germany, and other places outside the Australasian Colonies, passed through quarantine during the year, and 615 Colonial dogs were inspected at the port of Sydney.

*Diseases in Dogs.*

*Rabies* has been very prevalent in Europe during the past year, and has attracted considerable attention owing to Pasteur's method of treatment, which has not turned out so satisfactory as he anticipated. It requires every precaution to be taken to prevent its introduction, and with this object the period of quarantine for foreign dogs has been extended to six months from the date of arrival in this Colony.

## VIII.—TRAVELLING STOCK.

1. *Trespass on Reserves.*

In thirty-eight districts the driftways and reserves for travelling stock are reported as having been trespassed upon, more or less, by neighbouring lessees' and selectors' stock. In many instances the stripping of the reserves of pasture arises through their not being withdrawn from lease, and being used by the lessees of the run. In twenty-one districts they are reported as being entirely free from trespass. Inspectors suggest, in order to enable them to exercise proper supervision over them, that the boundaries should be properly marked. Some of them also suggest fencing in the reserves and appointing caretakers.

The systematic marking of the reserves has not yet been commenced, notwithstanding the urgent necessity for this work.

2. *Grass on Reserves and Driftways.*

In twelve districts the Inspectors report that there is not sufficient grass on the reserves and driftways in their districts to enable fat stock to reach market in good condition; in nine districts that there is only sufficient in good seasons; and in thirty-eight districts that, as a rule, there is sufficient grass on these reservations.

3. *Ringbarking Driftways and Reserves.*

Although the feed on the driftways and reserves is not now, during the good season far short of the requirements of the stock traffic, it is urged that as the ringbarking of the driftways and reserves used by travelling stock would everywhere largely increase and improve the pasture upon them—in some cases to the extent of even 400 and 500 per cent.—that this work be undertaken. It would give employment to a large number of the men now idle, and could be carried out by contract at reasonable rates.

4. *New Roads for Travelling Stock.*

In twenty districts new roads, including those previously reported on, are required for travelling stock; and in thirty-nine districts no new droving roads are recommended.

5. *New Reserves for Travelling Stock.*

In fourteen districts new reserves and alteration of existing ones for travelling stock are required; in forty-five districts there are sufficient reserves.

6. *New Wells, Tanks, or Dams.*

In twenty-two districts the Inspectors report that new wells, tanks, or dams, should be constructed by the Government at places which they indicate.

7. *Travelling Charges for Stock.*

In eight districts travelling charges for stock have been collected on eleven separate occasions; the total amount collected being £970 5s., of which £815 has been refunded to date on appeal to the Boards.

8. *Laws relating to Travelling.*

In all the districts the Inspectors report that the provisions of the amended Sheep Acts relating to travelling stock are working well, and have almost put an end to loafing.

9. *Sheep Travelling for Grass and Water.*

Owing to the abundance of grass and water throughout the Colony during the year, no sheep are reported as having left their runs in search of either.

## IX.—REGISTRATION OF HORSE AND CATTLE BRANDS.

1. *Brands registered.*

The number of horse and cattle brands registered up to 31st December, 1887, was 57,054. The number of brands registered during the year 1887 was—horse brands (alone), 499; cattle brands (alone), 439; and horse and cattle brands, 1,067; making a total of 2,005, being an increase of 444 applications on the previous year.

This large increase is accounted for by the increase of settlement in the outlying portions of the Colony. The total number of registrations is larger than that of any previous year for twelve years back. There is also a large increase in the number of brands transferred, and changes of addresses recorded.

2. *Brands-transferred.*

The brands recorded during the year 1887 as transferred were—horse brands, 13; cattle brands, 22; horse and cattle brands, 136; total, 171.

3. *Brands cancelled.*

The brands cancelled (horse and cattle) in 1887 were 25.

#### 4. *Addresses changed.*

The number of addresses of owners changed in 1887 was 174.

#### 5. *Compliance with the Act.*

In fifty districts the provisions relating to registration and the other requirements of the Act are reported as being duly carried out, and in the remaining nine districts fairly so.

#### 6. *Benefits of the Act.*

The Inspectors, in alluding to the benefits of the Act, report that it prevents duffing, stock stealing, facilitates identification, assists in recovering lost stock, and otherwise is a great convenience and protection to stock-owners.

### X.—POUNDS.

#### 1. *Number and Inspection.*

There are 378 pounds in the Colony, some of which are at present closed for want of pound-keepers. The whole of the pounds are inspected periodically by the various Inspectors of Stock.

#### 2. *State of Yards.*

Forty-one of the pound yards are reported to be old; several require renewing, being unfit for the safe custody of stock; and the remainder are said to be in a fair and good condition.

#### 3. *Keeping and Depasturing Pound Stocks.*

The provision made for the proper sustenance of impounded stock, according to the reports received, is satisfactory. As a rule, poundkeepers have now paddocks for the stock.

#### 4. *Management of Pounds.*

The poundkeepers generally are reported to be performing their duties in a satisfactory manner, and the appointment of Inspectors of Stock as Inspectors of Pounds has had a very beneficial effect.

### XI.—NOXIOUS ANIMALS.

#### 1. *The Districts in which the Pastures and Stock Protection Act is in force.*

The Act has been brought into operation in all the districts, except Kiama.

#### 2. *Receipts and Expenditure under the Act.*

The amount of assessment paid by stock-owners during the year 1886 was £41,585 2s. 8d., and the amount expended, £64,023 8s. 9d. The amount of assessment paid by stock-owners in 1877 was £32,651 13s. 8d., and the amount expended, £37,354 11s. 1d., the difference being accounted for by the subsidy granted by the Government to the Boards. One district is reported to be in debt to the amount of £175 7s. 10d.

In nineteen districts full rates were levied, in twelve districts half rates, and in twenty-two districts less than half rates, while in six districts no rates whatever were levied.

During the year the bonuses paid by the Boards for scalps ranged as follows—For kangaroos, from 2d. to 1s. 6d.; wallaroo, 4d. to 9d.; wallaby, from 1d. to 1s.; paddymelon, from 2d. to 1s. 6d.; hares, from 2d. to 1s. 6d.; kangaroo rats, 2d. to 6d.; native dogs, from 10s. to 80s.; pups, 2s. 6d. to 10s.; opossum, 2d. to 4d.; wombats, 2s. 6d.; wild pigs, 1s. to 2s.; bilbees, 5s.; eagle hawks, 3s. 6d. to 7s. 6d.; and emus, 6d. to 2s.

#### 3. *Estimated number of Noxious Animals.*

The aggregate of the returns by Inspectors of the estimated numbers of noxious animals in their districts shows that there are supposed to be 1,881,510 kangaroos, 2,742,550 wallabies, 32,706 native dogs, 429,670 hares, and 2,480 wild pigs in the Colony.

#### 4. *Increase and Decrease.*

Kangaroos are reported to be increasing in nine districts, wallabies in six districts, native dogs in six districts, hares in sixteen districts, and wild pigs in two districts. In forty districts kangaroos are reported to be decreasing, wallabies and native dogs in thirty-eight districts, hares in eight districts, and wild pigs in six districts.

#### 5. *Number destroyed.*

The number of kangaroos destroyed during the past year was 476,438; of wallabies, 388,089; of wild pigs, 664; of hares, 56,628; of native dogs, 7,739; and of eagle hawks, 234.

#### 6. *Steps taken for their Destruction.*

In the majority of the districts hunting with dogs, drives, shooting, and trapping have been adopted with satisfactory results. In thirty-seven districts poison has been used with fair to best results, and only from one district has it been reported as unsuccessful.

#### 7. *Amendments suggested in the Act.*

It is suggested that the Government should grant subsidy at rate of £1 for £1; that the Stock and Pastures Bill as amended become law; that uniform rates be levied; that all assessments be paid to a general fund at the Treasury; that the rates of bonuses be the same throughout the Colony; and that all owners make returns of their stock on a particular day

8. *Losses from Tame and Native Dogs.*

The losses in stock for the past year from the ravages of native dogs are estimated at 74,195 sheep, valued at £24,181; and from tame dogs, 71,063 sheep, valued at £24,930; making the loss from tame and native dogs together £49,111.

Appendix I. shows the work which has been done under the Pastures and Stock Protection Acts since they were passed, and how far the objects for which they were so have been attained. The statement is not a very satisfactory one; for it shows that with the exception of kangaroos, the number of the other noxious animals is supposed to have decreased very little, and in the case of some of these vermin, none at all, although the large sum of upwards of £360,000 has been expended.

With respect to the estimated numbers in the statement referred to, it will perhaps be as well to explain, though I have done so before on more occasions than one, that while there is no certainty as to the correctness of numbers estimated by the Inspectors, and that they are in fact mere guesses, it is much better to get an idea of the prevalence of these pests from them in this way than in the exceedingly vague and doubtful expressions such as "very numerous," "numerous," "few," "very few," &c., &c., which, according to the views of no two individuals, mean the same number.

As regards again the reduction in the number of kangaroos to about one-third of what it was in 1850, that has been mainly brought about by the high price of the larger skins, and as the older kangaroos have been mostly killed off, and there is not the same inducement to shoot the younger, it is not to be expected that there will be much of a decrease in the existing number, unless the law be differently administered.

The fact is the compulsory provisions of these Acts, in so far as they relate to the destruction of noxious animals, have not been put in force in any of the districts. Some owners have been and still are neglecting to destroy the noxious animals on their land. These have been allowed to breed up and re-infest their neighbours land, and the result is that the work has not been so thoroughly simultaneously nor economically carried out, as if the Directors (who have the full power to do so) had enforced the law against defaulting owners.

## XII.—COMMONS.

1. *Number and Extent.*

The number of permanent commons in the Colony is 140, with an average extent of about 1,250 acres each. The number of temporary commons is 167, with an average extent of 2,000 acres each.

2. *Number of Commoners, Stock, &c.*

The average number of Commoners to each common is estimated at 98, and the average number of stock kept on each common is 178.

In twelve districts the commons are reported to be used for other purposes than that of grazing commoners' stock.

## XIII.—MISCELLANEOUS.

1. *Artificial Grasses.*

In fifteen districts artificial grasses have been sown during the year to a small extent, in sixteen districts to a large extent, and in remaining districts none; the most successful being lucerne, prairie, and rye.

2. *Number and Division of Runs.*

The number open or unenclosed runs in the Colony is 8,201; the number enclosed is 30,888; the number partially subdivided is 12,228; and the number properly subdivided is 19,039.

3. *Improvements, Fencing, Dams, Tanks, and Wells.*

The number of miles of fencing throughout the Colony is estimated at 998,486, at an average cost of £50 2s. per mile, amounting to £50,024,148.

The number of dams used for stock purposes is estimated at 20,558, at an average cost of £85 14s.; number of tanks 21,561, average cost of each £193 10s.; and the number of wells used is estimated at 2,738, at an average cost of £207 13s. each.

Cost of fencing, £50,024,148; cost of dams, £1,762,069; cost of tanks, £4,172,568; cost of wells, £568,538; making a total of £56,527,323 as representing the amount expended by way of improvements, &c.

4. *Plants and Weeds.*

In ten districts *Trefoil Burr* grows to a slight extent; in thirty-two districts to a large extent; and in seventeen districts there is none reported.

In twenty districts *Variiegated Thistle* is reported to a slight extent; in twenty-six to a considerable extent; and thirteen districts are reported as free from it.

In fifteen districts *Black Thistle* is reported to a slight extent; in thirty to a great extent; and fourteen districts are reported to be free from it.

In sixteen districts the land is reported as being slightly infested with *Bathurst Burr*; in thirty-six to a large extent; and in seven the land is not infested.

*Darling Pea* is reported in seven districts; also roley poley, daudelon, "Saucy Jack," and a plant known as "Yellow Boy" is making its appearance.

*Euphorbia Drummondii*.—Although this plant has been carefully experimented with, and shown so far to be non-poisonous, and put to a practical test by owners (see Mr. Stanley's report, Appendix J), reports still continue to be received of its causing the death of sheep.

Annexed will be found as Appendix K a Report, obtained from the Director of the Botanic Gardens, on the plants near Bourke and Dubbo, known or suspected to be poisonous to stock.

Other noxious weeds are reported to a slight extent from fourteen districts; to a great extent from thirty-three districts; and twelve districts are said to be free from them.

5. *Cost of Clearing Commons, Reserves, &c., of Weeds.*

The cost of clearing the permanent commons of noxious weeds throughout the Colony is estimated at £32,247; the temporary commons, £14,201; the police paddocks, £2,036; the travelling stock reserves, £118,448; and the droving roads at £83,988; amounting in all to (say) £250,920.

6. *Examination of intending Applicants for appointment of Inspector.*

During the past year four examinations were held by the Stock Board of Examiners. The following table shows the result in each case.

Date of Examination.	Number of Candidates.	Names of Successful Candidates.	Nature of Certificate issued.
1887.			
March 28 .....	7	Joseph Weir .....	2nd Class.
		Theodore Watson .....	2nd Class.
June 24 .....	1	Cecil W. Dargin .....	2nd Class.
July 18 .....	12	H. J. Sealy .....	1st Class.
		H. A. Gethings .....	2nd Class.
		E. W. Procter .....	2nd Class.
		N. Silverthorne .....	2nd Class.
		Joseph Wilks .....	2nd Class.
		S. T. Cox .....	2nd Class.
		E. May-Steers .....	2nd Class.
November 7 .....	4	Thomas Cadell .....	2nd Class.
Total .....	24		

It will thus be seen that twenty-four candidates were examined, of whom one received a 1st class certificate, and ten received 2nd class certificates.

The result of these examinations is considered highly satisfactory, and, since their initiation, the Staff has been considerably strengthened by the addition of some very capable men.

7. *Stock Conference to consider the Stock and Pastures Bill.*

On the 23rd May last, in response to a circular issued by the Sydney Pastures and Stock Protection Board, a Conference of delegates from no less than 49 of the Boards in the Colony assembled in Sydney to discuss the provisions of this Bill, which has for its object the consolidation and amendment of nineteen Acts of Parliament relating to prevention of cruelty to animals, branding, prevention of stock stealing, impounding, diseases in stock, dog nuisance, noxious animals, and noxious plants.

The Conference continued to sit until 1st June, and very careful consideration was given to the various clauses of the proposed Bill, most of which were adopted; but some were amended and others omitted altogether with the view to the insertion of new clauses embodying the ideas of the Conference. There was a general feeling amongst the members of the Conference that the Local Boards should have more control in these matters, and the Bill was amended in that direction. There cannot be a doubt, whatever shape the Bill may ultimately take, that the consolidation of the Acts above referred to will be hailed with satisfaction by those interested when the Bill becomes law; and it is hoped that Government business will at an early date be in such a state as to admit of its being introduced.

8. *The Fresh Meat Trade.*

It is satisfactory to be able to report that the arrangements for this trade are fast progressing towards completion, and there is a good prospect of its being shortly commenced.

This will not be a day too soon, for with an increase for this year of 7,795,848 sheep and 207,643 cattle, and every appearance of another favourable season in 1888, it is of the highest importance to owners that their stock should be killed as near as possible to their pastures, and thus save the very serious waste and deterioration in the meat which the live stock trade entails, inasmuch as the best outlet for our surplus stock is in the exportation of frozen meat, and that again will never be put on a payable footing until we can place our meat in prime condition (which the fresh meat trade will enable us to do) on the London market. It is only courting disappointment and loss to offer inferior or wasted meat in that market.

At present New South Wales mutton usually sells at from  $\frac{1}{4}$ d. to  $\frac{1}{2}$ d. per lb., or say 6 to 13 per cent. less than New Zealand, and although this is to some extent attributable to the New Zealand sheep being crossbreds, and heavier than ours, the condition and flavour of our mutton has still more to do with the difference. Besides, as we have suitable country, there is no doubt but our owners will in many cases raise crossbreds, which, when properly managed, pay well for wool as well as mutton.

APPENDIX A.  
RETURN of Stock in the several Sheep Districts.

Districts	Year 1886					Year 1887.				
	Acreege.	Horses.	Cattle.	Sheep.	Pigs.	Acreege.	Horses.	Cattle.	Sheep.	Pigs.
Albury .....	834,801	6,624	11,772	539,561	.....	854,473	6,050	13,088	680,903	.....
Armidale .....	2,825,707	9,108	60,049	1,347,285	.....	3,122,590	10,411	60,955	1,347,470	.....
Bairnald .....	5,419,209½	2,539	3,123	1,058,772	.....	5,103,673	2,548	4,881	1,175,201	.....
Bathurst .....	1,224,969	14,002	28,265	402,705	.....	1,275,531	13,773	30,234	483,049	.....
Berrima .....	216,751½	3,490	22,457	12,383	.....	185,567½	3,575	22,443	16,761	.....
Bombala .....	537,710	3,348	10,275	251,020	.....	559,067	3,378	11,352	287,679	.....
Booigul .....	3,794,208	2,856	2,932	1,013,532	.....	3,378,275	3,053	6,027	1,258,143	.....
Bourke .....	2,417,601	5,648	29,490	2,193,743	.....	11,689,292	6,634	33,032	2,036,519	.....
Braidwood .....	364,553	3,638	24,213	48,649	.....	346,008	3,986	29,628	66,571	.....
Brewarrina .....	3,717,170	2,305	10,577	927,795	.....	3,979,412	3,071	12,588	1,094,974	.....
Broulee .....	263,698½	2,554	19,148	2,080	.....	249,262	2,467	20,834	2,141	.....
Cannonbar .....	3,153,163	1,980	10,515	919,040	.....	3,154,007	2,791	14,596	1,092,272	.....
Carcoar .....	994,742	6,768	10,469	499,184	.....	1,074,476	7,503	14,972	619,544	.....
Casino .....	2,018,482	14,556	135,050	1,634	.....	2,221,951½	15,268	137,098	1,251	.....
Cobar .....	6,158,654	2,002	6,395	1,193,951	.....	6,027,618	2,058	7,896	1,573,484	.....
Condobolin .....	5,813,830½	2,760	5,067	1,253,127	.....	5,740,902	2,978	8,360	1,762,201	.....
Cooma .....	1,571,724	7,588	22,478	697,969	.....	1,772,453	7,624	22,583	784,202	.....
Coonabarabran .....	2,392,684½	2,808	4,402	611,600	.....	2,358,765½	3,053	5,678	792,704	.....
Coonamble .....	2,824,459	2,934	8,366	1,248,163	.....	2,343,044	3,874	10,184	1,368,928	.....
Corowa .....	1,132,329½	3,265	3,798	764,906	.....	1,152,423½	3,836	6,169	848,857	.....
Deniliquin .....	2,819,615	4,716	6,173	1,323,780	.....	2,941,209	4,872	8,417	1,370,006	.....
Dubbo .....	3,524,824½	5,231	13,094	1,025,483	.....	3,148,163	6,596	16,384	1,166,277	.....
Eden .....	854,513	3,321	28,332	1,459	.....	350,561	3,772	38,913	2,145	.....
Forbes .....	2,551,715½	4,556	10,910	860,434	.....	2,563,203½	6,996	18,502	1,220,200	.....
Glen Innes .....	2,125,135½	11,131	73,230	623,547	.....	2,160,019½	11,494	92,795	623,739	.....
Goulburn .....	885,335	8,381	26,737	326,650	.....	881,237	8,486	37,575	396,222	.....
Grafton .....	1,000,673½	14,042	59,608	2,626	.....	883,263½	14,515	55,635	2,558	.....
Gundagai .....	1,427,693½	9,389	36,955	837,915	.....	1,480,746	10,602	46,302	887,258	.....
Hay .....	3,180,049	3,164	4,193	1,121,123	.....	10,153,622	3,745	5,469	1,485,731	.....
Hume .....	1,291,294½	5,391	17,638	452,482	.....	1,269,267½	5,222	20,399	477,443	.....
Ivanhoe .....	7,761,278	1,944	2,465	1,270,632	.....	7,872,866	2,219	2,556	1,594,360	.....
Kinross .....	337,010½	8,583	64,595	2,731	.....	314,497½	8,182	69,947	3,986	.....
Maitland .....	689,275	16,157	52,101	7,904	.....	466,723	14,597	46,032	4,984	.....
Mcintire .....	11,850,176½	4,462	2,558	1,418,094	.....	12,097,377½	4,341	3,098	1,781,519	.....
Merriwa .....	747,628½	2,675	7,325	324,972	.....	751,889	3,081	12,891	854,829	.....
Molong .....	1,727,808½	6,615	9,909	568,287	.....	1,740,275	7,978	14,850	652,988	.....
Moree .....	2,952,392½	5,364	35,926	676,341	.....	2,919,013½	5,526	38,718	870,611	.....
Mudgee .....	1,172,265	8,180	20,082	466,359	.....	1,180,865½	8,091	25,588	494,150	.....
Murrumbidgee .....	786,333	5,303	22,107	397,018	.....	779,708	5,730	26,798	406,073	.....
Narrandera .....	2,859,526	2,741	6,553	1,017,608	.....	2,894,589	2,973	11,506	1,245,893	.....
Narrabri .....	1,380,350	2,652	4,778	366,438	.....	1,345,627	3,118	7,362	523,269	.....
Pictou .....	227,650	3,291	14,584	5,790	.....	259,552½	3,398	18,417	6,901	.....
Pilliga .....	1,589,889	1,568	8,665	304,156	.....	1,553,006	1,676	10,691	404,386	.....
Port Macquarie .....	582,182	8,271	36,099	1,783	.....	653,277	9,561	36,069	1,370	.....
Port Stephens .....	710,637	7,148	43,995	2,409	.....	525,834	7,868	43,375	1,920	.....
Queanbeyan .....	940,592	4,070	24,525	338,863	.....	950,197	3,861	18,084	443,790	.....
Singleton .....	727,473	9,143	48,740	95,332	.....	784,331	11,442	72,239	111,871	.....
Sydney .....	195,700	23,348	16,099	15,524	.....	195,200	23,054	16,008	12,180	.....
Tamworth .....	3,878,184	14,055	43,208	1,581,897	.....	4,090,811	14,948	58,513	1,906,477	.....
Tenterfield .....	1,902,842½	5,476	61,189	168,253	.....	1,889,444½	5,770	61,421	188,199	.....
Urana .....	1,414,595	2,329	3,023	835,898	.....	1,410,917½	2,422	5,587	1,049,232	.....
Wagga Wagga .....	2,417,378	5,915	10,526	1,284,745	.....	2,703,911½	8,801	24,894	1,661,554	.....
Walgett .....	5,156,553	3,544	16,893	1,138,956	.....	5,251,378	4,963	25,531	1,571,061	.....
Warialda .....	3,632,818½	8,832	43,207	776,940	.....	3,469,243	9,234	49,586	856,940	.....
Wentworth .....	7,348,481	1,592	1,402	504,005	.....	6,903,311	1,588	1,524	683,863	.....
Wilcannia .....	20,553,784	6,525	17,865	2,368,918	.....	20,427,734	7,202	18,811	2,792,946	.....
Windsor .....	280,538½	8,795	15,310	6,385	.....	231,406	8,355	14,642	7,025	.....
Yass .....	813,156	4,515	9,673	373,837	.....	819,025	5,204	13,973	475,199	.....
Young .....	2,089,758	9,426	18,742	1,252,141	.....	1,952,376½	12,165	23,937	1,543,139	.....
Total .....	163,566,642½	361,663	1,367,844	39,169,304	209,576	163,813,675	390,609	1,575,487	46,965,152	263,900

The decrease this year in the acreage returns for some of the districts, as compared with those for last year, is accounted for by alteration in district boundaries, by the returns being made more correctly, by some of last year's returns being now found to be incorrect, while in some few cases at least the original lessees have not returned the resumed portions of their holdings, as they do not intend keeping them, as the whole of the water frontages have been taken up by homestead lessees.

APPENDIX B.

THE HORSE FEVER AT SILVERTON.

Mr. Edward Stanley, the Government Veterinarian, reports, under date 22nd March, to the Chief Inspector of Stock as follows:—

I have the honor to report that during my short trip to Silvertown I have seen about 100 cases of the disease, and have been able to make notes from careful observation of a few. The disease having prevailed in that neighbourhood for six weeks, most of the town horses had either recovered or died, and the alarm had consequently subsided. However, fresh arrivals were innocently caught in the contagious trap; and horsekeepers, by fetching in grass horses to fill up the blanks, kept the contagion supplied with fuel; necessity

necessity compelled them to fulfil their contracts, and familiarity with the disease reduced its terrors, and experience had taught them to avoid some errors in treatment which, on the outbreak of the malady, had caused fatal results. In consequence of the brevity of my visit, compared with the progress and numerous phases of this interesting disease, my report must be accepted as merely introductory; and I anticipate much valuable information may be added to the subject by veterinary surgeons in the adjoining colonies, where I have reason to believe it is not unknown.

#### History.

So far as I can learn, the present outbreak was first noticed in a teamster's horses from the Barrier Ranges' mining districts (it is not known which Colony they came from). A dead horse was left at Mingary, South Australia, early in December, 1886, and the contagion spread through the railway contractors' teams, which were idle at that time, proving fatal to forty horses out of 150. These were valuable draught animals in good condition. Those young and fat suffered most.

The construction of the Petersburg to Silverton railway, also the mining industries, caused the extensive employment of horse labour; and the disease being attributed to a local cause, the *bete noir* being *Euphorbia Drummondii* (which my experiments hitherto have proved to be an innocent weed) misled horseowners as to its true contagious character, therefore farmers and teamsters easily contracted the disease, and, becoming alarmed, rushed away from the plague spot, taking the disease with them. So the country has become gradually invaded, following the railway line south to Port Pirie, and by sea it has gone to Albany, Western Australia, and north to Cockburn, there crossing the Barrier Ranges into New South Wales. It appeared in Silverton on 12th January, 1887, and has travelled to Corowa, Malcolma, The Gorge, Round Hill, Gardiner's Creek, Poolamacca, Purnamoota, Langawera, Double Wells, Mount Brown, Bencamina Lake *en route* for Wilcannia and Menindie. Mundy Mundy, Mount Gipps, and Burra stations have taken the disease home by buggy horses visiting Silverton, and have infected the home station horses; but, by careful isolation, had prevented the disease spreading to paddocked horses and breeding stock.

#### Character.

It is an epizootic contagious equine fever—a disease which elaborates a virulent element, through the medium of which it is propagated and extended by contagion from horse to horse, and it appears not to spread through the medium of the air, or to attack any other animals.

In some respects it resembles the horse diseases I have seen in other countries, and are described in veterinary works under the names of epizootic cellulitis, rheumatic influenza, pinkeye, purpura, hæmorrhagica, epizootic pneumonia, but differs from all these very materially.

The fever which follows the reception of the diseased germs, although high in many cases, is very variable in intensity, the disease is by no means uniform in attack, location, or subsequent complications.

The blood withdrawn in the early stages is dark-coloured, the corpuscles rapidly coalesce, and sink to the bottom of the vessel, leaving a thick, buffy upper surface. During the height of the fever the blood is darker, and coagulates so rapidly that the buffy coat does not appear. In the last stages the blood is tarry and only forms soft clots.

The remarkably rapid loss of flesh very characteristic in this disease is, I think, explained by Dr. Lionel Beale, who says that "in cases where the body heat rises several degrees in the course of a few hours the germinal matter increases with great rapidity. The capillaries of a great part of the body are found to be gorged with particles of living matter, for the most part descended from the colourless blood corpuscles, while the masses of bioplasm of the neighbouring tissues have increased to twice their normal size." On microscopic examination of the blood, the white corpuscles were conspicuous by their absence; many of the red cells appeared granular, micrococci, diplococci, and bacilli could be detected in the same field, but in so far as I could judge were not sufficiently numerous to be distinctively pathogenic, and possibly some were accidental contaminations during the examinations. This is a field for further research and experimental demonstration.

The disease shows a disturbance of the vascular system, with alterations in the character of the blood which cause obstructions in the capillary vessels, followed by hæmorrhagic spots, accompanied by organic complications, more or less severe.

#### Cause.

This is due to specific poison, most likely a micro-organism, eliminated from a diseased animal, entering the system of a healthy one, apparently through the digestive organs. In no case has the disease (so far as I can learn) spread atmospherically. Horses carefully kept from contaminated food and water have continued free from the disease, although only a few yards have separated them from the diseased and dying, and it has not spread to paddocked horses along the routes the disease has taken without actual contact.

#### Symptoms.

On the first day of illness attracting attention, the following symptoms are presented:—Drowsy, sleepy appearance, loss of energy, appetite diminished; if worked, is slow to answer the whip, and soon tires; at rest, the coat stands up; it is harsh and dry, the skin sticks to the ribs, the flanks are hollow, the bowels constipated, the urine scanty and often high-coloured. The conjunctiva lining the eyelids, the mucous membrane of the lips, gums, and tongue, are a reddish colour.

Pulse, 60 beats per minute, full and distinct; respiration, 20 to 30 per minute; temperature of the body, 101° to 103°; ears and legs are uniformly warm throughout the illness.

Second day.—Increasing lassitude, muscular weakness, general debility, unsteady gait; if driven, drag the limbs wearily along, carry the head low, with drooping ears and half-closed eyes; tears trickle down face, and tenacious foam hangs from flabby lips, giving the countenance a most dejected appearance, which is not improved by swarms of flies and dust; heart beats quicker and with force, the bodily temperature is rising; eats and drinks in a dreamy, indifferent way.

Third day.—The eyes are extremely sensitive to light, are retracted in the orbits, the eyelids are swollen, the membrana nectitans is œdematous, and very distinct dark red blood-spots appear on the now orange-red conjunctiva; the cornea loses its transparency, and becomes dull and opaque, so that the pupil cannot be seen; tears mingled with a muco-purulent discharge continually escape from the eyes and adhere to the face, attracting swarms of flies, the poor animal being too ill to disturb them.

The

The lips are swollen and pendulous, and masses of tenacious mucous fall into the feed as he eats in a very languid, indifferent manner.

The mouth and sides of the tongue are high coloured, the mucous papillæ are inflated, presenting a spotted appearance; the upper surface is covered with a thick dirty gray fur.

The nostrils are dry and dusty, they are less inflamed than the eyes, and I have not seen any catarrhal discharge.

Fourth day.—The fever is now at its height, and continues for three or four days with little variation; pulse ranges from 70 to 80 or higher, full and distinct; respirations from 25 to 35, movements are thoracic; temperature from 105° to 106° or even higher, varying two or three degrees in 12 hours. Although nearly blind, the patient is perfectly conscious and sensitive to touch or sound; he will not seek food or water, but takes both when offered; stands in one place, uneasily shifting the quarters by continually flexing first one hind leg and then the other without moving the feet, indicating pain in the joints; does not lie down or give any indication of abdominal pain. The fæces soften with the mashed diet, and the bowels act normally; the urine is clear, deep yellow, and often gelatinous. The cornea is milky; the blood-spots in the eyes enlarge into patches of extravasated purple blood, giving a liver colour to the membrana nectitans, the mouth and lips get darker and purplish, and patches of extravasated blood are visible in the vagina.

The appetite never entirely fails, but the act of drinking, especially if the head is held low, is difficult; the lips are frequently dipped before swallowing; the act sometimes excites coughing, but this is painful, as it shakes the aching joints; it is low and suppressed, so as almost to escape notice. The rima glottis is inflamed and œdematous, but there is no external swelling apparent in the glands or throat. The loss of flesh is incredible; a stout horse is reduced almost to a skeleton.

On the seventh or eighth day the crisis is reached; the advent of œdematous swelling in all the limbs is favourable. The joints appear relieved from pain, the respirations are less frequent; the pulse becomes softer and slower, and the temperature is more settled, being two or three degrees lower. Very slowly, but surely, day by day, cheerfulness returns, the appetite improves, and the patient moves slowly about; the evacuations become natural, the eyes improve, cornea clears from the top, leaving a white, saucer-shaped patch, and small, ulcerated spots; in process of time these clear away. During convalescence the muscles are often functionally deranged. Some walk most painfully and exceedingly slow, feeling their way step by step like a man with rheumatism; others are weak, they roll like a drunken man; others droop the quarters, crouching along as if suffering from lumbago, drag the hind feet along the ground, and appear in danger of falling at every step. Others walk stiff jointed as if the swelling was only a mechanical hindrance to progression; others have cramp in the muscles, causing partial luxation of the fetlock; others have stringhalt; others have laminitis in all the feet. No case of paralysis or cerebro spinal disturbance came under my notice. Convalescence after the severe fever is never rapid; the dropsical swellings extend under the abdomen to the sheath; it is two or three weeks before the legs get fine, or health and spirits are restored.

The conjunction changes from liver colour to a dirty brown, and as the debris of disease get absorbed, the deeper spots of extravasated blood show up clearly on the rest of the membrane, which gradually assumes the healthy pink colour.

#### *Course and Termination.*

Some cases run a mild course throughout, and may even escape observation; others go to work with swollen legs after two or three days' spell, and recover; but the fatal cases occur in horses fresh in to work off grass, or hard-worked horses urged on while the disease is in progress. All rapidly lose flesh and condition. This is due in a great measure to want of nutritious feed. The mistaken practice of bleeding and making the poor brutes walk about while they have a drowsy headache, eyes so painful to open, and shooting pains in every limb—such treatment, aided by drugging, has killed many a good horse; others turned into a paddock to "rip," where food is scanty and water scarce, being too ill to walk, die from such inhuman neglect.

If good green feed and water were abundant, I think affected horses would make good recoveries, especially if unmolested.

#### *Pathological Anatomy.*

Hæmorrhagic spots and stellate patches of inflammation are diffused over both serous and mucous surfaces, effusions of serous lymph, and adhesive inflammation of the coverings of the lungs, heart, liver, and spleen; also serous effusions into cellular tissues of the limbs and head. In fatal cases, the inflammation is so intense as to obstruct the circulation; local mortification is speedily followed by death.

No animal under my observation died. I made post-mortems on four casual cases of fever, but knowing very little of their history or treatment, simply state the cause of their deaths:—

1. A coach horse.—Putrid lungs.
2. A teamster's hack.—Pleuritic inflammation and gelatinous effusion covering the pericardial sac; also slight enlargement and inflammation of the spleen.
3. A teamster's mare, 5 years old.—Ill three or four weeks. The spleen was very much enlarged and honey-combed, with purulent matter, and the lymphatic glands generally inflamed.
4. A hack mare, 3 years old; foal at foot.—Ill about three weeks, with spleen in the same condition.

The microscope revealed crowded clusters of bacteria in these spleens.

The small intestines in every case were healthy.

*Contagium.*—The virus probably escapes from the infected by the mucous membranes—that is, from all the orifices of the body—and appears to be principally communicated by the discharges from the head.

*Mode of access.*—This is by contaminated drinking water-troughs, buckets, feed, mangers, boxes, bags, bridles, harness, horse brushes, rubbers, &c., and also by the evacuations. These, after drying in the sun, are actually eaten by stray loafers (loose horses).

Under certain atmospheric conditions, which are at present incompletely understood, this disease may spread through the air; but usually intense heat with a dry pure atmosphere are unfavourable to such development; while a moist atmosphere with impure air, such as is found in crowded stables, would favour such a result.\*

*Incubation.*—

\* Note.—This disease entirely disappeared as soon as rain set in.

*Incubation.*—From the time of exposure to infection is from three days to three weeks.

*Extension.*—Only by contagion from horse to horse, healthy horses becoming contaminated by direct contact with the virus escaped from a diseased animal. It has distinctly followed the horse tracks used by mails and teamsters, and has been taken to run homesteads by infected animals, and has been arrested on runs by isolation.

*Mortality and Loss.*—Most deaths occur during first week of attack; some chronic cases also die weeks later. About 10 to 15 per cent. was the average number of deaths during my inquiry, although at Mingary, I was told forty deaths occurred in a mob of 150. The indirect loss from illness is very great. Few horses are fit for work for two or three weeks; many require twice as long, and they lose all their flesh and strength, requiring good feed and a long spell of rest; others do not make good recoveries, and suffer from chronic mischief, linger for weeks, and then die. Good feed and care are necessary to ensure complete recovery.

*Immunity.*—A team of nine donkeys have drank and fed with the sick constantly, and have escaped infection. Bullocks are also exempt. About 20 per cent. of horses escaped infection, or more probably have it so lightly as to escape observation. I know of no case in which a human being has contracted the disease.

*Sanitary Measures.*—Carcases should be burned or buried with the sacks, cloths, feed-boxes, and valueless articles used about them. Bits and harness should be put into boiling water. Stable sheds should be limewashed, or tarred, and disinfected with chloride of lime, carbolic acid, or chlorine gas. Horse droppings and manure should be burned, especially on watering reserves and camping grounds. Local authorities should look to this.

*Preventive Measures.*—Sick animals should be isolated from the healthy, and every article used about them be kept separate.

The hospital attendant should not mix with the healthy animals, and strangers should be cautioned against visiting the sick. Regulations prohibiting the movements of infected animals should be enforced. As the disease is rapidly approaching to the river Darling, and its flooded condition diverts the traffic to the punt crossings, this is where I recommended the plague should be stayed. The river, forming a natural barrier, would be an invaluable adjunct to assist legislation in preventing the spread of this distinctly contagious disease throughout this Colony.

Curative measures consist of absolute rest, with room to move about, pure air and water, soft food, as wet bran, scalded oats, and chaff, given in small quantities, and often, and not allowed to become soiled or sour; linseed tea and gruel to drink; green fodder when it can be had.

*Saline Medicines.*—Give early a dose of sulphate of magnesia, 4 ozs. in a pint of water, to relax the bowels; then chlorate or nitrate of potass, 2 to 4 drams, night and morning, in the drinking water, during the fever, and until the urine is clear and free. Some cases with languid circulation may benefit by beer or porter, carbonate ammonia, aromatic spirits of ammonia, spirit aether nitrous, &c.

Restoration will be promoted by liberal feeding, and the addition of such tonics as sulphate of iron, liquor arsenicalis, vegetable aromatics, bitters, and common salt.

## APPENDIX C.

### AUSTRALIAN STRINGHALT.

Sir,

Department of Mines, Stock Branch, Sydney, 1 September, 1887.

I have the honor to report having visited Perricoota Station, accompanied by Mr. Watson, Inspector of Stock, Moama. I at once recognized the disease, Australian stringhalt, as described in my report, July, 1886.

It appears the disease was first noticed in the latter end of May and the beginning of June amongst the selectors' horses (it has not attacked the station horses), and now some fifty are affected on an area of about 30 miles at Altcarr, Caloola, Wamboota, and Bunaloo.

The disease is on the decline at the present time, a few having died and some recovered, others are progressing favourably. No recent outbreak of fresh cases has occurred.

At Altcarr I met Messrs. Lyons, Bairstows, Denny, Grimison, Thompson, Smith, and others. Having inspected the horses, paddocks, herbage, water, &c., we had a general consultation. I made a *post-mortem* examination of a young horse (two years old) given by Mr. Lyons and killed for the purpose. He had been ailing three months, and was a typical case of the disease.

The gentlemen present were all satisfied that their horses were affected in a similar manner.

The selections are in a rung swamp box forest surrounded by chocolate soil on the plains.

Water is in earth tanks filled by surface drainage.

Herbage is made up of mixed weeds, notably cocks-spur, flat-weed the misnamed dandelion, Cape-weed, larks-spur, geranium, &c. Spring grasses and trefoil are now growing.

Shortly before this outbreak the district was unusually wet, having had heavy rains, and locusts had cleared off the grasses.

The symptoms of the disease were identical with those already very fully described in my former report.

The *post-mortem* appearances were also the same, briefly the stomach and digestive portion of the bowels were extraordinarily infested with parasitic worms, and the mucous membrane highly diseased throughout. In the diseased limbs I have observed delicate oval cells with granular contents distributed in innumerable numbers in the muscular tissues. They probably thrive at the expense of these tissues, but whether these cells are pathogenic or only saprophytic has yet to be determined. Hitherto I have only seen this disease in its chronic forms. More light will be thrown upon it when it has been investigated from its origin or commencement, and carefully watched all through the progressive stages of development and microscopic examination of the affected parts carried on during the life of the patient.

As to the manner of its introduction into this district, the germs may have been disseminated by shearers' horses allowed to feed in these paddocks. I may add that it is not impossible that the locusts may have played the part of intermediate bearers of parasitic organisms, as it is well known that animal parasites do pass a portion of their cycle of existence in the bodies of insects.

I still find the disease associated with parasitism, and I cannot connect it with the toxic effects of herbage, therefore I wish again to record my opposition to the poison plant theory.

As remedial measures, I advise the infested paddock tanks to be fenced in from horses, and if the water is to be used from them it should be first boiled so as to destroy the germs of disease.

I am informed wells could be sunk at very little expense.

The brackish water from this source and locality, containing as it does the salts of sodium and iron, would have a valuable medicinal effect. These salines are not unpleasant or unwholesome for horses.

Change of feed and locality will certainly assist recovery.

Such medicines as the sulphate of iron, given in combination with chloride of sodium (2 drams of the iron to 1 ounce of salt), should be given once in every twenty-four hours in a feed and continued for six days.

Then administer a drench consisting of 2 ounces each of oil turpentine and oil eucalyptus and a pint of linseed or olive oil. Allow one week to pass without giving any medicine, then repeat the iron and salt, and follow up with the turpentine and oil drench.

It will be necessary to watch the progress of the case, as recovery is usually very slow indeed, but the treatment should not be given up until the horses' skin gets loose, the healthy gloss returns to the hair, and other symptoms which denote a change indicating progressive restoration to health.

It is well known some horses recover without any doctoring whatever and others die.

There are several anthelmintic and tonic medicines which I feel sure would act beneficially, but their administration would require veterinary supervision.

I have taken the opportunity of exchanging ideas on this subject with the veterinarians in Melbourne, and I am sanguine as to the results.

I have, &c..

EDWARD STANLEY, F.R.C.V.S.,  
Government Veterinarian.

#### APPENDIX D.

##### MUSCULAR RHEUMATISM AND PNEUMONIA.

Sir,

Stock Branch, Sydney, 7 May, 1887.

In connection with my recent investigation *re* horse diseases, I have the honor of submitting the following reports:—

On April 19 I visited Lake Midgeon Station, Narrandera, and found three deaths had occurred within about a fortnight—

1. One paddock horse was shot.
2. One plough horse, ill a few days, died.
3. One entire horse, also working, was taken ill and died in a week. I made a *post-mortem*, and found pneumonia was the cause of death. From inquiries I made I concluded this horse had been chilled by cold winds after being heated by work, and both draught horses had been recently feeding on damaged wheat chaff, which would predispose them to disease.

No other cases of illness existed either on this run or in the neighbourhood. I prescribed for a police horse suffering from a wound in the shoulder and for another horse that had constipation in the bowels, and for a third having chronic diarrhœa. These three cases were in the town of Narrandera.

April 23rd, at Urana.—During this month about twenty-five horses had been reported ill to Inspector Brett; nineteen had recovered, and five had died or been killed.

The illness was described as of a lingering character, with weakness of the limbs and difficulty in getting up when down.

I saw one case that was recovering—an eight-year old harness mare, in good health and condition; she had defective action, and a peculiar wide gait with the front limbs. There being no cerebro-spinal disease, I conclude she was suffering from muscular rheumatism.

At Burrenong Station I saw two horses that had completely recovered

And at a selector's I saw a case of severe injury to the stifle joint, causing considerable lameness; and two horses belonging to teamsters, said to have been affected, had recovered.

The teamsters reported the disease at Corowa. I telegraphed to Inspector Lowes, and he wired me they were cases of illness due to feeding on wheat.

No other cases of illness could be found in Urana or the district during my stay there.

April 26th, at Germanton.—During the month seventeen horses, scattered throughout the district, had been reported ill. Twelve had completely recovered, five had been killed, none had died.

On the 27th I saw a five-year old pony with several large bed-sores, caused by bruising while on the ground. He could not lift his head from the ground, and the rolling eyes and quivering lids indicated disturbance of the brain. On the head being raised he got up, and had no indication of ill-health. I found the hair had been knocked off the forehead, and concluded the case was concussion of the brain—now in a convalescent condition—and he has gone on well without any treatment beyond nursing.

I next went to Three-mile Creek, and saw a yearling colt. He was very badly bruised, and required help to get up. He was suffering from acute rheumatism in the sheath and tendons of all four legs. I advised killing him. On 28th, owner consented, and I made a *post-mortem* confirming my opinion.

On 28th I visited a joining selection and saw a ten-year old cart horse in good condition, slightly lame on near hind leg, and dragging the toe. Otherwise he was in perfect health.

On 29th this horse was down and could not get up. He fell while his fore-leg was strapped up to prevent his kicking. I suggested treatment which the owner acted on.

On 30th he was still prostrate, and being an irritable brute, was very restless, and got badly bruised.

I advised putting him up in slings, as he was not paralyzed, and was in perfect health.

May 1st.—Is in the same state. Owner decided to kill him rather than sling him.

*Post-mortem*.—Internal organs healthy; the cartilage was worn off outer-condyle of the femur, almost exposing the bone, indicating defective muscular action of the limb of long standing; the lumbar spinal cord was congested, and hæmorrhage had taken place into the cancellated structure of three or four of the bones.

I concluded that this was a case of muscular rheumatism, and the inability to rise was due to accidental injury to the spine.

My attention was called to several cases, which I visited and examined, then prescribed for—

A case of spasmodic colic; she recovered.

An old harness mare, with chronic diarrhoea.

A draught entire horse, quidding his food, caused by irregular teeth.

A hack with open fetlock joint, caused by a stake.

A blood horse, unthrifty, suffering from worms.

Other cases were reported; but being of the same miscellaneous description, I did not stay to see them, having satisfied myself that no disease existed of a destructive character or likely to extend in the district.

It is to be noted that during the time these cases of horse disease have been reported there has been a sudden and remarkable change in their surroundings—rank herbage, abundant rain, and sudden fall in temperature. Animals exposed to such changes often suffer, and rheumatism is not unusual.

May 3.—At Berry Jerry Station five or six horses had died from various causes. One from old age; and another, ruptured bladder, caused by getting hung up in a fence. One had taken cold, and died with inflammation of the lungs; another, supposed to be the same, but was not opened.

I saw a working mare with inflammation of the lungs, brought on by exposure, while sweating from work, to the raw, cold, wet night air and wet paddock. I prescribed treatment, and believe no other cases of illness existed in the neighbourhood

I have, &c.,

EDW. STANLEY, F.R.C.V.S.,

Government Veterinarian.

To Alex. Bruce, Esq., Chief Inspector of Stock.

#### APPENDIX E.

##### MALIGNANT STRANGLES.

Department of Mines, Sydney, 1 April, 1887.

MEMO.—Acting on your instructions, I have visited Mr. T. Cook's station near Scone, and have the honor to report that his horses are not suffering from the contagious horse fever that I had recently reported on at Silvertown; but I found he had many of the young horses, suffering from strangles, an epidemic contagious disease of an unusually severe form, attributable to the moist wet season. I gave instructions as to general treatment and special advice suitable to the worst cases.

EDWD. STANLEY,

Government Veterinarian.

To Alex. Bruce, Esq., Chief Inspector of Stock.

#### APPENDIX F.

##### BLAINE.

Stock Office, 12 April, 1887.

MEMO.—In reply to your inquiries for further information, *re* cattle, Jamberoo District, I have the honor to report that Blaine is caused by wet pastures and exposure to the weather; it is a sore throat with cough and swelling in the submaxillary region. It rarely assumes a severe form; when it does it is anthracoid in character; then the *post-mortem* appearances would be sanguineous effusions in the region of the throat and mouth. It is not infectious. Treatment that I prescribed was 1 lb. cattle salt, 2 oz. ginger as a drench, in 2 quarts of water; hot fomentations, and mustard applications to the throat; shelter and dry bed. Disease was first noticed about 5th April; one cow died that day, and two on the following day. The symptoms of illness reported were very ambiguous, and did not resemble the bullock.

The disease was confined to the one farm. I suggested, and advised movement to drier pasture ground; as I have already said the remainder of the herd appeared healthy.

EDWD. STANLEY, G.V.S.

To Alex. Bruce, Esq., Chief Inspector of Stock.

#### APPENDIX G.

##### ANNUAL SHEEP SALES.

THE following lots of sheep, bred by the several New South Wales, Queensland, and Tasmanian owners, were disposed of at the Annual Stud Sales held in July, 1887:—

Name of Breeders.	Address.	Number of Rams.	Number of Ewes.	Total.	
				Rams.	Ewes.
Sold by Messrs. Mort & Co., Ltd., on account of—					
<i>New South Wales.</i>					
A. L. Faithfull, Esq. ... ..	Goulburn ... ..	10	.....	.....	.....
H. R. F. Hume, Esq. ... ..	Rye Park ... ..	5	2	.....	.....
Stephen White, Esq. ... ..	Bethungra ... ..	2	6	.....	.....
Hon. G. H. Cox ... ..	Mudgee ... ..	8	5	.....	.....
Jas. D. Cox, Esq. ... ..	Mudgee ... ..	10	.....	.....	.....
H. C. White, Esq. ... ..	Mudgee ... ..	21	.....	.....	.....
Thos. Armstrong, Esq. ... ..	Deniliquin ... ..	9	.....	.....	.....
John Macvean, Esq. ... ..	Deniliquin ... ..	5	.....	.....	.....
Messrs. Lackey, Wallace, and Mills	Wallendbeen ... ..	6	.....	.....	.....
James Lee, Esq. ... ..	Molong ... ..	40	.....	.....	.....
Joseph Penzer, Esq. ... ..	Dubbo ... ..	12	.....	128	13

Name of Breeders.	Address.	Number of Rams.	Number of Ewes.	Total.	
				Rams.	Ewes.
<i>Queensland.</i>					
Messrs. G. Clark & Co. ...	East Talgai ...	5	1	.....	.....
Messrs. Marshall & Slade ...	Glengallan ...	9	.....	14	1
<i>Tasmania.</i>					
James Gibson, Esq. ...	Bellevue ...	115	29	.....	.....
David Taylor, Esq. ...	St. Johnston ...	6	.....	.....	.....
W. H. Gibson, Esq. ...	Fairfield ...	68	16	.....	.....
G. Parramore, Esq. ...	Wetmore ...	28	.....	.....	.....
T. Parramore, Esq. ...	Beaufront ...	71	.....	.....	.....
Robert Jones, Esq. ...	Riccarton ...	17	47	.....	.....
J. B. Gibson, Esq. ...	Pleasant Banks ...	27	8	.....	.....
Robert Kermodie, Esq. ...	Mona Vale ...	36	.....	.....	.....
G. W. Keach, Esq. ...	Chiswick ...	115	24	.....	.....
Chas. Field, Esq. ...	Woodfield ...	37	4	.....	.....
Wm. Gatenby, Esq. ...	Woodbourne ...	18	16	.....	.....
R. D. Finlay, Esq. ...	Campbelltown ...	39	10	.....	.....
W. H. Bennett, Esq. ...	Bloomfield ...	94	14	.....	.....
P. W. Archer, Esq. ...	Panshanger ...	18	6	.....	.....
D. M'Kinnon, Esq. ...	Dalness ...	45	.....	.....	.....
James Cox, Esq. ...	Clarendon ...	102	.....	.....	.....
E. Dowling, Esq. ...	Quorn Hall ...	23	9	.....	.....
H. S. Smith, Esq. ...	Harland Rise ...	18	4	.....	.....
W. A. Gatenby, Esq. ...	Lake River ...	4	.....	.....	.....
Thos. Gatenby, Esq. ...	Pisa ...	55	6	.....	.....
Arthur Gatenby, Esq. ...	Lemon Springs ...	41	.....	.....	.....
W. H. Kilston, Esq. ...	Woolmess ...	18	.....	.....	.....
R. C. Gatenby, Esq. ...	Stewarton ...	10	.....	1,015	193

Sold by Messrs. Bruncker & Wolfe on account of—

<i>Tasmania.</i>					
Messrs. Wm. Gibson & Son ...	Scone... ..	334	14	.....	.....
Thos. Gibson, Esq. ...	Eskvale ...	23	.....	.....	.....
Robert Taylor, Esq. ...	Valley Field ...	18	.....	.....	.....
Robert Viney, Esq. ...	Fernhill, Lymington ...	28	.....	.....	.....
Chas. B. Grubb, Esq. ...	Strathroy ...	30	.....	.....	.....
Herbert Gatenby, Esq. ...	Rhodes ...	77	.....	.....	.....
A. M. M'Kinnon, Esq. ...	Mountford ...	40	.....	.....	.....
Miles Bennett, Esq. ...	Longford ...	265	39	.....	.....
Basil Archer, Esq. ...	Woodside, Cressy ...	22	6	.....	.....
F. W. Grubb, Esq. ...	Bengeo ...	25	.....	862	59
Grand total ...		.....	.....	2,019	266

APPENDIX H.

ANTHRAX IN SHEEP.

Sir, Department of Mines, Stock Branch, Sydney, 18 August, 1887.

In accordance with instructions from the Under Secretary for Mines on August 9th, I proceeded to Bourke, to investigate the sudden fatality in a mob of sheep, and have the honor of submitting the following report:—

It appears that Mr. Hurtle Fisher purchased a mob of 12,000 ewes in lamb, from Nelyambo; and, owing to the flooded state of the country, had to rent a paddock on Jandra Station, near the Cobar Road. After remaining there for four months, during which time most of the ewes lambed, they commenced the journey with 9,000 lambs, via Bourke, in order to cross the Darling River to Nee Nee Station, Queensland—Mr. C. Gould, drover, in charge.

On the afternoon of the fifth day some of the leading sheep began to lag behind, looked ill, staggered about, and quickly died. The mob went on to the camp named Stone Quarry Reserve, and next morning, 800 were dead.

The ewes were old and low in condition; the lambs were vigorous, well grown, and healthy. About fifteen or twenty sheep were too ill to walk off the camp; these, and several others that were ailing (say) 150, were bled; about twenty of these are alive still. All the mob that could move passed on leaving a track, marked by dead sheep here and there, for a distance of 3 miles. Twelve more died at the sixth camp, on Bourke Common, and two the following night. Since then very few deaths have occurred.

Accompanied by Mr. C. Gould, drover, and Mr. Inspector Mallon, I visited the sheep; and, on passing the tail of the mob, a very few sickly ones could be noticed walking slowly, and carrying their heads straight, with stiff necks, not attempting to feed. The mob, both ewes and lambs, were well spread and feeding, and looked healthy.

Several

Several dead sheep were passed scattered along the track, presenting nothing striking in their appearance. At length we reached Stone Quarry Reserve Camp, and there saw about 800 lying dead in all sorts of attitudes; some having died asleep; others having struggles in convulsions; some in groups and many apart; but all being upon a two-acre space. Almost all these were ewes; not more than a dozen lambs had died. On the fatal patch there were three sheep alive; one too ill to stand and almost unconscious; this was killed and examined. Two others had jumped on their feet; they watched us; then soon lay down again, and did not attempt to move when we examined them. Another lot of six had moved off together; these had been left behind ill; this was evident, as they had been bled and recovered; they were too lively to be caught.

About half the carcasses were skinned; they were decomposing. I opened and examined some of them, but they were of no use for diagnosis. On looking through the unskinned carcasses I noticed a great many had blood trickling from the nostrils; and on the skin being removed the characteristic bruised patches of anthrax were unmistakable; and the butcher informed me that he had not skinned a single sheep that did not show the blood-stained patches in some part or other of the body, chiefly about the shoulders and neck.

I made ten or twelve *post-mortem* examinations, two being killed for the purpose. Three had apparently died only a few hours. The internal organs were very variably affected, and the pathological changes were not very decided in any one case, as it was at least the fourth day after the outbreak. The sheep I saw ill only suffered from a mild form of the disease, and that explained the absence of the virulent indications. The spleens of several were enlarged and dark coloured, but in some were very little affected. In one the urine was blood-stained in the bladder. The stomach and bowels were comparatively healthy.

I could see no indication of plant poisoning. I secured the spleens of two fresh cases (but the disease was not well marked in them) for further examination, and I mixed a little of the spleen blood with water and gave it to three hoggets. Fifty-six hours afterwards it had taken no effect whatever. I then introduced a seton (saturated with this blood while fresh and then dried) under the skin of the thigh in two of these hoggets, but it did not produce any ill effects. The cultivation of micro-organisms is necessary, to determine whether they are bacilli or bacterias, to distinguish splenic anthrax from symptomatic anthrax.

With reference to the rumour that the *euphorbia drummondii* caused their deaths, it is simply too absurd: and I cannot understand the tenacity with which stockmen are content to stick to this blunder.

I went to the place and examined the feed with the drover, where he said they had eaten it (the *euphorbia drummondii*), and instead of finding abundance we had to search for it, and found small plants scattered about here and there just as it is found to be the case wherever it has been introduced; and I subsequently found it quite as plentiful on the town common; also, in the town, and near the trucking yards, where hundreds of thousands of sheep have eaten it on all occasions with impunity. At this season of the year the plant is very small indeed, and close to the ground. There was ample feed besides it. These sheep were not hungry; therefore, I fail to connect it in any way whatever with their deaths.

In my opinion anthrax was the poison; and the germs were left on this road at this place last year during spring, when eighty sheep died out of 4,000 in one night. These germs have renewed their virulent vitality with the early spring vegetation, and hence the mortality of this mob. A similar case occurred 8 miles from Bourke, on the Western Railway stock last year; then 150 died in a night in a mob of 15,000.

I have, &c.,

EDWD. STANLEY, F.R.C.V.S.,  
Government Veterinarian.

The Chief Inspector of Stock, Sydney.

#### APPENDIX I.

STATEMENT of the estimated number of noxious animals in the Colony at 31st December in the years 1880 to 1887 inclusive; the number of the different kinds of noxious animals killed during these years; the amount of assessment collected; the amount of Government subsidy received, and the total expenditure for each of these years.

Year.	Kangaroos.		Wallabies.		Native Dogs.		Rabbits.		Hares.		Wild Pigs.		Amount of Assessment collected.	Amount of Government Subsidy paid	Amount of Expenditure.
	Estimated number.	Number killed.	Estimated number	Number killed.	Estimated number.	Number killed.	Estimated number	Number killed.	Estimated number.	Number killed.	Estimated number.	Number killed.			
1880	5,484,000	.....	3,317,000	....	30,000	..	702,300	..	..	..	..	..	£ s. d.	£ s. d.	£ s. d.
1881	6,657,000	551,733	4,242,200	43,724	30,500	2,250	509,200	3,099	..	..	..	..	17,048 19 10	749 11 2	15,517 5 4
1882	4,333,000	1,462,829	3,023,000	347,842	30,500	6,950	250,000	138,257	..	..	..	..	45,772 12 8	25,290 19 2	61,191 14 3
1883	3,322,200	750,846	2,016,500	330,109	24,000	7,196	..	..	..	..	..	..	32,781 14 2	16,381 19 6	58,132 7 1
1884	3,007,000	1,403,233	2,765,700	473,609	23,300	7,336	..	..	..	..	..	..	43,009 15 8	21,600 10 6	62,121 0 0
1885	2,500,000	855,676	2,300,000	506,372	20,000	8,474	..	..	5,878	..	922	..	61,754 15 4	23,753 3 8	84,672 8 2
1886	2,226,700	1,106,473	2,052,000	694,603	38,600	9,500	..	..	301,500	23,623	2,400	602	41,536 0 0	16,163 3 0	67,783 0 6
1887	1,881,500	476,433	2,742,500	383,030	32,700	7,739	..	..	420,600	56,628	2,400	004	32,651 13 8	6,223 17 0	30,912 2 10
...	6,627,253	.....	2,684,348	..	49,534	..	192,256	..	91,120	..	2,143	..	250,204 11 4	110,133 4 0	360,330 4 2

N.B.—The whole of the accounts of expenditure for 1887 are not yet to hand. When they are the total amount of expenditure for that year will reach about £20,000.

## APPENDIX J.

Department of Mines, Stock Branch, 13th December, 1887.

*Re EUPHORBIA DRUMMONDII.*

Memo.—To the Chief Inspector of Stock,—

With reference to the question of the properties of this weed, I have the honor to report that, while in Melbourne, I interviewed Baron von Mueller on the subject, and, as I have every respect for the view he takes on the matter, I am especially careful in giving my opinion, which is the result of two years' observation, and having recently repeated experiments with this weed, by feeding starving sheep upon it for several consecutive days, with some sheep using the weed green and fresh, and others dry, some sheep living on the weed alone, others taking it with other food. Rabbits and Guinea pigs also eat it.

I introduced the milky juice into the eyes of sheep and dogs, and applied it to the skin of sheep, in every instance, without being able to detect the slightest toxic or irritant action, either from its internal or external use.

In order to confirm my opinion, I have, from time to time, asked stock-owners to make careful observations of its effects under ordinary conditions on their runs, and having received written statements that support my views, I annex extracts from their letters, and take this opportunity of thanking them for courteously supplying the information.

Devlin & Co., Ganmain, 24/8/87, says,—“That our sheep have picked out this weed from amongst other grass, and have eaten it ravenously, and no ill effects have resulted; that sheep have been fed exclusively on this weed with no ill effects; that the herbage in the paddocks where the milking cows were kept last year was entirely composed of this weed, and no harm ever resulted.”

Mr. J. Holloway, Mumbledool, 25/8/87, says,—“It is first-rate feed for our station sheep. During the drought this run was badly off for feed, and stock were very weak. In several small paddocks which had been eaten completely out, and the sheep removed, after a long spell and a little rain this plant came up and grew luxuriantly, spreading in some instances to 12 inches from the centre. Into one of these paddocks I put a few hundred of our best ewes; they were very hungry, famishing in fact, and were yarded the previous night; they eat the *Euphorbia Drummondii* ravenously, and had a good belly full right away, without seeking for anything else; these sheep were left in the same paddocks for weeks and did first-rate the whole time, although there was little or nothing but the plant in question for them. I am satisfied it is in no way injurious to sheep, and consider it a good useful plant.”

Mr. J. E. Warby, Billenbah,—“This plant grows more or less over my estate of 8,000 acres; and on 50 acres that had been irrigated it grew very abundantly, from plants half the size of the hand to a foot in diameter. I have had horses, cattle, and sheep—five or six to the acre—in the paddock for several weeks at a stretch, and have noticed cattle and sheep eat large mouthfuls of it, and none of my stock suffered from it in any way.”

Mr. D. M'Larty, Bundure,—“There is a large quantity of the plant grows over the run here, and when other feeds were scarce stock could get plenty of this said poisonous plant. I never considered it poisonous, and never saw any bad results from it.”

Inspector of Stock P. R. Brett, Urana, formerly believed the plant to be poisonous, and consequently has taken a good deal of trouble, and made several experiments to satisfy himself.—“He shut up 400 wethers in a yard for two days, and then turned them into a paddock full of this weed, and next day he could not find one sick sheep, and says, ‘The fact is, in place of this plant being a poisonous one, I think it is a very valuable one, being the first to show above ground after summer rain.’ A small lot of sheep for killing purposes are doing very well on this weed and crowsfoot, no grass.”

Mr. George Faithful, Brewarrana, writes.—“I have frequently observed cattle eating it in large quantities, and have watched individuals, but have never observed any effects. It cannot be poisonous, or numbers of my cattle would die.”

Mr. J. H. Spiller, Tubbo, writes,—“My experience proves that it is perfectly harmless. I had a paddock covered with it, and was afraid to put sheep in; at last I ventured to do so; the sheep ate it and thrived well on it.”

Mr. David McCaughey, Corco, writes,—“I have a great deal of this so-called poison plant on the run, and never find any loss of stock or bad effect from them eating it. Paddocks that have had a spell, after the first summer rains throw up an immense quantity of this milk-weed. I generally put my most valuable sheep in these paddocks, and find they do splendidly on the fresh green feed, of which this milk-weed forms a very large proportion.”

Mr. Angus Robertson, Yarrabee Park, writes,—“As to the so-called poison plant, I have really known sheep to thrive on it.”

Mr. Arthur Devlin, Uarah, writes,—“I penned some sheep and fed them on *Euphorbia Drummondii* for about a week. They appeared to be very partial to it, and were thriving on it. I also put a large number of sheep into a paddock where there was an abundance of it growing very luxuriantly, and the sheep devoured it without any injurious effect.”

Mr. J. A. Gunn, Yalgogrin Station, writes,—“I have seen the ground covered with the plant after autumn rains, before grass had time to spring, and sheep feeding on very little else for weeks without the slightest harm resulting, either to station stock or to travelling sheep.”

Inspector of Stock W. J. Elworthy, Narrandera, writes,—“The plant was growing all over the recreation reserve, and I watched to see its effects on a flock of sheep that had eaten it, but no ill results followed.”

It is worth noting that all this evidence is from actual observation of facts, and I have purposely avoided hearsay testimony.

Mr. Hamlett, the Government Analyst, 2/8/86, reports on *Euphorbia Drummondii*,—“The samples of plant, extracts and tinctured, sent by you in April last, have been found to contain an alkaloid or crystalline body, capable of giving the usual alkaloid reactions and having a bitter astringent taste. As far as it was possible to ascertain, no distinctly poisonous properties were observed.”

The Queensland authorities were very strong in their opinions of its being a fatal and poisonous weed; but, judging from a recent letter, the views of Mr. Chief-Inspector Gordon, are changing. He says about *Euphorbia Drummondii*,—“From what we have seen here, no results of any value will follow the feeding of sheep on that plant.” He further says,—“We have immense quantities of *Euphorbia Drummondii*”

Drummondii in Queensland, and sheep eat it in any quantity, and with no evil results;" and then he adds,—“ Yet if you place sheep on ground where they can eat it in the early morning, just as it has come through the ground, it is decidedly poisonous.”

To say the least of this, it strikes me as very extraordinary. Sheep invariably feed early in the morning, and during the drought were kept alive by eating this plant, keeping it so close to the ground that whatever they ate were young shoots; but no bad effects have been recorded that will bear investigation.

The wholesale losses in stock that occur from time to time are caused by micro-organisms named bacilli, far more subtle and fatal in their effects than the action of any plants, and the wide-spread distribution and hardy nature of the weed, *Euphorbia Drummondii*, which is probably eaten by tens of thousands of sheep every day in the various Colonies of Australasia, should I think, make us careful, to search further into the causes of disease and fatalities in stock, and not to be content to attribute such calamities to the popular phantom, “poison plant.”

The *Materia Medica* contains a long list of medicinal plants, and several are undoubtedly poisonous, so far as their special toxic action goes; but it should be remembered that the active principles are so combined with digestible materials, that animals provided with the powerful stomachs of ruminants can resist the ill effects of improper feed. They are provided with a keen sense of taste and smell, and naturally avoid noxious plants, which are frequently acrid, bitter, nauseous, or odourous, so that it is only when pressed by a craving appetite that they feed indiscreetly. At such times, lucerne, trefoil, thistles, or any other succulent green food may be so rapidly swallowed as to engorge the first stomach, and then chemical action proves stronger than the vital functions, suffocation from flatulency is the consequence. This condition has often been mistaken for poisoning, and this explains, I think, the very conflicting views that have been expressed on the subject of this paper.

As the object of this inquiry is to elicit truth and dispel error, I would caution drovers and others to be careful about permitting hungry sheep to engorge themselves with this weed, which is often abundant near creeks and water-holes. Do not water immediately after feeding or drive them about; it is better to let them rest until rumination gives them relief from the discomfort of over feeding.

I have, &c.,

EDWARD STANLEY, F.R.C.V.S.,  
Government Veterinarian.

#### APPENDIX K.

##### POISONOUS PLANTS.

Sir,

Botanic Gardens, Sydney, 19th December, 1887.

I have the honor to enclose to you the report of my assistant, Mr. Betche, who was sent by me, at the request of the Minister for Mines, to examine those districts of the Colony where a large number of both sheep and cattle lately died, as alleged through their having eaten some poisonous plant or plants.

In Mr. Betche's list of plants, found both in Bourke and Dubbo districts, there is not one peculiar to those parts, all being found, more or less, throughout the western country. Those to which any danger may reasonably be attached are—*Cassia*, *Sophora*, *Solanum esuriale*, *S. ellipticum*, *Datura*, *Tatula*, *Polygonum hydropiper*, *Euphorbia Drummondii*, *Swainsona procumbens*, *S. galegifolia*, and *S. coronillifolia*; but, as already said, none of these are purely local. I do not think, therefore, that the deaths referred to could have arisen from eating in quantity one or more of these plants.

I would, however, suggest that steps be taken to practically test whether they be really dangerous, by feeding stock with food in which each of these plants separately should be largely intermixed.

I have, &c.,

CHARLES MOORE.

#### REPORT ON POISONOUS PLANTS.

Ch. Moore, Esq., F.L.S., &c., Director, Botanic Gardens.

Sir,

Botanic Gardens, 2 December, 1887.

I have the honor to submit to you the report on the poisonous plants near Bourke and near Dubbo.

The properties of the Australian plants are still so imperfectly known that a great uncertainty exists as to which plants are harmless and which are noxious. Fortunately, plants nearly allied in form and structure are also usually allied in chemical properties, *i.e.*, the same or similar properties pervade whole natural groups of plants. This law of nature enables us to estimate the properties of an unknown plant from its affinities to other well known plants; and though we cannot positively qualify plants as poisonous because some nearly allied plants are poisonous, they must be considered suspicious till they have been proved to be harmless by practical test or chemical analysis.

#### I. BOURKE.

##### *General character of the vegetation.*

The country, from Bourke to about 30 miles on the Cobar Road, consists of sparsely timbered woods, interspersed with treeless plains. The woods are chiefly composed of the following trees:—A few species of *Eucalyptus*, about six species of *Acacia*—*Flindersia maculosa* (Leopard tree) *Heterodendron oleifolium*, *Atalaya hemiglauca*, *Geijera parviflora* (Wilga), *Codonocarpus cotinifolius*, *Casuarina glauca* (Bull Oak), *Tusanus acuminatus* (Quandong), *Capparis Mitchellii* (Wild Orange). The shrubs consist chiefly of several small or tall species of *Eremphoila*, of *Dodonaea attenuate* (Hopbush), and of a few species of *Cassia*. The low or herbaceous vegetation is composed to the greater part of plants of the natural orders of *Chenopodiaceæ* and *Compositæ*, too numerous to be enumerated. Other herbs or low undershrubs, observed as common in the district, are:—Several species of *Sida*, *Abutilon cryptopetalum*, *Goodenia*, *cycloptera*, *Convolvulus erubescens*, *Erythraea australis*, *Teucrium racemosum*, *Solanum esuriale* and *ellipticum*, *Trichinium senilanatum*, *Alternanthera triandra*, *Muhlenbeckia Cunninghamii* (Lignum), *Euphorbia Drummondii*, *Marsilea Drummondii* (Nardoo), and a small number of grasses.

*Poisonous*

*Poisonous or suspicious plants.*

No plant positively known as poisonous has been found in the district in the present season, but the following plants are suspicious:—*Solanum esuriale* and *ellipticum*, *Codonocarpus cotinifolius*, *Nicotiana suaveolens*, *swainsona procumbens*, and *Pimelea pauciflora*.

*Solanum esuriale*, Lindl and *S. ellipticum*, R. Br. (Nightshade).—Very common in the country the sheep travelled over. All species of *Solanum* contain a narcotic alkaloid solanine; in most species in harmless small quantities, but some species are known as poisonous.

*Codonocarpus cotinifolius*, F. v. M.—A small tree, rather common in some parts of the district. The small order to which the tree belongs contains generally an acrid drastic principle, and one American species is a violent purgative.

*Nicotina suaveolens*, Lehm. (Australian Tobacco).—Common on river banks, but rare in the country the sheep travelled over. All species of *nicotiana* contain more or less the dangerous alkaloid—nicotine.

*Swainsona procumbens*, F. v. M. (Darling pea).—Not common in the country examined. Reputed to be injurious to stock, but the nature of the poison is entirely unknown.

*Pimelea pauciflora*, R. Br.—Rare in the district. All species of *Pimelea* contain, more or less, a volatile acrid principle, chiefly in the bark, which, in some species, may be dangerously powerful. None of the numerous species appears to be ever touched by cattle.

*Euphorbia Drummondii*, Boiss.—Would have been included amongst the suspicious plants, but practical experiments, lately undertaken by the Inspector of Stock in Bourke, have proved it to be quite harmless.

## II. DUBBO.

*General character of the vegetation.*

The country examined near Dubbo is densely wooded, with occasionally a thick scrubby undergrowth. The woods are chiefly composed of various species of *Eucalyptus* and the Pine-tree, *Frenela robusta*, intermixed with *Casuarina*, *Acacias*, *Sterculia diversifolia* (Kurrajong), *Fusanus acuminatus* (Quandong), *Myoporum acuminatum* (White Wood), *Eremophila Mitchelli*, &c. The underwood is formed by a great variety of shrubs, chiefly from the genera—*Calythrix*, *Baccha*, *Kunzea*, *Melaleuca*, *Callestemon*, *Acacia*, *Cassia*, *Dillwynia*, *Daviesia*, *Dodonaea*, *Pimella*. The low or herbaceous vegetation is less varied and numerous than in the western plains, and the *Chenopodiaceæ* and *Compositæ* are less predominant. Introduced European weeds are very common on roadsides and in paddocks, especially the variegated Thistle, *Carduus Marianus*, and the Black Thistle, *Carduus lanceolatus*.

*Poisonous and suspicious plants.*

The following poisonous plants have been found:—*Datura Tatula*, *Solanum nigrum*, and *Polygonum hydropiper*; and the following suspicious plants:—*Swainsona procumbens* and *galegifolia*, *Pimelea glauca*, *Cassia Sophera* and *Sambucus Gaudichaudiana*.

*Datura Tatula*, Linn. (Stramonium).—Very common in the paddock where the first lot of cattle died. Contains a violent narcotic poison, but cattle are said never to touch it on account of its fetid smell.

*Solanum nigrum*, Linn. (Nightshade).—Common in the paddock. Contains a narcotic poison, but in less dangerous quantities than the *Datura*.

*Polygonum hydropiper*, Linn. (Water-pepper).—Very common on the river banks. Contains an irritant poison, but it has such a very pungent taste, owing to an acrid volatile oil, that cattle are not likely to touch it more than once.

*Swainsona galegifolia*, R. Br. (erroneously called "Indigo plant") and *S. procumbens*, F. v. M. (Darling pea).—Rather common in grasslands. Both are known as injurious to cattle, but the nature of the poison is entirely unknown.

*Pimelea glauca*, R. Br.—Very common in open forest-land (*see* remarks on *Pimelea pauciflora*, Bourke).

*Cassia Sophera*, Linn. (called "yellow boy" in the district).—Very common in grasslands and clearings in forests. Reputed to be poisonous, and never touched by cattle.

*Sambucus Gaudichaudiana*, Dl. (Australian Elder).—Very common on river banks. The leaves of all species of *Sambucus* have a very strong taste and smell; one European species, *S. Ebulus*, has violent purgative and emetic properties, and is considered as poisonous.

E. BETCHE.



1887-8.

LEGISLATIVE ASSEMBLY.  
NEW SOUTH WALES.

LIVE STOCK.

(RETURN OF—WITHIN THE COLONIES, 1871, 1881, AND 1887.)

Ordered by the Legislative Assembly to be printed, 4 July, 1888.

No. VII.—LIVE STOCK IN THE AUSTRALASIAN COLONIES, 1871, 1881, 1887.

Colony.	1871.					1881.					1887.*				
	Sheep.	Cattle.	Horses.	Pigs.	Total.	Sheep.	Cattle.	Horses.	Pigs.	Total.	Sheep.	Cattle.	Horses.	Pigs.	Total.
New South Wales	16,278,697	2,014,888	304,100	213,193	18,810,878	36,591,910	2,597,343	393,577	213,916	39,801,787	46,965,162	1,675,487	390,609	264,111	49,195,359
Victoria	10,002,381	799,509	181,643	177,447	11,160,980	10,267,255	1,236,677	273,195	239,926	12,072,063	10,623,985	1,333,873	315,000	243,461	12,616,319
Queensland	7,403,334	1,163,235	91,910	32,767	8,696,189	8,292,833	3,618,513	194,217	66,433	12,162,051	12,926,168	4,473,716	305,865	73,063	17,779,402
South Australia	4,412,055	143,463	78,125	95,542	4,729,185	6,819,856	814,918	169,678	120,718	7,406,170	7,254,000	440,000	170,000	179,000	8,043,000
Western Australia	670,999	49,593	22,698	14,263	757,553	1,267,912	63,009	31,755	23,530	1,335,206	1,939,978	97,079	42,196	27,120	2,156,373
Tasmania	1,303,489	101,540	23,064	52,963	1,482,040	1,847,479	130,526	27,806	49,660	2,055,470	1,547,242	147,092	23,528	52,408	1,776,270
New Zealand	9,700,029	430,592	81,023	151,460	10,369,709	12,985,085	698,637	161,736	200,083	14,045,511	16,677,445	895,461	187,382	369,991	18,130,279
Total, Australasian Colonies	49,779,584	4,713,820	782,553	737,477	56,007,433	78,063,426	8,700,923	1,251,003	303,271	88,923,238	97,933,960	8,962,798	1,440,580	1,209,754	109,597,002

\* Year ended 31st March, 1888.

No. VI.—LIVE STOCK, 1887-8.

Colony.	Sheep.		Horned Cattle.		Horses.		Pigs.		Total Stock.	
	Number.	Percentage in each Colony.	Number.	Percentage in each Colony.	Number.	Percentage in each Colony.	Number.	Percentage in each Colony.	Number.	Percentage in each Colony.
New South Wales	46,965,162	47.04	1,575,487	17.59	390,609	27.11	264,111	21.83	49,195,359	44.89
Victoria	10,623,985	10.84	1,333,873	14.88	315,000	21.87	243,461	20.12	12,516,319	11.42
Queensland	12,926,168	13.19	4,473,716	49.91	305,865	21.23	73,063	6.09	17,779,402	16.22
South Australia	7,254,000	7.40	440,000	4.91	170,000	11.80	179,000	14.81	8,043,000	7.34
Western Australia	1,939,978	2.04	97,079	1.08	42,196	2.93	27,120	2.24	2,156,373	1.97
Tasmania	1,547,242	1.58	147,092	1.64	29,528	2.05	52,408	4.33	1,776,270	1.62
New Zealand	16,677,445	17.01	895,461	9.99	187,382	13.01	369,991	30.58	18,130,279	16.54
Total, Australasian Colonies	97,933,960	100.00	8,962,798	100.00	1,440,580	100.00	1,209,754	100.00	109,597,002	100.00



1887-8.

LEGISLATIVE ASSEMBLY.  
NEW SOUTH WALES.

**PASTURES AND STOCK PROTECTION BOARDS.**

(RETURN SHOWING BALANCE SHEETS OF—YEAR ENDING 31 DECEMBER, 1887.)

*Ordered by the Legislative Assembly to be printed, 19 July, 1888.*

RETURN (*in part*) to an *Order* of the Honorable the Legislative Assembly of New South Wales, dated 22nd March, 1888, That there be laid upon the Table of this House,—

“Copies of the Balance Sheets of each of the Pastures and Stock Protection Boards for the year ending 31st December, 1887.”

(*Mr. J. P. Abbott.*)

STATEMENT of Revenue and Expenditure of the Pastures and Stock Protection Board at Albury, for the Year ending 31st December, 1887.

RECEIPTS.			EXPENDITURE.		
£	s.	d.	£	s.	d.
Balance, Bank N. S. Wales .....	309	15	0	By certificates issued for scalps—	
Less cheques not presented .....	10	15	0	Kangaroo, 1,922, at 1s. . . . .	96 2 0
			299 0 0	Padamelen, 217, at 6d. ....	5 8 6
Allowance, office rent .....	13	2	6	Hares, 6,448, at 6d. ....	161 4 0
Subsidy .....	117	18	10	Kangaroo rats, 951, at 6d. ...	23 15 6
Petty cash in hand .....	4	6	6	Dogs, 1, at 20s. ....	1 0 0
Arrears assessment, 1886 .....	3	2	6		
Cash in hand .....	3	4	6	Scalps from 1886 .....	0 17 6
Fines .....	3	5	6	Secretary (salary and allow-	125 0 0
			145 0 4	ance) .....	
Assessment levied on				Printing, advertising, and	
16,261 large stock,				stationery .....	12 12 10
at 1½d. each ... £101 12 7				Furniture .....	33 10 3
534,900 sheep at				Rent (office and board-room)..	37 12 6
½d. each .....	557	3	9	Office expenses .....	16 15 5
			658 16 4	Audit fees .....	4 4 0
Less arrears assessment .....	15	1	11	Borough rates .....	2 10 8
			643 14 5	Nuisance Prevention Act. ....	0 19 6
				Laying on gas to office .....	15 0 0
				Delegate to Conference. ....	17 0 0
				Share expenses Conference ..	2 5 0
				Wood to destroy scalps .....	2 0 0
				Law costs .....	2 2 0
				Directors' fees .....	5 14 3
				Exchange and duty stamp ..	0 11 7
				W. Steel (refund assessment)	0 11 9
				Postage stamps .....	5 10 8
				Freight on scalps .....	0 10 6
				Sundries .....	1 8 9
				Telegrams .....	0 6 1
				Petty cash in hand .....	0 15 1
				Postage stamps in hand.....	0 4 9
				Balance in Bank N.S.W. ....	536 17 1
				Less cheques not presented ...	24 15 0
			£ 1,087 14 9		288 2 8
					512 2 1
					£ 1,087 14 9

J. W. McKELLAR, Treasurer.  
W. KIDDLE, Chairman.

I hereby certify that all the books and vouchers in the possession of the Board have been duly audited by me, and found to be correct.

Dated at Albury, this 6th day of January, 1888.

Jno. H. PAINE, Auditor.

STATEMENT of Revenue and Expenditure of the Pastures and Stock Protection Board at Armidale, for the Year ending 31st December, 1887.

Dr.		Cr.	
	£ s. d.		£ s. d.
To amount of balance at 31st December, 1886...	141 12 2	By certificates issued for scalps—	
Assessment levied on stock during half-year—		48,109 kangaroo, at 3d. per scalp .....	£601 7 3
On 66,642 large stock, at 1½d. per head.....	£416 10 3	12,010 wallaby, at 3d. per scalp .....	150 2 6
On 1,362,876 sheep, at ¼d. per head.....	1,420 0 9	445 native dogs, at 20s. per scalp.....	445 0 0
Excess collected .....	1 12 7	238 native dogs, at 30s. per scalp.....	357 0 0
Written off by Board .....	3 14 6	7 native dogs, at 10s. per scalp .....	3 10 0
	1,841 18 1	1,130 kangaroo rats, at 3d. per scalp.....	14 2 6
Less arrears of assessment.....	77 14 3		
	1,764 3 10	Secretary's salary .....	1,571 2 3
Government subsidy .....	114 8 5	Postages .....	50 0 0
Arrears of assessment, from 1886, collected....	815 11 7	Advertising .....	13 9 3
Outstanding cheques, at 31st Dec., 1887.....	43 3 9	Office rent .....	5 5 0
		Auditors' fees.....	13 0 0
		Stamped cheque-books .....	8 8 0
		Director's mileage .....	1 5 0
		Delegates expenses to Stock Conference .....	21 19 0
		Three outstanding cheques, 31st Dec., 1886.....	22 14 0
		Balance, as per Bank-book .....	4 1 6
			1,167 15 9
	£ 2,878 19 9		£ 2,878 19 9

Dated at Armidale, this 19th day of June, 1888.

A. W. BELFIELD, Treasurer.  
EDWIN C. BLOMFIELD, Chairman.

We hereby certify that all the books and vouchers in the possession of the Board have been duly audited by us, and found to be correct.

JOHN FERGUSSON, } Auditors.  
H. A. HOLDEN, }

STATEMENT of Revenue and Expenditure of the Pastures and Stock Protection Board at Balranald, for the Half-year ended 30th June, 1887.

Dr.		Cr.	
	£ s. d.		£ s. d.
1887—June 30—		1887—	
To amount of balance at Australian Joint Stock Bank .....	1,598 8 9	By certificates issued for scalps—	
Interest on fixed deposit .....	18 10 7	1,213 kangaroo, at 4d. per scalp .....	20 4 4
		29 native dogs, at 5s. per scalp .....	7 5 0
			27 9 4
		Secretary's salary .....	33 6 8
		Advertising .....	6 17 6
		Stationery .....	0 11 0
		Postage stamps .....	1 8 0
		Incidental expenses .....	1 1 0
		Office rent due 31st March .....	5 0 0
		Audit fees .....	2 2 0
		Balance at Australian Joint Stock Bank.....	£342 11 10
		Less outstanding cheques .....	3 8 0
		Balance per Bank-book.....	339 3 10
		Add fixed deposit .....	1,200 0 0
		Balance .....	1,539 3 10
	£ 1,616 19 4		£ 1,616 19 4

STATEMENT of Revenue and Expenditure of the Pastures and Stock Protection Board at Balranald, for the Half-year ending 31st December, 1887.

DR.		CR.	
1 July, 1887—		31 Dec., 1887—	
To balance, Aust. Joint Stock Bank £339 3 10	£ s. d.	By certificates issued for scalps—	£ s. d.
Fixed deposit account ..... 1,200 0 0		3,093 kangaroo, at 4d. per scalp ..... £51 11 0	
Interest on fixed deposits .....	1,539 3 10	58 native dogs, at 6s. per scalp ..... 14 10 0	
Assessments .....	42 0 0	Secretary's salary .....	66 1 0
Government subsidy for rent of office.....	74 19 0	Advertising and printing .....	58 6 8
	9 19 8	Stationery, &c. ....	6 16 0
		Postages and stamps .....	0 7 6
		Incidental Expenses .....	4 9 8
		Office rent .....	27 13 6
		Auditors' fees.....	10 0 0
		Exchange on cheques .....	2 2 0
		Balance, Aust. Joint Stock Bank, deposited account .....	0 2 0
		Balance, Aust. Joint Stock Bank .....	1,200 0 0
		Less outstanding cheques.....	£321 13 8
			31 9 6
			290 4 2
	£ 1,666 2 6		£ 1,666 2 6

ROBERT D. MURRAY, }  
NORMAN LOCKHART, } Auditors.

J. H. MORPHETT, Chairman.  
A. LAWRENCE, Treasurer.

STATEMENT of Revenue and Expenditure of the Pastures and Stock Protection Board at Bathurst, for the Year ending 31st December, 1887.

DR.		CR.	
To amount of balance at City Bank . . . . .		By certificates issued for scalps—	
Assessment levied on Stock during half-year—	£ s. d.	36,323 kangaroo, at 6d. per scalp ..... £908 1 6	£ s. d.
On 36,233 large stock, at 25s. per 100 ..... £452 18 3		6,353 wallaby, at 6d. per scalp ..... 158 16 6	
On 396,778 sheep, at 4s. 2d. per 100 ..... 826 12 5		2,842 rock wallaby, at 3d. per scalp ..... 35 10 6	
	£1,279 10 8	27 native dogs, at 5s. per scalp ..... 6 15 0	
Less arrears of assessment ... 28 6 2		47 native dogs, at 10s. per scalp ..... 23 10 0	
Government subsidy .....	1,251 4 6		1,132 13 6
Do .....	87 12 7	Unpaid cheque, since paid.....	0 11 0
Do .....	248 17 3	Secretary's salary .....	81 5 0
Do .....	329 13 6	Advertising.....	4 8 3
Assessments, 1885 .....	616 3 4	Stationery and cheque-books .....	4 4 6
Do 1886 .....	2 18 4	Office cleaning .....	6 10 0
Fines.....	4 10 1	Board expenses in Sydney .....	2 5 0
Stamps on hand .....	7 8 5	Auditors' fees.....	4 4 0
	25 1 8	Trudgett's refund .....	1 17 6
		Discount on stamps .....	1 10 0
		Postage-stamps, &c. ....	14 19 0
		Cash on hand.....	1 12 9
		Fixed deposit .....	£1,000 0 0
		Balance, as per Bank-book .....	732 11 2
	£ 2,987 9 8		1,732 11 2
			£ 2,987 9 8

Dated at Bathurst, this      day of      , 1888.

CHARLES MACPHILLAMY, Treasurer.  
JOHN N. GILMOUR, Chairman.

We hereby certify that all the books and vouchers in the possession of the Board have been duly audited by us, and found to be correct.

THOS. GREEN, }  
E. H. TURRELL, } Auditors.

STATEMENT of Revenue and Expenditure of the Pastures and Stock Protection Board at Berrima, for the Half-year ending 30th June, 1887.

DR.		CR.	
To amount of balance at Commercial Bank	£ s. d. 9 18 5	By cheques not presented last half-year, since presented	£ s. d. 9 11 3
Assessment levied on stock during year—		Secretary's salary	4 3 4
On 21,300 large stock, at 25s. per 100	£266 5 0	Stationery and stamps	10 1 6
On 11,462 sheep, at 4s. 2d. per 100	23 16 9	Audit fees	2 2 0
	290 1 9	Stamps on hand	22 2 4
Less arrears of assessment	132 13 1	Cash on hand	14 0 11
	157 8 8	Balance, as per Bank-book	£122 8 7
1 January—		Cheques not presented	4 0 5
Cash on hand	6 6 10		118 8 2
Stamps on hand	6 15 7		
	£ 180 9 6		£ 180 9 6

W. J. CORDEAUX, Treasurer.

Dated at Berrima, this 16th day of July, 1887.

W. J. CORDEAUX, Chairman.

We hereby certify that all the books and vouchers in the possession of the Board have been duly audited by us, and found to be correct.

F. R. WILSHIRE, }  
F. GALBRAITH, } Auditors.

STATEMENT of Revenue and Expenditure of the Pastures and Stock Protection Board at Berrima, for the Half-year ending 31st December, 1887.

DR.		CR.	
To amount of balance at Commercial Bank	£ s. d. 118 8 2	By certificates issued for scalps—	£ s. d.
Assessment levied on stock during half-year—		90 padamelon, at 6d.	2 5 0
On 9,652 large stock, at 25s. per 100	£120 13 0	1,625 " at 4d.	27 1 8
On 6,164 sheep, at 4s. 2d. per 100	12 16 10	792 " at 2d.	6 12 0
	133 9 10	13 kangaroo, at 2d.	0 2 2
Less arrears of assessment	4 6 9	15 " at 4d.	0 5 0
	120 3 1	10 wallaroo, at 4d.	0 3 4
Government subsidy	165 8 5	458 wallaby, at 3d.	5 14 6
Overpaid	0 0 1	220 " at 1d.	0 18 4
Arrears from 1886	0 10 3	1 native dog, at 20s.	1 0 0
Stamps on hand	22 2 4	27 native dogs, at 30s.	40 10 0
Cash do	14 0 11	10 " at 10s.	5 0 0
		25 " at 5s.	0 5 0
		Overpaid	0 2 7
		Secretary's salary	37 10 0
		Advertising	12 10 3
		Stationery and stamps	2 3 6
		Audit fees	2 2 0
		Expenses of Conference	7 9 0
		Exchanges on cheques	0 3 0
		Cheque books	0 8 4
		Cash on hand	6 0 10
		Stamps on hand	22 14 1
		Balance, as per Bank-book	£253 17 8
		Less unrepresented cheque	1 5 0
	£ 439 13 3		252 12 8
			£ 439 13 3

W. J. CORDEAUX, Treasurer.

Dated at Berrima, this 16th day of January, 1888.

W. J. CORDEAUX, Chairman.

We hereby certify that all the books and vouchers in the possession of the Board have been duly audited by us, and found to be correct.

F. R. WILSHIRE, }  
F. GALBRAITH, } Auditors.

STATEMENT of Revenue and Expenditure of the Pastures and Stock Protection Board at Bombala, for the  
Half-year ending 30th June, 1887.

Dr.				Cr.	
RECEIPTS.		£	s. d.	EXPENDITURE.	
Jan. 1—1887—				By certificates issued for scalps, viz—	
To balance at Bank of N.S.W. ....		149	3 8	579 kangaroo, at 6d. ....	14 0 6
Cash in receivers' hands.....		53	2 9	133 wallaby, at 3d.....	1 13 3
Arrears of assessment received .....		42	3 7	20 " at 2d.....	0 3 4
Assessment on—				112 dogs, at 20s.....	112 0 0
11,947 large stock, at 25s.				1 dog, at 10s.....	0 10 0
per 100 .....	149	6	9	31 dogs, at 15s .....	23 5 0
271,128 sheep, at 4s. 2d.				35 hawks, at 3s. 6d.....	6 2 6
per 100 .....	564	17	0	12 " at 5s. ....	3 0 0
	714	3	9		
Less arrears of assessment.....	367	0	3	Refund to Mrs. Nicholson .....	161 3 7
				Advertising, local papers .....	8 2 6
Government subsidy, rent.....		347	3 6	Do Gazette.....	5 5 9
Government subsidy .....		6	10 0	Cheque book .....	1 19 1
		171	6 0	Auditors' fees .....	0 4 2
				Rent of office .....	3 3 0
				Secretary's salary .....	13 0 0
				Exchange .....	25 0 0
				Delegates' expenses to Sydney.....	0 5 0
				Legal expenses .....	2 5 0
				Iron safe .....	2 2 0
				Cash in receivers' hands .....	11 17 6
				To Balance at Bank .....	36 12 11
				Less outstanding cheques .....	
					498 0 0
		£	769 9 6		£
					769 9 6

H. M. JOSEPH,  
Chairman and Treasurer.

We hereby certify that all the books and vouchers in the possession of the Board have been duly audited by us, and found to be correct.

W. A. MACKENZIE, } Auditors.  
C. G. KYLE, }

STATEMENT of Revenue and Expenditure of the Pastures and Stock Protection Board at Bombala, for the  
Half-year ending 31st December, 1887.

Dr.				Cr.	
RECEIPTS.		£	s. d.	EXPENDITURE.	
1887—July 1—				By certificates for scalps—	
To balance at Bank of N.S.W. ....		498	9 0	54 hawks, at 5s. ....	23 10 0
Cash in hand .....		36	12 11	131 dogs, at 15s. ....	98 5 0
Arrears of assessment.....		209	14 10	7 " at 7s. 6d. ....	2 12 6
Government subsidy .....		135	5 0		
Do (for iron safe).....		5	18 9	Auditors' fees.....	124 7 6
				Secretary's salary .....	2 2 0
				Rent of office .....	25 0 0
				Cheque book .....	13 0 0
				Govt. Printer (advertising) .....	0 4 2
				Local papers ( do ) .....	3 10 0
				Amount placed deposit.....	1 11 6
				Stamps used .....	500 0 0
				Do in hand .....	8 2 6
				Cash in hand .....	3 2 6
				Balance at Bank .....	16 10 5
		£	887 0 6		189 9 11
					£
					887 0 6

H. M. JOSEPH,  
Chairman and Treasurer.

We hereby certify that all the books and vouchers in the possession of the Board have been duly audited by us, and found to be correct.

W. A. MACKENZIE, } Auditors.  
G. E. MADDISON, }

STATEMENT of Revenue and Expenditure of the Pastures and Stock Protection Board, at Hillston for Booligal District for the Year ending 31st December, 1887.

DR.		CR.	
		£ s. d.	£ s. d.
To amount of balance at A.J.S. Bank, 31st December, 1886 .....	451 4 6	By certificates issued for scalps—	
Assessment levied on Stock during year—		1,447 kangaroo, at 6d. per scalp	36 3 6
On 5,570 large stock, at 10s. per 100 .....	£31 0 0	53 wallaby, at 6d. ..	1 6 6
On 1,014,775 sheep, at 2s. 6d. per 1,000 .....	130 15 0	23 native dogs, at £1. ..	23 0 0
	£161 15 0		60 10 0
Less arrears of assessment for 1887 .....	5 7 6	Secretary's salary .....	50 0 0
Government subsidy .....	42 5 5	Printing .....	6 18 0
Arrears for 1885-1886 paid .....	2 5 0	Advertising .....	3 14 6
		Stationery and postage stamps .....	4 4 0
		Auditors' fees .....	40 0 0
		Delegates' expenses .....	0 8 4
		Cheque book .....	0 1 0
		Bank exchange .....	3 14 6
		Cash in hand .....	
		Balance at fixed deposit .....	£200 0 0
		Balance, as per Bank-book .....	282 12 1
	£ 652 2 5		482 12 1
			£ 652 2 5

AUSTEN LOUGHNAN, Treasurer.

Dated at Hillston this 18th day of May, 1888.

We hereby certify that all the books and vouchers in the possession of the Board have been duly audited by us, and found to be correct.

PHILLIP S. KNIGHT, }  
JOHN STIBLING, } Auditors.

STATEMENT of Revenue and Expenditure of the Pastures and Stock Protection Board at Bourke, for the Half-year ending 30th June, 1887.

DR.		CR.	
		£ s. d.	£ s. d.
To amount of balance at 31 December, 1886 ..	861 16 7	By certificates issued for scalps—	
Less arrears of assessment paid .....	1 8 0	1,790 kangaroo, at 1s. per scalp	£89 10 0
Duty stamps paid .....	0 0 6	108 " at 6d. ..	2 14 0
		11 wallaby, at 3d. ..	0 2 9
		28 native dogs, at 10s. per scalp .....	14 0 0
		28 pigs, at 2s. ....	2 16 0
			£109 2 9
		Less certificates not presented	7 14 0
			101 8 9
		Secretary's salary .....	58 6 8
		Printing .....	5 0 0
		Stationery .....	3 8 11
		Office rent .....	7 10 0
		Fixed deposit at 6 months .....	500 0 0
		Postage stamps .....	1 0 0
		Auditors' fees .....	4 4 0
		Cyclostylar .....	2 0 0
		Delegates' portion of expenses .....	2 5 0
		Hotel, &c., expenses, delegates to Sydney ..	18 8 3
		Gratuity voted by Board to delegate .....	29 8 0
		Cheques outstanding 31st December, 1886 ..	58 5 0
		Balance, as per Bank-book (£1,300 at fixed deposit) .....	72 0 6
	£ 863 5 1		£ 863 5 1

MALCOLM ROBERTSON, Treasurer.  
WM. OLIVER, Chairman.

Dated at Bourke this 25th day of April, 1888.

We hereby certify that all the books and vouchers in the possession of the Board have been duly audited by us, and found to be correct.

JOHN LAVERS, }  
JAMES J. GIBSON, } Auditors.

STATEMENT of Revenue and Expenditure of the Pastures and Stock Protection Board at Bourke, for the Half-year ending 31st December, 1887.

DR.		CR.	
		£ s. d.	£ s. d.
To amount of balance at 30th June, 1887.....	72 0 6	By certificates issued for scalps—	
Arrears of assessment paid.....	43 19 6	3,781 kangaroo, at 1s. per scalp £189 1 0	
Government subsidy .....	259 9 1	55 " at 6d. " 1 7 6	
Portion of fixed deposit, £500 .....	200 0 0	10 wallaby, at 3d. " 0 2 6	
Interest on fixed deposit .....	123 0 0	87 native dogs, at 10s. per scalp.....	43 10 0
		64 pigs at 2s. ....	6 8 0
			240 9 0
		Less certificates not presented	7 15 0
			232 14 0
		Secretary's salary .....	50 0 0
		Printing .....	6 4 0
		Office rent .....	7 10 0
		Cheque outstanding, 30th June, 1887.....	7 14 0
		Balance, as per Bank-book .....	394 7 1
	£ 698 9 1		£ 698 9 1

Dated at Bourke this 25th day of April, 1888.

MALCOLM ROBERTSON, Treasurer.  
WM. OLIVER, Chairman.

We hereby certify that all the books and vouchers in the possession of the Board have been duly audited by us, and found to be correct.

JOHN LAVERS,  
JAMES V. G. CROX, } Auditors.

BALANCE SHEET of the Pastures and Stock Protection Board at Braidwood, for the Year ending 31st December, 1887.

DR.		CR.	
		£ s. d.	£ s. d.
To amount of balance at Bank N.S.W., December 31st, 1886 .....	94 13 4	By 80 hares, at 6d. per scalp.....	2 0 0
		3 kangaroo, at 4d. ....	0 1 0
		10,457 wallaby, at 4d. ....	174 5 8
		9 native dogs, at 10s. ....	4 10 0
		2 " at 7s. 6d. ....	0 15 0
		44 " at 15s. ....	33 0 0
		52 " at 20s. ....	52 0 0
			266 11 8
Assessment on 26,718 large stock, at 12s. 6d. per 100 .....	166 19 9	Secretary's salary .....	35 0 0
Assessment on 47,411 sheep, at 2s. per 100 .....	49 7 10	Stamps .....	2 10 5
Surplus in fractional parts.....	0 3 6	Auditors' fees .....	2 2 0
	216 11 1	Advertising.....	8 13 0
Government subsidy .....	65 8 5	Office rent .....	7 5 0
Cash on hand, 31st December, 1886 .....	11 8 10	Stationery .....	2 1 0
Police Court fines .....	8 0 0	Fine returned.....	1 0 0
Arrears from 1886 .....	10 16 2	Exchange on cheques .....	0 2 0
		Directors' fees, attending in Sydney .....	10 4 0
		Scalp burning.....	2 0 0
		Cheque-book .....	0 2 1
		Cash on hand. ....	0 0 5
		Balance, as per Bank-book .....	69 16 3
	£ 407 7 10		£ 407 7 10

JOHN WALLACE, Treasurer.  
ROBT. MADDRELL, Chairman.

We hereby certify that all the books and vouchers in the possession of the Board have been duly audited by us, and found to be correct.

Dated at Braidwood, this 14th day of January, 1888.

W. McRAE,  
H. E. SEARLE, } Auditors.

STATEMENT of Revenue and Expenditure of the Pastures and Stock Protection Board at Moruya  
(Broulee), for the Year ending 31st December, 1887.

DR.				CR.	
	£ s. d.	£ s. d.		£ s. d.	£ s. d.
To amount of balance at Commercial Bank .....		162 10 7	By scalps—		
Assessment on stock—			73 native dogs, at 10s. ....	36 10 0	
21,089 large stock, at 25s. ....	263 12 3		80 „ „ at 5s. ....	20 0 0	
1,670 sheep at 4s. 2d. ....	3 9 7		5 kangaroo, at 1s. ....	0 5 0	
			157 „ „ at 6d. ....	3 18 6	
	267 1 10		173 kangaroo rats, at 6d. ...	4 6 6	
Less arrears of assessment...	2 2 3		150 „ „ at 3d. ...	1 17 6	
		264 19 7	12,034 opossum, at 4d. ....	200 10 8	
Government subsidy .....		101 3 10	5,852 „ „ at 2d. ....	48 15 4	
Police Court fines .....		1 0 0	1,730 wallaby, at 1s. ....	86 10 0	
Cash in hand, 31st Dec, 1886 .....		13 17 7	1,405 „ „ at 6d. ....	35 2 6	
			5 padamelon, at 1s. ....	0 5 0	
					438 1 0
			Secretary's salary .....	35 0 0	
			Printing .....	0 10 0	
			Advertising .....	18 0 8	
			Stationery .....	0 9 0	
			Glanville's assessment (returned) .....	0 9 0	
			Stamps .....	3 15 8	
			Auditors' fees .....	2 2 0	
			Director's expenses attending Sydney Conference .....	17 18 6	
			Telegrams .....	0 2 0	
			Exchange .....	0 1 0	
			Cash in hand .....	0 11 0	
			Balance, as per Bank-book .....	26 11 9	
		£ 543 11 7			£ 543 11 7

Dated at Moruya, this 24th day of January, 1888.

B. ANDERSON, Chairman.  
T. T. GANNON, Treasurer.

We hereby certify that all the books and vouchers in the possession of the Board have been duly audited by us, and found to be correct.

JOHN KENNEY, }  
E. BLOOMFIELD, } Auditors.

STATEMENT of Revenue and Expenditure of the Pastures and Stock Protection Board, at Cannonbar,  
for the Half-year ending 30th June, 1887.

DR.				CR.	
	£ s. d.	£ s. d.		£ s. d.	£ s. d.
To assessment levied on stock during half-year—			By balance due Mercantile Bank .....	4 5 0	
On 14,548 large stock, at			Certificate issued for scalps—		
2s. 1d. per 100 .....	£15 3 1		20 native dogs, at £2 per scalp .....	40 0 0	
On 879,032 sheep, at 1d.			Secretary's salary .....	32 10 0	
per 100 .....	36 13 0		Stamps, £5; Learmonth, stamps, £2 .....	7 0 0	
		51 16 1	Stationery .....	5 0 0	
Arrears of assessment .....		1 18 4	Delegates' expenses to Conference .....	15 4 3	
Government subsidy .....		900 0 0	Directors' travelling expenses .....	3 15 0	
Interest on fixed deposit .....		22 10 0	Auditors' fees .....	1 4 0	
Outstanding cheques, 1886 .....		33 9 10	Cheque book .....	0 8 4	
Do do 1887 .....		2 0 0	Interest on account .....	0 15 6	
			Outstanding cheques, 1886, paid .....	28 0 0	
			Cheques still outstanding .....	5 9 10	
			Balance, as per Bank-book .....	813 6 3	
		£ 959 18 2			£ 959 18 2

Dated at Dubbo, this 19th day of September, 1887.

T. L. LIVINGSTONE LEARMONTH, Treasurer.  
ED. S. ANTILL, Chairman.

We hereby certify that all the books and vouchers in the possession of the Board have been duly audited by us, and found to be correct.

GEO. A. DANIEL, }  
J. P. BURROWS, } Auditors.



STATEMENT of Revenue and Expenditure of the Pastures and Stock Protection Board at Casino, for the Year ending 31st December, 1887.

Dr.		Cr.	
	£ s. d.		£ s. d.
To amount of balance at 31st December, 1886...	23 8 6	By certificates issued for scalps—	
Fixed deposit in Commercial Bank at 5 per cent ..	1,000 0 0	5 kangaroo, at 6d. per scalp	0 2 6
Stamps on hand ..	1 15 2	865 " 3d. "	10 16 3
Interest on fixed deposit of £1,000 to July, 1887, at 6 per cent ..	60 0 0	2 wallaby, at 3d. "	0 0 6
Balance to Bank as per Bank-book ..	38 8 3	228 native dogs, at 2s. 6d. "	28 10 0
		1,999 padanclons, at 3d. "	24 19 9
			61 0 0
		Certificates not presented .....	8 17 0
			55 12 0
		Secretary's salary ..	30 0 0
		Cheques outstanding now paid ..	25 0 10
		Advertising Balmer outstanding cheque now paid ..	1 11 6
		H. F. Smith, share cheque of expenses at conference, Sydney ..	2 5 0
		Cheque book ..	0 8 4
		Petty scalps account ..	5 0 0
		Fixed deposit for 12 months at 5 per cent ..	1,000 0 0
		Interest on overdraft ..	1 19 1
		Cash and stamps on hand ..	1 18 2
			1,123 14 11
	£ 1,123 14 11		£ 1,123 14 11

Dated at Casino, this 21st day of May, 1888.

We hereby certify that all the books and vouchers in the possession of the Board have been duly audited by us, and found to be correct.

JOHN C. IRVING, Treasurer.  
C. EDWARDS, Chairman.

M. SOLLING,  
J. HINDMARSH, } Auditors.

STATEMENT of Revenue and Expenditure of the Pastures and Stock Protection Board at Cobar, for the Year ending 31st December, 1887.

Dr.		Cr.	
	£ s. d.		£ s. d.
To fixed deposit A. J. S. Bank ..	600 0 0	By balance ..	318 6 11
Assessment levied on stock during year—		Certificates issued for scalps—	
On 8,248 large stock, at 12s. 6d. per 100 ..	51 11 0	5,388 kangaroo, at 1s. per scalp ..	269 8 0
On 1,198,937 sheep, at 6d. per 100 ..	300 4 6	147 kangaroo, at 9d. per scalp ..	5 10 3
	351 15 6	1,620 wallaby, at 9d. ..	60 15 0
Less arrears of assessment ..	0 3 10	28 " at 3d. ..	0 7 0
	351 11 8	14 native dogs, at 20s. ...	14 0 0
Government subsidy ..	23 4 0	10 " at 10s. ...	5 0 0
Arrears of assessment for 1886 paid ..	2 5 7		355 0 3
Fixed deposit and interest ..	205 0 0	Secretary's salary ..	100 0 0
Do do ..	318 0 0	Printing and advertising ..	14 16 0
Interest on fixed deposit ..	18 0 0	Directors' fees ..	34 5 0
		Stationery ..	5 0 0
		Auditors' fees ..	2 2 0
		Petty cash ..	2 0 0
		Interest on overdraft ..	10 1 8
		Cheque-book ..	0 8 4
		Fixed deposits ..	600 0 0
		Balance, as per Bank-book ..	129 4 4
		Less outstanding cheques ..	53 3 3
	£ 1,518 1 3		76 1 1
			£ 1,518 1 3

We hereby certify that all the books and vouchers in the possession of the Board have been duly audited by us, and found to be correct.

JAMES COTTON, Secretary.  
Dated at Cobar, this 1st day of May, 1888.

PHILIP OAKDEN, Treasurer.  
PETER LESLIE, Chairman.

THOMAS BLAKELY,  
M. PAXTON, } Auditors.

BALANCE



STATEMENT of Revenue and Expenditure of the Pastures and Stock Protection Board at Coonabarabran,  
for the Year ending 31st December, 1887.

Dr.		Cr.	
	£ s. d.		£ s. d.
To amount of balance at 30 June, 1886 .....	358 16 5	By certificates issued for scalps—	
Assessment levied on stock during half-year—		19,489 kangaroo, at 4d. per scalp .....	324 16 4
On 9,318 large stock, at 12s. 6d. per 100.....	58 4 8½	121 kangaroo, at 6d. per scalp .....	3 0 6
On 983,026 sheep, at 2s. 1d. per 100 .....	1,023 19 8½	12,667 wallaby, at 4d. per scalp .....	211 2 4
	1,082 4 5	4,560 wallaby, at 6d. per scalp .....	114 0 0
Less arrears of assessment.....	362 2 1	44 native dogs, at 20s. per scalp.....	44 0 0
Government subsidy 1886-7.....	551 5 2	111 native dogs, at 40s. per scalp.....	222 0 0
	720 2 4	29 native pups, at 10s. per scalp.....	14 10 0
	551 5 2	Secretary's salary .....	938 0 2
		Stamps .....	37 10 0
		Advertising .....	3 0 0
		Stationery .....	9 1 1
		Rent .....	2 2 2
		Auditors' fees.....	11 5 0
		Stamped cheque-books.....	8 8 0
		Exchange .....	1 5 0
		Balance as per Bank-book.....	0 2 6
		Less outstanding cheques.....	74 5 4
			624 1 0
	£ 1,630 3 11		£ 1,630 3 11

C. FETHERSTONHAUGH, Treasurer.  
SAMUEL HOLE, Chairman.

Dated at Coonabarabran, this 1st day of March, 1888.

We hereby certify that all the books and vouchers in the possession of the Board have been duly audited by us, and found to be correct.

R. J. PARKER,  
JETHRO WHITE, } Auditors.

STATEMENT of Revenue and Expenditure of the Pastures and Stock Protection Board at Coonamble, for  
the Year ending 31st December, 1887.

Dr.		Cr.	
	£ s. d.		£ s. d.
To amount of balance at .....	399 9 3	By certificates issued for scalps—	
Assessment on large stock		3,556 kangaroo, at 6d. ....	£38 18 0
11,564.....	£36 1 3	10 wallaby, at 4d.....	0 3 4
Assessment on sheep 1,166,157	607 6 10	27 native dogs, at 20s.....	27 0 0
	643 8 1	5 " at 40s. ....	10 0 0
Less arrears of assessment ..	11 18 3	1 native dog, at 10s. ....	0 10 0
	631 9 10	77 padamelons, at 2d. ..	0 9 8
Cheques outstanding.....	46 11 6	35 pigs, at 1s. ....	1 15 0
Fixed deposits in Bank.....	2,414 17 0	Printing .....	128 16 0
		Secretary's salary .....	4 10 0
		Advertising.....	131 5 0
		Forge .....	5 13 0
		Stationery and stamps ..	50 0 0
		Rent of office .....	8 11 1
		Auditors' fees.....	16 4 0
		Directors' fees .....	8 0 0
		Delegates' expenses .....	68 17 0
		Cheque book .....	29 8 0
		Refund of assessment ..	0 8 4
		Fixed deposit at A.J.S. Bank .....	2 3 11
		Cheques outstanding now paid .....	2,414 17 0
		Cash in hand .....	30 11 2
		Balance, as per Bank-book .....	0 13 0
	£ 3,483 7 7		583 10 1
			£ 3,483 7 7

Dated at Coonamble, this 17th day of April, 1888.

EDW. WHITNEY, Treasurer.

We hereby certify that all the books and vouchers in the possession of the Board have been duly audited by us, and found to be correct.

THOS. W. MEDLEY, Secretary.

C. H. A. BAXTER,  
H. CASNETT, } Auditors.

STATEMENT of Revenue and Expenditure of the Pastures and Stock Protection Board at Corowa, for the Year ending 31st December, 1887.

DR.		CR.	
	£ s. d.		£ s. d.
To amount of balance, cash in hand 31st Dec., 1886 .....	0 2 4	By amount of balance at 31st December, 1886 .....	8 9 2
Assessment levied on stock during the year—		Scalps—	
On large stock at 1½d. per head .....	36 9 4	2,755 kangaroo, at 1s. per scalp .....	137 15 0
On sheep at ¼d. per head .....	795 13 3	4 kangaroo, at 6d. per scalp .....	0 2 0
Arrears of Assessment, 1886 .....	18 4 3	352 padamelon, at 1s. per scalp .....	17 12 0
	£350 6 10	278 padamelon, at 6d. per scalp .....	6 19 0
Less arrears of assessment .....	46 14 3	147 kangaroo rats, at 6d. per scalp .....	3 13 6
	803 12 7	768 hares, at 1s. per scalp .....	33 8 0
J. Burns, paid in error .....	0 2 6	581 hares, at 6d. „ .....	14 10 6
S. M'Henry, paid in error .....	0 0 1	1,103 opossums, at 1d. per scalp .....	4 11 11
Exchanges .....	0 3 6		223 11 11
		Secretary's salary, to 30th September, 1887 .....	48 15 0
		Printing .....	2 0 0
		Advertising .....	8 2 0
		Stationery .....	0 18 6
		Auditors' fees, £6 6s.; scalp receivers, £38 10s. 5d. .....	44 16 5
		Rent of office to 31st August, 1887, £11 5s.; delegate's expenses to Conference, £18 7s. .....	29 12 0
		Share of Conference expenses, £2 5s.; interest on bank overdraft, £4 19s. 10d. ....	7 4 10
		Registered notices .....	6 4 0
		Stamps, £3; telegrams, 5s. 5d. ....	3 5 5
		Stamped cheque-book, 10s. 8d.; exchanges, £1 8s. 3d. ....	2 4 11
		Cash in hand .....	2 0 2
		Balance, as per Bank account .....	416 16 8
	£ 804 1 0		£ 804 1 0

Dated at Corowa, this 8th day of February, 1888.

We hereby certify that all the books and vouchers in the possession of the Board have been duly audited by us, and found to be correct.

H. MORAS, Treasurer.  
A. ANDERSON, Chairman.

LOUIS WILLIS, }  
R. REYNOLDS, } Auditors.

STATEMENT of Revenue and Expenditure of the Pastures and Stock Protection Board, at Deniliquin. Summary for the Year ending 31st December, 1887.

DR.		CR.	
	£ s. d.		£ s. d.
To amount of balance at 31st December, 1886 ..	209 6 6	By certificates issued for scalps—	
Assessment received on stock during year ..	701 1 0	14,417 kangaroo, at 6d. per scalp .....	360 8 6
Government subsidy .....	137 6 9	3 wallaby, at 2s. 6d. per scalp .....	0 7 6
			360 16 0
		Secretary's salary .....	100 0 0
		Office rent .....	26 0 0
		Travelling expenses .....	14 17 1
		Sundries—Stamps .....	2 16 1
		Rates .....	2 0 0
		Government Printer .....	0 11 0
		Interest .....	0 11 0
			5 18 1
		Balances—Cash .....	13 19 8
		Scalp account .....	41 14 6
			55 14 2
		Balance, as per Bank-book .....	484 8 11
	£ 1,047 14 3		£ 1,047 14 3

Dated at Deniliquin, this 8th day of February, 1888.

We hereby certify that all the books and vouchers in the possession of the Board have been duly audited by us, and found to be correct.

A. M'COLLOUGH, Treasurer.  
R. W. FRANKS, Chairman.

JAMES THIER, }  
JOHN JEREMY, JUN., } Auditors.

STATEMENT of Revenue and Expenditure of the Pastures and Stock Protection Board at Dubbo, for the Half-year ending 30th June, 1887.

Dr.	£ s. d.	Cr.	£ s. d.
To amount of balance at Bank, New South Wales, Dubbo .....	291 6 5	By certificates issued for scalps—	
Assessment levied on stock during half-year—		7,133 kangaroo, at 3d. per scalp .....	£89 4 6
On 17,375 large stock, at		233 " at 6d. " .....	5 16 6
8s. 4d. per 100 .....	£72 7 11	53 native dogs, at 20s. " .....	53 0 0
On 974,062 sheep, at 1s. ½d.		31 " pups, at 10s. " .....	15 10 0
per 100 .....	507 6 5		
	£579 14 4	Secretary's salary .....	163 11 0
Less arrears of assessment, 1886 .....	32 18 11	Printing and advertising .....	18 15 0
Outstanding cheques .....	10 0 9	Stationery .....	4 17 6
		Stamps .....	5 0 0
		Burning scalps .....	5 0 0
		Rent of office .....	0 15 0
		Directors' travelling expenses .....	3 15 0
		Outstanding cheques .....	42 0 0
		Balance, as per Bank-book .....	62 4 6
			31 8 1
	£ 337 6 1		£ 337 6 1

THOMAS BAIRD, Treasurer.  
JOHN D. MACKAY, Chairman.

We hereby certify that all the books and vouchers in the possession of the Board have been duly audited by us, and found to be correct.

GEO. A. DANIEL, }  
J. P. BURROWS, } Auditors.

STATEMENT of Revenue and Expenditure of the Pastures and Stock Protection Board at Dubbo, for the Half-year ending December, 1887.

Dr.	£ s. d.	Cr.	£ s. d.
To amount of balance at Bank .....	31 8 1	By certificates issued for scalps—	
Assessment levied on stock during half-year—		7,201 kangaroo, at 3d. per scalp .....	£90 0 3
On 17,292 large stock, at		Amount paid in excess .....	0 0 1
8s. 4d. per 100 .....	£72 1 0	4 dogs, at 40s. per scalp .....	8 0 0
On 1,046,960 sheep, at 1s. ½d.		74 native dogs, at 20s. " .....	74 0 0
per 100 .....	545 5 10	14 " at 10s. " .....	7 0 0
	617 6 10		
Less arrears of assessment .....	150 9 4	Secretary's salary and rent .....	179 0 4
Outstanding cheques .....	8 10 0	Audit .....	45 0 0
		Directors .....	8 8 0
		Advertising .....	28 10 0
		Burning scalps .....	7 10 0
		Stamps .....	5 15 0
		Refund to Roberts .....	5 0 0
		Cheque-book .....	1 0 0
		Outstanding cheques .....	1 5 0
		Balance, as per Bank-book .....	10 0 9
	£ 506 15 7		215 6 6
			£ 506 15 7

Dated at Dubbo, this 6th day of February, 1888.

FREDK. M. BODY, Treasurer.  
JOHN D. MACKAY, Chairman.

We hereby certify that all the books and vouchers in the possession of the Board have been duly audited by us, and found to be correct.

F. L. SWEETMAN, }  
J. P. BURROWS, } Auditors.

STATEMENT of Revenue and Expenditure of the Pastures and Stock Protection Board at Forbes, for the  
Year ending 31st December, 1887.

DR.				CR.	
	£ s. d.	£ s. d.		£ s. d.	£ s. d.
To amount of balance at Bank on 1st January, 1887		593 16 2	By certificates paid for scalps—		
Assessment levied on stock during year—			972 hares, at 6d. per scalp	24 6 0	
On 14,033 large stock, at 12s. 6d. per 100	87 14 1½		913 kangaroo, at 1s. per scalp	45 13 0	
On 859,898 sheep, at 2s. 1d. per 100	895 14 6½		10,716 kangaroo, at 6d. per scalp	267 18 0	
	983 8 8		185 wallaby, at 1s. per scalp	9 5 0	
Less arrears of assessment	56 18 7		3,598 wallaby, at 6d. per scalp	89 19 0	
Government subsidy to 31st December, 1886		926 10 1	146 native dogs, at 1l. per scalp	146 0 0	
" " 30th June, 1887		125 2 1	9 native pups, at 10s. per scalp	4 10 0	
" " (additional for year 1886)		14 17 0	1 native pup, at 5s. per scalp	0 5 0	
Fines paid by Inspector under P. & S. P. Act		502 12 8		587 16 0	
Outstanding cheque (Jas. Goran)		1 0 0	Less certificates not presented, unascertainable through non-receipt of slips		587 16 0
		1 19 0	Secretary's salary (£60 per annum) to 31st December, 1887		60 0 0
		£ 2,165 8 0	Burning scalps		12 3 9
			Advertising		31 19 7
			Stationery and postage stamps		14 15 0
			Directors' outlays		28 3 0
			Auditors' fees		4 4 0
			Share of Conference expenses at Sydney		2 5 0
			Chairman's expenses, attending Conference		19 0 6
			Balance, as per Bank-book		1,405 1 2
					£ 2,165 8 0

THOS. LESLIE, Treasurer.

THOS. LESLIE, Acting Chairman.

Dated at Forbes, this 25th day of January, 1888.

We hereby certify that all the books and vouchers in the possession of the Board have been duly audited by us, and found to be correct.

CHAS. F. BAKER, } Auditors.  
E. E. SMALL, }

STATEMENT of the Revenue and Expenditure of the Pastures and Stock Protection Board, Eden District  
at Bega, for the Year ending 31st December, 1887.

DR.				CR.	
	£ s. d.	£ s. d.		£ s. d.	£ s. d.
To balance per Pass book, 31st December, 1886		266 12 2	Certificates issued for scalps—		
Assessment levied on stock during year—			265 kangaroo, at 3d.	3 6 3	
On 36,756 large stock at 8s. 4d.			960 " at 4d.	16 0 0	
per 100	153 3 0		367 wallaby at 3d.	4 11 9	
On 686 sheep, at 4s. 2d. per 100	1 6 6		165 " at 4d.	2 15 0	
	154 9 6		99 dogs, at 10s.	49 10 0	
Less arrears	27 15 9		82 " at 5s.	20 10 0	
Amount of last year's arrears paid		126 13 9		96 13 0	
Refund Court fees		16 4 0	Less certificates not presented		1 9 3
Government subsidy		3 15 0	Secretary		75 0 0
		22 8 5	Printing		1 17 0
		£ 435 13 4	Advertising		7 8 4
			Stationery		0 13 0
			Rent of office		12 13 0
			Law expenses		10 10 0
			Auditor's fees		4 4 0
			Postage stamps		6 0 0
			Petty cash		1 18 8
			Balance, per Pass book		220 5 7
					£ 435 13 4

Examined and found correct,

FRED. BROWN, } Auditors.  
WILLIAM DOW, }

24th January, 1888.

STATEMENT of Revenue and Expenditure of the Pastures and Stock Protection Board at Glen Innes, for the Year ending 31st December, 1887.

Dr.		Cr.	
To amount of balance at Bank of N.S.W. ....	£ s. d. 297 17 10	By unrepresented certificates at 1st January, 1887 .....	£ s. d. 87 16 11
Do deposits do do .....	1,200 0 0	Certificates issued for scalps—	
Assessment levied on Stock during half-year—		10 kangaroo, at 6d. per scalp .....	0 5 0
81,294 large stock, at 8s. 4d. per 100 .....	338 14 6	11,248 kangaroo, at 4d. per scalp .....	187 9 4
624,360 sheep, at 1s. 4½d. per 100 .....	433 11 8	800 kangaroo, at 3d. per scalp .....	10 0 0
£ 772 6 2		185 wallaby, s., at 6d. per scalp .....	4 12 6
Less arrears of assessment ...	1 2 2	4,294 wallaby r., at 3d. per scalp .....	53 13 6
Government subsidy on account of 1885 ..	740 16 6	314 native dogs, at 10s. per scalp .....	157 0 0
Interest on deposits .....	32 5 0	22 native dogs, at 6s. per scalp .....	5 10 0
Assessment on account of 1886 .....	1 1 8	498 kangaroo rat, at 3d. per scalp .....	6 4 6
Do paid in excess .....	0 7 0	83 kangaroo rat, at 2d. per scalp .....	0 13 10
Cash on hand at 1st January .....	2 3 0	£ 463 5 7	
Outstanding cheques at 31st December, 1887	10 18 7	Less certificates not presented	53 18 11
	771 4 0	Secretary's salary .....	409 6 8
	740 16 6	Directors' mileage .....	57 0 0
	32 5 0	Share of Conference expenses .....	25 16 0
	1 1 8	Postage stamps .....	2 5 0
	0 7 0	Advertising .....	7 8 0
	2 3 0	Auditors' fees .....	16 14 6
	10 18 7	Stationery .....	6 6 0
		Telegrams .....	3 0 0
		Exchange and Stamp Duty ..	0 4 10
		Office rent .....	0 1 1
		Firewood .....	5 0 0
		Commission on stamps .....	0 7 0
		Outstanding cheques, on 31st December, 1886	1 2 9
		Cash on hand, 31st December, 1887 .....	11 13 8
		Fixed deposit .....	2 6 11
		Balance as per Bank-book .....	1,000 0 0
			1,508 1 2
	£ 3,056 13 7		£ 3,056 13 7

JAS. MARTIN, Treasurer.

CECIL BLOXSOME, Chairman.

Dated at Glen Innes, this 21st day of February, 1888.

We hereby certify that all the books and vouchers in the possession of the Board have been duly audited by us, and found to be correct.

R. A. H. MITCHELL, }  
CHAS. J. KENWOOD, } Auditors.

STATEMENT of Revenue and Expenditure of the Pastures and Stock Protection Board at Goulburn, for the Year ending 31st December, 1887.

Dr.		Cr.	
To amount of balance at ..	£ s. d. 19 13 3	By certificates issued for scalps—	£ s. d.
Assessment levied on stock during half-year—		61,401 wallaby, at 4d. per scalp	1,023 7 0
On 31,446 large stock, at 25s. per 100 .....	393 1 6	1,067 kangaroo, at 4d. ..	17 15 8
On 320,842 sheep, at 4s. 2d. per 100 .....	688 8 5	4,416 wallaby, at 3d. ..	55 4 0
Outstanding .....	136 13 3	5,774 ,, rock, at 2d per scalp .....	48 2 4
£ 1,198 3 2		499 wallaby, at 6d. per scalp...	12 9 6
Less arrears of assessment .....	185 7 3	29 native dogs, at 30s. ....	43 10 0
Government subsidy .....	575 17 9	12 pups, at 10s. ....	6 0 0
Amount overpaid by A. Gibson .....	0 0 10	9,774 hares, at 4d. ....	162 18 0
	1,012 15 11	£ 1,869 6 6	
		Less certificates not presented	50 5 6
		Secretary's salary .....	1,310 1 0
		Printing and advertising .....	100 0 0
		Stationery—1,000 notices of assessment .....	6 10 3
		Summonses and law costs .....	4 3 4
		Stamps .....	7 16 8
		Rent .....	12 0 0
		Mr. Morrice's expenses as delegate .....	26 0 0
		Auditing .....	15 0 0
		Firing .....	4 4 0
		Cleaning office .....	3 0 0
		Balance, as per Bank-book .....	5 4 0
	£ 1,608 7 9		105 8 6
			£ 1,608 7 9

We hereby certify that all the books and vouchers in the possession of the Board have been duly audited by us, and found to be correct.

A. W. BULLEN, }  
H. WHITEHEAD, } Auditors.

Dated at Goulburn, this 10th day of January, 1888.

R. HENDERSON, Treasurer and Chairman.

STATEMENT of Revenue and Expenditure of the Pastures and Stock Protection Board at Grafton,  
for the Year ending 31st December, 1887.

Dr.	£ s. d.	Cr.	£ s. d.
To amount of balance at 31st December, 1886 .....	1,065 5 4	By certificates issued for scalps—	
Interest on fixed deposits .....	60 0 0	2,011 kangaroo, at 6d. per scalp .....	50 5 6
		307 wallaby, at 6d. ....	7 13 6
		85 padamelons, at 3d. ....	1 1 3
		156 native dogs, at 2s. 6d. ....	19 10 0
		Secretary's salary and office accommodation	75 0 0
		Printing, advertising, stationery, and postage	10 11 0
		Receivers' fees .....	12 10 0
		Interest on account and cheque book .....	1 10 8
		Cash in hand .....	57 18 11
		Balance as per Bank-book .....	889 4 6
	£ 1,125 5 4		£ 1,125 5 4

T. BAWDEN, Treasurer.  
WILLIAM SMALL, Chairman.

We hereby certify that all the books and vouchers in the possession of the Board have been duly audited by us, and found to be correct.

Dated at Grafton, this 21st day of March, 1888.

E. L. RUTLEDGE, }  
THOMAS PAGE, } Auditors.

STATEMENT of Revenue and Expenditure of the Pastures and Stock Protection Board at Gundagai, for  
the Half-year ending 30th June, 1887.

Dr.	£ s. d.	Cr.	£ s. d.	£ s. d.
To amount of balance at 31st December, 1886 .....	2,849 11 3	By certificates issued for scalps—		
Interest on fixed deposit .....	110 0 0	659 kangaroo, at 9d. per scalp .....	24 14 3	
		406 kangaroo, at 6d. per scalp .....	10 3 0	
		10,968 wallaby, at 9d. per scalp .....	411 6 0	
		1,401 wallaby, at 6d. per scalp .....	35 0 6	
		4 wallaby, at 8d. per scalp .....	0 2 8	
		43 native dogs, at 40s. per scalp .....	86 0 0	
		33 native dogs, at 20s. per scalp .....	33 0 0	
		1,282 hares, at 6d. per scalp .....	32 1 0	
		306 „ at 9d. „ .....	11 9 6	
		28 wallaroos, at 9d. per scalp .....	1 1 0	
		7 padamelons, at 4d. per scalp .....	0 2 4	
		Burning scalps .....		645 0 3
		Secretary's salary .....		7 2 11
		Printing, advertising, and stationery .....		58 6 8
		Directors' fees .....		20 15 6
		Auditors' fees .....		19 19 0
		Office rent .....		4 4 0
		Interest on overdraft .....		10 0 0
		Balance as per Bank-book .....		6 19 9
	£ 2,959 11 3		£ 2,187 6 2	£ 2,959 11 3

W. B. SMITH, Treasurer.  
E. J. BROWN, Chairman.

Dated at Gundagai, this 27th day of August, 1887.

We hereby certify that all the books and vouchers in the possession of the Board have been duly audited by us, and found to be correct.

C. W. WREKFS, }  
MAC. W. TURNER, } Auditors.







STATEMENT of Revenue and Expenditure of the Pastures and Stock Protection Board at Merriwa, for the Year ending 31st December, 1887.

DR.				CR.		
		£ s. d.		£ s. d.	£ s. d.	
To amount of balance at Bank N.S.W., Merriwa, 31st Dec., 1886 .....	677	8	9	By certificates issued for scalps—		
Cash on hand, 31st Dec., 1886 .....	6	0	5	9,181 kangaroo, at 6d. per scalp .....	229 10 6	
Government subsidy .....	169	16	5	7,630 wallaby, at 3d. per scalp .....	35 7 6	
				25 wallaby, at 2d. per scalp .....	0 4 2	
				137 native dogs, at 20s. per scalp .....	137 0 0	
					462 2 2	
				Secretary's salary, 1886-87 .....	129 3 4	
				Auditor's fees .....	4 4 0	
				Advertising .....	4 8 8	
				Stationery .....	1 15 11	
				Cassilis allowance .....	18 6 8	
				Board's share of expenses at Conference ..	2 5 0	
				Rental .....	9 3 4	
				Cheque book .....	0 8 4	
				Cash on hand .....	5 7 1	
				Balance as per Bank-book ...	255 7 1	
				Less outstanding cheques.....	39 6 0	
					216 1 1	
	£	853	5 7		£	853 5 7

Dated at Merriwa, this 23rd day of January, 1888.

We hereby certify that all the books and vouchers in the possession of the Board have been duly audited by us, and found to be correct.

A. W. BLAXLAND, Treasurer.  
JAS. B. BETTINGTON, Chairman.

H. W. GIBBS, } Auditors.  
A. S. PARNELL, }

STATEMENT of Revenue and Expenditure of the Pastures and Stock Protection Board at Molong, for the Year ending 31st December, 1887.

DR.				CR.		
		£ s. d.		£ s. d.	£ s. d.	
To amount of balance at A.J.S. Bank, 31st December, 1886 .....	754	4	10	By certificates issued for scalps—		
Cash and stamps on hand .....	46	0	11	27,944 kangaroo, at 6d. per scalp .....	698 12 0	
Assessment levied on stock during half-year—				3,335 wallaby, at 6d. per scalp .....	88 7 6	
On 14,672 large stock, at 12s. 6d. per 100 ..	91	14	0	121 native dogs, at 20s. per scalp ..	121 0 0	
On 560,095 sheep, at 2s. 1d. per 100 .....	583	8	7½	26 native dogs, at 10s. per scalp .....	13 0 0	
					920 19 6	
				Certificates issued in 1886 for 12 native dogs		
Less arrears of assessment ...	88	0	9	scalps, at 20s. each .....	12 0 0	
Do do for 1886 .....	92	4	8	By Secretary's salary .....	50 0 0	
Government subsidy .....	649	2	9	Office rent .....	10 0 0	
Errors in certificates .....	0	3	6	Burning scalps .....	28 5 0	
Outstanding cheques .....	6	5	10	Advertising .....	4 17 6	
				Auditors fees .....	4 4 0	
				Stationery .....	0 13 9	
				Refund to G. Gordon .....	8 9 2	
				Cheque-books .....	0 8 4	
				Municipal rates .....	0 9 0	
				Error in receipt, No. 339 .....	0 0 3	
				Delegates expenses attending Conference ..	10 16 0	
				Stock Board Conference, Sydney .....	2 5 0	
				Losses in half-pence and farthings .....	0 0 3½	
				Stamps .....	17 0 0	
				Exchange on cheques .....	0 2 0	
				Errors in certificates issued 2nd May and		
				1st September, 1887 .....	1 10 6	
				Errors in cheque issued 4th July, 1887 .....	0 0 6	
				Outstanding cheque for 1886 .....	1 0 0	
				Directors expenses attending meetings .....	2 12 6	
				Office furniture .....	4 18 0	
				Cash and stamps on hand 31st December,		
				1887 .....	1 14 10½	
				Balance, as per Bank-book .....	1,052 18 3	
	£	2,135	4 4½		£	2,135 4 4½

Dated at Molong, this 12th day of May, 1888.

We hereby certify that all the books and vouchers in the possession of the Board have been duly audited by us, and found to be correct.

H. S. M. BETTS, Treasurer.  
H. S. M. BETTS, Chairman.

C. H. TEMPEST, } Auditors.  
CHAS. H. EVANS, }

STATEMENT of the Annual Receipts and Expenditure of the Pastures and Stock Protection Board Moree District, for Year ending 31st December, 1887.

DR.		CR.	
		£	s. d.
To balance at bank on 31st December, 1886, less	£	s.	d.
cheques not presented .....	450	8	10
Cash in hand on 31st December, 1886 .....	0	18	9
Assessments received on stock for the year			
1887 .....	938	9	2
Amount received by Government subsidy ...	1,028	13	0
	£	2,418	9 9
By amount paid for noxious animals for year 1887	£	s.	d.
Cheque-book .....	1,508	12	9
Advertising accounts .....	0	16	8
Secretary's salary .....	13	14	6
Stamps and stationery .....	51	5	0
Auditors' fees .....	9	10	9
Directors' fees .....	5	5	0
Delegate, Sydney Conference .....	43	15	0
Share Board's expenses, Sydney Conference	20	0	0
F. W. Ridley—Office rent .....	2	5	0
Cash in hand on 31st December, 1887 .....	3	15	0
Balance at bank on 31st December, 1887,	6	6	6
less cheques not presented .....	748	3	7
	£	2,418	9 9

A. G. F. MUNRO, Chairman.  
P. C. WATT, Treasurer.  
J. E. WEYMICK, Secretary.

STATEMENT of Revenue and Expenditure of the Pastures and Stock Protection Board at Mudgee, for the Year ending 31st December, 1887.

DR.		CR.	
		£	s. d.
To amount of balance at Commercial Bank .....	£	s.	d.
Assessment levied on stock during year—	260	19	1
On 25,851 large stock at			
25s. per 100 .....	£323	2	9
On 463,366 sheep at 3s.			
per 100 .....	699	7	6
	1,021	10	3
Less arrears of assessment .....	9	9	0
Government subsidy .....	1,013	1	3
Refund—Rabbit money .....	294	11	7
Amount received on account of 1886 assess-	93	7	8
ment .....	0	16	9
Exchange .....	0	1	0
	£	1,662	17 4
By certificates issued for scalps—			
16,437 kangaroo, at 4d. per			
scalp .....	£273	19	0
10,940 kangaroo, at 3d. per			
scalp .....	136	15	0
10,933 hare, at 4d. per scalp	182	4	4
8,785 " at 3d. " .....	109	16	3
146 native dogs at 20s.			
per scalp .....	146	0	0
28 native pups, at 10s.			
per scalp .....	14	0	0
3,637 rabbits, at 4½d. per			
scalp .....	68	3	9
		930	18 4
Secretary's salary .....	80	0	0
Printing and advertising .....	17	13	0
Stationery .....	1	5	5
Receiver and clerk .....	21	0	0
Directors expenses .....	22	0	0
Rent of office .....	15	0	0
Auditors' fees .....	4	4	0
Legal expenses .....	3	3	0
Incidental expenses .....	7	2	11
Postage stamps .....	16	7	7
Exchange on cheques .....	0	8	0
Expenses—Conference .....	2	15	0
Balance in bank .....	541	0	1
	£	1,662	17 4
To Balance Commercial Bank .....	£	541	0 1

Dated at Mudgee, this 20th day January, 1888.

JAMES D. COX, Treasurer.  
A. H. COX, Chairman.

We hereby certify that all the books and vouchers in the possession of the Board have been duly audited by us, and found to be correct.

JOHN J. PHILLIPS, }  
W. KELLETT, } Auditors.



STATEMENT of Revenue and Expenditure of the Pastures and Stock Protection Board at Narrabri, for the Year ending 31st December, 1887.

Dr.		Cr.	
		£ s. d.	£ s. d.
To assessment levied on stock during half year—			
On 6,730 large stock, at 25s. per 100	£ s. d. 84 2 6		
On 395,591 sheep, at 4s. 2d. per 100	824 2 11		
	908 5 5		
Less arrears of assessment, 1886	130 7 11		
	777 17 6		
Government subsidy	682 3 8		
Amount of assessment overpaid	0 9 11		
Arrears of assessment, 1886	17 13 4		
	£ 1,478 4 5		
		£ s. d.	£ s. d.
			646 5 0
			7 19 0
			139 11 0
			68 0 0
			215 10 0
			26 5 8
			180 4 4
			37 10 0
			10 0 0
			5 0 0
			40 0 0
			15 0 9
			0 10 0
			4 0 0
			7 17 5
			522 16 11
			£ 1,478 4 5

Dated at Narrabri, this 18th day of January, 1888.

We hereby certify that all the books and vouchers in the possession of the Board have been duly audited by us, and found to be correct.

A. BUCHANAN, Treasurer.  
WM. PIRIE, Chairman.

CHAS. J. DRETT, } Auditors.  
T. A. STIRTON, }

STATEMENT of Revenue and Expenditure of the Pastures and Stock Protection Board at Picton, for the Half-year ending 30th June, 1887.

Dr.		Cr.	
		£ s. d.	£ s. d.
Deposit receipt and interest	£ s. d. 210 0 0		
		£ s. d.	£ s. d.
			42 14 7
			0 19 6
			40 0 4
			29 0 0
			1 0 0
			70 19 10
			25 0 0
			1 16 0
			0 8 6
			69 1 1
			£ 210 0 0

Dated at Picton, this 20th day of September, 1887.

We hereby certify that all the books and vouchers in the possession of the Board have been duly audited by us, and found to be correct.

W. R. ANTILL, Treasurer.  
J. M. ANTILL, Chairman.

SEP. SKELLET, } Auditors.  
GEO. BRADBURY, }

STATEMENT of Revenue and Expenditure of the Pastures and Stock Protection Board at Picton, for the Half-year ending 31st December, 1887.

Dr.		Cr.	
	£ s. d.		£ s. d.
To amount of balance at Commercial Bank .....	69 1 1	By certificates issued for scalps—	
Assessment levied on stock during half-year—		22 kangaroo, at 2d. per scalp .....	0 3 8
On 16,998 large stock, at 25s. per 100 .....	£212 9 6	213 wallaby, at 4d. per scalp .....	3 11 0
On 5,270 sheep, at 4s. 2d. per 100 .....	10 19 7	119 wallaby, at 2d. per scalp .....	0 19 10
	223 9 1	32 native dogs, at 20s. per scalp .....	32 0 0
Less arrears of assessment .....	34 13 4	12 native dogs, at 5s. per scalp .....	3 0 0
	188 15 9		39 14 6
		Secretary's salary .....	25 0 0
		Printing .....	4 9 6
		Stationery .....	2 3 4
		Stamps .....	3 0 0
		Expenses of Conference re Stock and Pastures Bill .....	2 5 0
		Cheque book .....	0 4 2
		Balance, as per Bank-book .....	181 0 4
	£ 257 16 10		£ 257 16 10

Dated at Picton, this 29th day of February, 1888.

W. R. ANTILL, Treasurer.  
J. M. ANTILL, Chairman.

We hereby certify that all the books and vouchers in the possession of the Board have been duly audited by us, and found to be correct.

GEO. BRADBURY, }  
ADOLPHUS GRAHAM, } Auditors.

STATEMENT of Revenue and Expenditure of the Pastures and Stock Protection Board at Pilliga, for the Half-year ending 30th June, 1887.

Dr.		Cr.	
	£ s. d.		£ s. d.
To amount of balance, Bank of Australasia .....	449 1 11	By certificates issued for scalps—	
Assessment levied on stock during half-year—		1,043 kangaroo, at 6d. per scalp .....	26 1 6
On 7,996 large stock, at 8s. 4d. per 100 .....	33 6 4	939 wallaby, at 6d. per scalp .....	23 9 6
On 246,428 sheep, at 1s. 4d. per 100 .....	128 6 11½	19 " at 3d. " .....	0 4 9
	161 13 3½	22 dogs, at 20s. " .....	22 0 0
Government subsidy for half-year ending 31st December, 1886 .....	27 17 6		71 15 9
Moneys paid in excess .....	0 0 6½	Secretary's salary, half-year ending 31st March, 1887 .....	39 0 0
Arrears, 1886, paid by Ryan and Bennett .....	4 13 3	Gazette account and exchange .....	4 8 0
Fixed deposit, Bank of Australasia .....	500 0 0	Stationery and stamps .....	5 3 4
	£ 1,143 6 6	Auditors' fees .....	2 2 0
		Directors' expenses, from January, 1884, to February, 1887 .....	37 0 0
		Expenses, Conference, Sydney .....	2 5 0
		Fixed deposit .....	500 0 0
		Cash in Secretary's hands .....	0 11 10
		Balance as per Bank-book .....	£503 14 11
		Less unrepresented cheques .....	22 14 4
			481 0 7
	£ 1,143 6 6		£ 1,143 6 6

J. C. CAMPBELL, Treasurer.  
C. A. LEVY, Chairman.

We hereby certify that all the books and vouchers in the possession of the Board have been duly audited by us, and found correct.

E. V. BLACKWELL, }  
A. J. KNIGHT, } Auditors.

Dated at Pilliga, this 28th day of July, 1887.

STATEMENT of Revenue and Expenditure of the Pastures and Stock Protection Board Pilliga, for the Half-year ending 31st December, 1887.

Dr.		Cr.	
	£ s. d.	£ s. d.	£ s. d.
To amount of balance, Bank of Australasia.....	481 0 7		
Assessment levied on stock during half-year—			
On 1,053 large stock, at 8s. 4d. per 100 .....	4 7 9		
On 50,367 sheep, at 1s. 4d. per 100 .....	26 4 7½		
Moneys paid in excess of assessment .....	0 0 2½		
Government subsidy for half-year ending 30th June .....	33 5 1		
Government subsidy, additional for 1886 ..	162 4 8		
Fixed deposit, Bank of Australasia .....	500 0 0		
Interest on fixed deposit .....	30 0 0		
Cash in Secretary's hands.....	0 11 10		
	£ 1,237 14 9		
		By certificates issued for scalps—	
		2,464 kangaroo, at 6d. per scalp .....	61 12 0
		967 wallaby, at 6d. per scalp .....	24 3 6
		28 dogs, at 20s. per scalp .....	28 0 0
		Secretary's salary for quarter ending 30th June .....	19 10 0
		Printing notices, <i>Walgett News</i> .....	4 0 0
		Gazette account, with exchange .....	1 6 0
		Cash in Secretary's hands .....	0 9 3
		Fixed deposit, Bank of Australasia .....	500 0 0
		Balance as per Bank-book ... £641 1 6	
		Less unrepresented cheques ... 42 7 6	
			598 14 0
			£ 1,237 14 9

Dated at Pilliga, this 5th day of January, 1888.

We hereby certify that all the books and vouchers in the possession of the Board have been duly audited by us, and found to be correct.

J. C. CAMPBELL, Treasurer.  
C. A. LONG, Chairman.

E. V. BLACKWELL, } Auditors.  
A. J. KNIGHT, }

STATEMENT of Revenue and Expenditure of the Pastures and Stock Protection Board at Port Stephens, for the Year ending 31st December, 1887.

Dr.		Cr.	
	£ s. d.	£ s. d.	£ s. d.
To amount of balance at Bank, 31st December, 1886 .....	21 16 4		
Assessment levied on stock during year—			
On 47,879 large stock, at 8s. 4d. per 100 .....	199 9 11		
On 963 sheep, at 1s. 6d. per 100 .....	0 14 5½		
Less arrears of assessment .....	200 4 4½		
	11 13 0½		
Government subsidy .....	32 13 10		
31st Dec., 1886—			
Cash and stamps on hand .....	4 3 4		
Cash in hand, various receivers.....	60 6 0		
Arrears for 1886 paid.....	2 18 1		
Police fines .....	9 8 0		
Cash due receivers .....	5 17 9		
Cheque not presented.....	1 10 0		
	£ 327 4 11		
		By certificates issued for scalps—	
		326 padamelon, at 3d. per scalp ..	4 1 6
		334 native dogs, at 5s.     " ..	83 10 0
		106     "     at 10s.     " ..	53 0 0
			140 11 6
		Bank charge on subsidy .....	0 0 2
		Secretary's salary .....	30 0 0
		Printing and advertising .....	6 1 6
		Board's share of Conference expenses .....	2 5 0
		Delegates' expenses at Conference .....	10 0 0
		Auditors' fees.....	2 2 0
		Director's mileage .....	9 17 0
		Cheque-book .....	0 5 0
		Exchange on cheques .....	0 12 6
		Discount on stamps .....	3 6 6
		Cash in hand, various receivers .....	61 6 9
		Cash and stamps on hand.....	19 9 9
		Postage stamps, &c. ....	8 8 9
		Balance, as per Bank-book .....	32 18 6
			£ 327 4 11

Dated at Copeland North, this 14th day of February, 1888.

We hereby certify that all the books and vouchers in the possession of the Board have been duly audited by us, and found to be correct.

JOHN HIGGINS, Treasurer.  
A. T. LAURIE, Chairman.

J. R. HIGGINS, } Auditors.  
ALEXANDER SHAW, }

STATEMENT of Revenue and Expenditure of the Pastures and Stock Protection Board at Port Macquarie,  
for the Year ending 31st December, 1887.

DE.		CR.	
		£ s. d.	£ s. d.
To amount of balance at .....	£ s. d.	13 14 11	
Assessment levied on stock during half-year—			
On large stock, at 8s. 4d. per 100.....	171 14 8		
On sheep, at 4s. 2d. per 100 .....	1 7 1		
	173 1 9		
Less arrears of assessment.....	34 7 1	138 14 8	
Fines of Court.....		1 9 0	
		153 18 7	
			£ s. d.
			75 10 9
			36 0 0
			8 8 0
			3 4 3
			8 6 0
			0 2 1
			21 17 6
			153 8 7

Dated at Kempsey, this 25th day of June, 1888.

We hereby certify that all the books and vouchers in the possession of the Board have been duly audited by us, and found to be correct.

JAS. B. M'IVER, Treasurer.  
W. D. SCOTT, Chairman.

WILTON C. EDDES, } Auditors.  
J. DENNIS, }

STATEMENT of Revenue and Expenditure of the Pastures and Stock Protection Board at Queanbeyan, for  
the Year ending 31st December, 1887.

DE.		CR.	
		£ s. d.	£ s. d.
To balance as per current a/c .....	£ s. d.		
Do. fixed deposit.....	1,000 0 0		
Assessment collected .....	227 1 2	By 2,020 kangaroo scalps, at 6d.	50 10 0
Government subsidy .....	356 19 11	10,792 bush wallaby, at 4d.	179 17 4
Interest on fixed deposit .....	50 0 0	7,051 rock " at 1½d.	44 1 4½
		182 native dogs, at £1 10s.	273 0 0
		214 eagle hawks at 7s 6d.....	80 0 0
			627 13 8½
		Secretary's salary .....	43 15 0
		Advertising .....	0 15 0
		Stationery and stamps .....	3 13 6
		Legal expenses .....	2 2 0
		Audit fees .....	2 2 0
		Exch. on cheque.....	0 2 0
		Balance as per current a/c ...	547 19 7
		Do. fixed deposit... 1,000 0 0	
			1,547 19 7
	£ 2,228 2 9		£ 2,228 2 9

Queanbeyan, this 27th day of January, 1888.

We hereby certify that all the books and vouchers in the possession of the Board have been duly audited by us, and found correct.

W. FORSTER RUTLEDGE, Treasurer.  
F. CAMPBELL, Chairman.

J. G. HARRIS, } Auditors  
F. WILLIAMS, }

STATEMENT of Revenue and Expenditure of the Pastures and Stock Protection Board at Singleton, for the Year ending 31st December, 1887.

Dr.		Cr.	
£	s. d.	£	s. d.
To amount of balance at Bank ...	288 3 11	By certificates issued for scalps—	
Assessment levied on stock during year—		5,442 kangaroo, at 6d. per scalp	136 1 0
56,516 large stock, at 12s. 6d. per 100 .....	353 4 6	971 wallaby, at 1d. „	4 0 11
92,922 sheep at 2s. 1d. per 100 .....	96 15 10	70 native dogs, at 20s. ....	} 192 10 0
	450 0 4	142 „ at 15s. ....	
Less arrears of assessment ...	30 9 4	8 native pups, at 10s. ....	
		16 „ at 7s. 6d ...	
	419 11 0	Secretary's salary .....	332 11 11
Government subsidy .....	365 4 11	Printing and advertising .....	70 0 0
Arrears of assessment for 1886 paid 1887 ...	11 11 10	Stationery and stamps .....	12 9 0
		Directors' expenses .....	7 0 8
		Auditors' fees for 1886 .....	24 0 0
		Office stamp .....	3 3 0
		6,000 scalps at 15s. per 1,000 allowed receivers	0 16 6
		Cheque-books.....	4 10 0
		Sundries (private bags).....	0 8 4
		Balance, as per Bank-book ...	1 8 4
		Less cheques unrepresented...	£632 19 6
			4 15 7
			628 3 11
	£ 1,084 11 8		£ 1,084 11 8

Dated at Singleton, this 24th day of January, 1888.

H. ROURKIE, Treasurer.  
JOHN ALFORD, Chairman.

I hereby certify that all the books and vouchers in the possession of the Board have been duly audited by me, and found to be correct.

J. F. KEY, Auditor.

STATEMENT of Revenue and Expenditure of the Pastures and Stock Protection Board at Sydney, for the Year ending 31st December, 1887.

Dr.		Cr.	
£	s. d.	£	s. d.
To amount of balance at 1st January, 1887 .....	187 5 0	By certificates unpaid 31st December, 1886.....	4 8 6
Assessment levied on Stock during half-year—		Certificates issued for scalps—	
On 19,745 large stock at 25s. per 100 .....	246 16 3	5,924 hares, at 1s. 6d. per scalp .....	444 6 0
On 11,006 sheep, at 4s. 2d. per 100 .....	22 18 7	11 native dogs at 20s. per scalp.....	11 0 0
	269 14 10		455 6 0
Less arrears of assessment ...	84 6 3	Less certificates not presented	68 4 0
	185 8 7	Secretary's salary .....	387 2 0
Government subsidy .....	114 8 1	Printing .....	30 0 0
Contributions by Boards, Conference .....	83 7 6	Advertising.....	3 13 4
Arrears of assessment, 1885 .....	0 14 3	Stationery .....	2 10 6
Do do 1886 .....	8 0 3	Postage .....	0 6 0
		Director's expenses .....	15 0 0
		Auditors' fees .....	1 2 0
		Conference expenses .....	4 4 0
		Exchange .....	49 2 8
		Balance .....	0 14 0
	£ 579 4 5		81 1 5
			£ 579 4 5

Dated at Sydney, this 20th day of March, 1888.

DUNCAN McMASTER, Treasurer.  
J. DE V. LAMB, Chairman.

I hereby certify that all the books and vouchers in the possession of the Board have been duly audited by me, and found to be correct.

GEO. HAMILTON, Auditor.

STATEMENT of Revenue and Expenditure of the Pastures and Stock Protection Board at Tamworth, for the Year ending 31st December, 1887.

Dr.		Cr.	
£ s. d.	£ s. d.	£ s. d.	£ s. d.
To amount of balance at 31st December, 1886	867 6 10	By certificates issued for scalps—	
Assessment levied on stock during year—		7,609 kangaroo at 2d. per scalp	63 8 2
On 53,587 large stock, at 16s. 8d. per 100	446 11 2	42,394 " at 4d. "	706 11 4
On 1,625,103 sheep, at 2s. 1d. per 100	1,692 16 3	61 " at 6d. "	1 10 6
	£2,139 7 5	143 " at 9d. "	5 7 3
Less arrears of assessment	2 17 2	15,095 wallaby at 2d. "	125 15 10
Government subsidy	1,390 2 2	67 " at 3d. "	0 16 9
Outstanding cheques at 31st December, 1887	513 19 5	241 native dogs at 20s. per scalp	241 0 0
	£ 4,907 18 8	2 native dogs at 30s. per scalp	3 0 0
		Secretary's salary	125 0 0
		Clerical assistance	10 5 0
		Printing	0 8 6
		Advertising	17 8 6
		Stationery	7 6 11
		Auditors' fees	8 8 0
		Travelling expenses	4 0 0
		Postages	20 0 0
		Office rent	20 0 0
		Expenses, Conference at Sydney	11 5 0
		Cheque-book	4 0 0
		Cheques outstanding at 31st December, 1886	121 13 11
		Balances as per Bank-book	3,410 13 0
			£ 4,907 18 8

Dated at Tamworth, this 31st day of December, 1887.

GEO. B. GIDLEY KING, Treasurer.  
ALEX. RODGERS, Chairman.

We hereby certify that all the books and vouchers in the possession of the Board have been duly audited by us, and found to be correct.

W. J. BOYDELL, }  
E. G. MARKHAM, } Auditors.

STATEMENT of Revenue and Expenditure of the Pastures and Stock Protection Board at Tenterfield, for the Year ending 31st December, 1887.

Dr.		Cr.	
£ s. d.	£ s. d.	£ s. d.	£ s. d.
To amount of balance at A.J.S. Bank	4 18 0	By unrepresented certificates at 31st December, 1886	452 17 11
Assessment levied on stock during year—		Certificates issued for scalps—	
64,984 large stock, at 25s. per 100	812 6 0	26,508 kangaroo, at 4d. per scalp	662 14 0
171,948 sheep, at 4s. 2d. per 100	358 4 6	1,151 kangaroo, at 8d. per scalp	38 9 4
	1,170 10 6	5,168 wallaby (s), at 4d. per scalp	86 2 8
Less arrears of assessment	3 11 1	14,551 wallaby (r), at 3d. per scalp	181 17 9
Government subsidy, on account of 1886	357 14 6	1 native dog, at 10s. per scalp	0 10 0
Government subsidy, on account of half-year ending 30th June	290 3 10	368 native dogs, at 5s. per scalp	92 0 0
Bonus, on account of 1886	400 0 0		1,514 11 8
Assessment, on account of 1886	0 4 3	Less certificates not presented	33 18 0
Police Court fines	0 4 0	Secretary's salary	52 0 0
Amount paid in excess of assessments	0 1 1	Director's mileage	15 9 0
Scalp certificate drawn in error	0 0 4	Share of expenses of Conference in Sydney	2 5 0
Outstanding cheques at 31st December, 1887	9 5 2	Advertising	9 5 6
	£ 2,229 10 7	Delegates' expenses attending Conference	16 17 6
		Stationery	3 0 0
		Auditors' fees	6 6 0
		Postage stamps	5 0 0
		J. Dwyer, scalp certificate, short paid	1 0 0
		100 stamped cheques	0 8 4
		Duty stamps	0 0 8
		Balance, as per Bank-book	637 4 11
			£ 2,229 10 7

Dated at Tenterfield, this 13th day of February, 1888.

ALFRED GREENUP, Treasurer.  
AUGUSTUS R. FRASER, Chairman.

We hereby certify that all the books and vouchers in the possession of the Board have been duly audited by us, and found to be correct.

H. E. PHILLIPS, }  
G. E. SPARK, } Auditors.

STATEMENT of Revenue and Expenditure of the Pastures and Stock Protection Board at Urana, for the Year ending 31st December, 1887.

DR.		CR.	
	£ s. d.		£ s. d.
To amount of balance at 31st December, 1887...	174 0 2	By certificates issued for scalps—	
Assessment levied on stock during year—		Kangaroo, at 1s. per scalp... £174 2 0	
On large stock..... £10 8 3		Native dogs, at 20s. .... 1 0 0	175 2 0
On sheep ..... 44 13 0	55 1 3	Secretary's salary.....	50 0 0
Less arrears of assessment ..... 8 0 1	47 1 2	Inspector's „ .....	120 0 0
Do paid to 30th June, 1887 .....	15 4 9	Printing .....	8 17 0
Interest on fixed deposits .....	45 0 0	Office rent .....	13 0 0
Fixed deposit receipt paid.....	200 0 0	Stationery, stamps, £6 10s., and cheque book, 16s. 8d. ....	7 6 8
Amount at fixed deposit, 31/12/87 .....	600 0 0	Auditing fees .....	2 2 0
		Delegates' expenses to Conference.....	11 1 6
		Burning scalps.....	3 16 0
		Interest on overdraft, 4s. 5d., and exchange, 3s. 6d. ....	0 7 11
		Amount at fixed deposit, 31/12/87 .....	600 0 0
		Cash in Secretary's hands, 31/12/87 .....	16 18 10
		Balance, as per Bank-book, 31/12/87 ..	72 14 2
	£ 1,081 6 1		£ 1,081 6 1

Dated at Urana this 23rd day of March, 1888.

SEDG. ORMEROD, Treasurer.  
CHAS. BELL, Chairman.

We hereby certify that all the books and vouchers in the possession of the Board have been duly audited by us, and found to be correct.

A. J. MURRAY, }  
A. B. MORFITT, } Auditors.

STATEMENT of Revenue and Expenditure of the Pastures and Stock Protection Board at Walgett, for the Half-year ending 30th June, 1887.

DR.		CR.	
	£ s. d.		£ s. d.
To amount of balance at 31st December, 1886 .....	484 16 8	By certificates paid for scalps—	
Assessment levied on stock during half-year—		373 kangaroo, at 1s. per scalp 18 13 0	
On 20,364 large stock, at 3s. 6d. per 100 .....	45 14 6	95 pigs, at 1s..... 4 15 0	23 8 0
On 1,005,974 sheep, at 6d. per 100.....	284 9 6	Secretary's salary.....	30 0 0
Less arrears of assessment .. 330 4 0	224 5 5	Stationery, Secretary's allowance .....	2 10 0
Interest on fixed deposit .....	25 0 0	Secretary's allowance for forage .....	20 0 0
Arrears for year 1885 paid.....	0 19 0	Treasurer's salary.....	10 0 0
Do do 1886 do .....	0 3 6	Interest on overdrawn current account .....	0 15 4
Do do 1886 do .....	0 7 6	Balance as per Bank-book .....	648 18 9
Amount paid in excess .....	0 7 6		
	£ 735 12 1		£ 735 12 1

Dated at Walgett, this 9th day of September, 1887.

F. WILLIAMS, Treasurer.  
RICHARD W. CHASE, Chairman.

We hereby certify that all the books and vouchers in the possession of the Board have been duly audited by us, and found to be correct.

A. F. V. CASWELL, }  
ERNEST R. SHONE, } Auditors.

STATEMENT of Revenue and Expenditure of the Pastures and Stock Protection Board at Walgett, for the Half-year ending 31st December, 1887.

Dr.			Cr.		
	£	s. d.		£	s. d.
To amount of balance at 30th June, 1887 .....	648	18 9	By certificates paid for scalps—		
Government subsidy .....	28	4 3	109 kangaroo, at 1s. per scalp .....	5	9 0
Arrears of assessment received since 30th June, 1887.....	77	19 0	191 pigs, at 1s. ....	9	11 0
			11 native dogs, at 5s. ....	2	15 0
			1 padamelon, at 6d. ....	0	0 6
			Secretary's salary .....	30	0 0
			Advertising.....	13	0 0
			Stationery, Secretary's allowance.....	4	3 10
			Secretary's allowance for forage .....	20	0 0
			Treasurer's salary .....	8	6 8
			Secretary's allowance, office furniture.....	10	0 0
			Balance as per Bank-book .....	651	16 0
	£	755 2 0		£	755 2 0

Dated at Walgett, this 27th day of February, 1888.

W. J. SKINNER, Treasurer.  
RICHARD W. CHASE, Chairman.

We hereby certify that all the books and vouchers in the possession of the Board have been duly audited by us, and found to be correct.

A. F. V. CASWELL, } Auditors.  
ERNEST R. SHONE, }

STATEMENT of Revenue and Expenditure of the Pastures and Stock Protection Board at Warialda, for the year ending 31st December, 1887.

Dr.			Cr.		
	£	s. d.		£	s. d.
To amount of balance as per statement, 31st December, 1886.....	706	4 6	By scalps .....	3,442	14 4
Assessment on stock .....	2,241	3 10	Secretary's salary .....	75	0 0
Government subsidy, balance due from 1886	32	7 0	Printing, advertising, and certificate books...	10	3 3
Do do for 1887...	1,100	4 9	Stationery, stamps, telegrams, &c. ....	11	11 7
Arrears of assessment from 1886.....	9	4 9	Exchange, 5s ; interest on overdraft, 11s. 8d.	0	16 8
Interest, fixed deposit .....	11	5 0	Auditors' fees, £4 4s.; Directors' fees, £3 6s.	12	10 0
			Board's share of Conference expenses.....	2	5 0
			Delegate's expenses to Conference .....	22	0 0
			Refund (W. J. Dangar & Co.) .....	6	9 2
			Office rent (Inspector of Stock) .....	3	15 0
			Firewood allowances.....	0	15 0
			Balance, as per Bank-book .....	563	9 10
	£	4,151 9 10		£	4,151 9 10

Dated at Warialda, this 10th day of January, 1888.

A. F. GREIG, Treasurer.

We hereby certify that all the books and vouchers in the possession of the Board have been duly audited by us, and found to be correct.

W. H. NEWMAN, } Auditors.  
FRED. FUTTER, }

STATEMENT of Revenue and Expenditure of the Pastures and Stock Protection Board at Wagga Wagga,  
for the Half-year ending 2nd August, 1887.

Dr.		Cr.	
	£ s. d.		£ s. d.
To less of assessment .....	157 2 11	By balance due of A.J.S. Bank .....	443 15 8
Fixed deposit receipt and interest .....	2,120 0 0	Certificates issued for scrips .....	394 11 0
Balance on deposit .....	512 10 0	Secretary's salary .....	50 0 0
		Advertising, £1 14s. 6d.; Gazette, 6s.....	5 0 6
		Stationery .....	5 6 9
		Rent of office .....	26 0 0
		Cheque book .....	0 16 8
		Auditors fees .....	3 3 0
		Exchange .....	0 3 0
		Interest .....	7 8 10
		Postage stamps .....	10 0 0
		Delegate and expenses .....	22 5 0
		Expenses .....	1 8 4
		Stamps on hand.....	35 4 3
		Fixed deposit.....	1,000 0 0
		Balance, as per Bank-book.....	784 9 11
	£ 2,789 12 11		£ 2,789 12 11

Dated at Wagga Wagga this 11th day of August, 1887.

We hereby certify that all the books and vouchers in the possession of the Board have been duly audited by us, and found to be correct.

THOS. HAMMOND, Treasurer.  
JAMES ROBERTSON, Chairman.

C. R. HEATH, }  
E. F. WARD, } Auditors.

STATEMENT of Revenue and Expenditure of the Pastures and Stock Protection Board at Wagga Wagga,  
for the Half-year ending 31st December, 1887.

Dr.		Cr.	
	£ s. d.		£ s. d.
To amount of balance at .....	784 9 11	By certificates issued for scrips .....	295 14 0
Less arrears of assessment collected .....	10 0 2	Secretary's salary .....	25 0 0
Cash in hand .....	35 4 3	Printing .....	1 14 6
Fixed deposit .....	1,000 0 0	Stationery .....	1 4 3
		Postage stamps .....	15 0 0
		Auditors' fees.....	3 3 0
		Rent of office .....	26 0 0
		Interest .....	0 18 0
		Petty expenses .....	0 9 4
		Fixed deposit.....	1,000 0 0
		Cash in hand.....	£20 4 3
		Balance, as per Bank-book ...	440 16 0
	£ 1,830 3 4		461 0 3
			£ 1,830 3 4

We hereby certify that all the books and vouchers in the possession of the Board have been duly audited by us, and found to be correct.

THOS. HAMMOND, Treasurer.  
JAMES ROBERTSON, Chairman.

C. R. HEATH, }  
E. F. WARD, } Auditors.

STATEMENT of Revenue and Expenditure of the Pastures and Stock Protection Board at Wentworth, for  
the Year ending 31st December, 1887.

Dr.		Cr.	
	£ s. d.		£ s. d.
To amount of balance at A.J.S. Bank .....	535 2 8	By certificates issued for scalps—	
Assessment levied on stock during year—		206 kangaroo, at 1s. per scalp	10 6 0
On sheep at per 100 .....	1,078 6 10	359 native dogs, at various	
Arrears of assessment, 1886 .....	9 6 5	prices .....	511 10 0
Government subsidy .....	852 16 4		521 16 0
Fixed deposit returned with interest .....	503 15 0	Secretary's salary .....	65 5 0
Outstanding cheques .....	58 0 0	Printing, &c. ....	4 7 0
		Auditor's .....	8 8 0
		Cheques outstanding end of 1886 .....	98 0 0
		Miscellaneous .....	9 1 2
		Fixed deposit.....	1,000 0 0
		Legal expenses .....	10 10 0
		Director's expenses .....	124 10 0
		Delegates to Sydney .....	84 2 9
		Expense cheque book .....	1 17 2
		Cash in hand .....	5 13 9
		Balance, as per Bank-book .....	1,103 16 5
	£ 3,037 7 3		£ 3,037 7 3

Dated at Wentworth, this 21st day of April, 1888.

We hereby certify that all the books and vouchers in the possession of the Board have been duly audited by us, and found to be correct.

D. H. CUDMORE, Treasurer.  
ROBT. TULLY, Chairman.

J. C. GILLIGAN, }  
C. M'IVER, } Auditors.

STATEMENT

STATEMENT of Revenue and Expenditure of the Pastures and Stock Protection Board at Windsor, for the Year ending 31st December, 1887.

DR.				CR.			
		£ s. d.	£ s. d.				
To amount of balance at Bank				Certificates issued for scalps—			
N. S. Wales, Richmond ...		23	3 3	3 kangaroo, at 1s. per scalp	0 3 0		
Assessment levied on stock during half-year—				536 wallaby, at 1s. per scalp	26 16 0		
On 17,474 large stock, at 25s. per 100	218	8 6		8 native dogs, at 5s. per scalp	2 0 0		
On 4,867 sheep at 4s. 2d per 100	10	2 9½		2,436 hares, at 1s. per scalp	121 16 0		
					150 15 0		
		228	11 3½	Less certificates not presented	1 9 0		
Less arrears—Discount on sale of stamps, £84 13s. at 5%	4	4 0		Secretary's salary, 12 months to December 31st, 1887	100 0 0		
			224	7 3½	Exchange on cheque	0 1 1	
Government subsidy			75	8 4	Advertising	9 19 4	
J. Popp's moiety of Municipal rates			0	9 0	Stationery	0 9 6½	
					Municipal rates on office	0 18 0	
					Rent on office, 12 months	7 10 0	
					D. Mitchell, office board	0 5 0	
					Postage stamps £14 15s. 10d. (on hand £1)	14 15 10	
					Cheque-books	0 16 8	
					Balance as per Bank-book	39 6 5	
			£	323	7 10½	£	323 7 10½

Dated at Richmond, this 30th day of January, 1888.

We hereby certify that all the books and vouchers in the possession of the Board have been duly audited by us, and found to be correct.

W. H. BOWMAN, Treasurer.  
W. LAMROCK, Chairman.

CHAS. CHESTER, } Auditors.  
WM. FITZGERALD, }

STATEMENT of Revenue and Expenditure of the Pastures and Stock Protection Board at Wilcannia, for the Half-year ending 30th June, 1887.

DR.				CR.			
		£ s. d.	£ s. d.	£ s. d.	£ s. d.		
To amount of balance at Bank		361	11 7	By certificates issued for scalps—			
Arrears of assessment 1886, paid 1887		47	10 6	14,438 kangaroo, at 1s. per scalp	721 18 0		
Cash in hands of Secretary since banked		9	2 2	247 wallaby, at 6d. per scalp	6 3 6		
Interest		200	0 0	152 native dogs, at 10s. per scalp	76 0 0		
Fixed deposit R.		5,000	0 0	338 emu, at 6d. per scalp	20 18 0		
Balance as per Bank-book	279	14 1			824 19 6		
Add unrepresented cheques	50	7 6					
			330	1 7	Secretary's salary	50 0 0	
					Advertising	9 12 0	
					Stationery	0 7 6	
					Rent	17 6 8	
					Director's expenses for 1885 and 1886	38 0 0	
					Audit fees	1 1 0	
					Postage	4 19 0	
					Interest and exchange	2 0 2	
						123 6 4	
					Fixed deposits	5,000 0 0	
			£	5,948	5 10	£	5,948 5 10

Dated at Wilcannia, this 11th day of May, 1888.

ARTHUR J. JOHNSTON, Treasurer.  
ARTHUR J. JOHNSTON, Chairman.

We hereby certify that all the books and vouchers in the possession of the Board have been duly audited by us, and found to be correct.

J. FRANK FERGUSON, } Auditors.  
F. A. TEWSLEY, }

STATEMENT of Revenue and Expenditure of the Pastures and Stock Protection Board at Wilcannia, for the Half-year ending 31st December, 1887.

DR.		CR.	
	£ s. d.	£ s. d.	
To assessment levied on stock during half-year—			By balance due Bank .....
On 22,231 large stock, at 4s. 2d. per 100.....	46 6 3½		330 1 7
On 2,359,900 sheep, at 1d. per 100 .....	98 6 7		Certificates issued for scalps—
On 1,597,860 acres, at ¼d. per 100 .....	16 12 10½		8,964 kangaroo, at 1s. per scalp.....
	161 5 9½		448 4 0
Less arrears of assessment .....	28 14 2½		1,460 wallaby, at 6d. per scalp.....
			36 10 0
Arrears of assessment, 1886, paid.....		2 16 0	74 native dogs, at 10s. per scalp.....
Withdrawn from F.D., and placed to current account .....	1,000 0 0		37 0 0
Interest on fixed deposits .....	125 0 0		3,353 emu, at 6d. per scalp..
Exchange added to cheque .....	0 4 3		83 16 6
Fixed deposit R.....	4,000 0 0		Secretary's salary .....
			75 0 0
	£ 5,260 11 9½		Advertising.....
			1 16 0
			Rent .....
			15 11 0
			Furniture .....
			8 15 0
			Director's expenses.....
			21 0 0
			Expenses re Conference .....
			29 1 3
			Audit fees .....
			1 1 0
			Postage, &c.....
			3 17 6
			Interest and exchange .....
			4 19 6
			Small sums in Secretary's hands
			1 4 0½
			162 5 3½
			Fixed deposit .....
			4,000 0 0
			Balance, as per Bank-book.....
			336 16 9
			Less unrepresented cheques.....
			174 2 4
			162 14 5
			£ 5,260 11 9½

Dated at Wilcannia, this 11th day of May, 1888.

ARTHUR I. JOHNSTON, Treasurer.  
ARTHUR I. JOHNSTON, Chairman.

We hereby certify that all the books and vouchers in the possession of the Board have been duly audited by us, and found to be correct.

J. FRANK FERGUSON, }  
E. A. TWESELEY, } Auditors.

STATEMENT of Revenue and Expenditure of the Pastures and Stock Protection Board at Yass, for the Year ending 31st December, 1887.

DR.		CR.	
	£ s. d.	£ s. d.	
To amount of balance at 1st January, 1887 .....		358 14 9	By certificates issued for scalps—
Assessment levied on stock during half-year—			339 kangaroo, at 6d. per scalp .....
On 12,548 large stock, at 1s. 4d. per 100 .....	52 5 3		8 9 6
On 359,073 sheep, at 6d. per 1,000 or part of .....	92 11 6		2,117 wallaby, at 4d. per scalp
	144 16 9		35 5 8
Less arrears of assessment .....	13 11 4		10 native dogs, at 30s. „
			15 0 0
Government subsidy .....		49 5 9	Secretary's salary .....
			37 10 0
			Printing .....
			2 5 0
			Advertising .....
			2 7 7
			Stationery and stamps .....
			2 11 6
			Office rent .....
			3 5 0
			Cleaning office.....
			2 10 0
			Interest on overdraft, 1884, not charged at date .....
			1 4 7
			Balance, as per Bank-book.....
			428 17 1
			£ 539 5 11

Dated at Yass, this 7th day of February, 1888.

A. MCALLUM, Treasurer.  
A. CAMPBELL, Chairman.

We hereby certify that all the books and vouchers in the possession of the Board have been duly audited by us, and found to be correct.

J. C. YEO, }  
E. MOLESWORTH, } Auditors.





1887-8.

LEGISLATIVE ASSEMBLY.

NEW SOUTH WALES.

## PASTURES AND STOCK PROTECTION BOARD.

(RETURN SHOWING BALANCE-SHEET OF—YEAR ENDING 31 DECEMBER, 1887.)

*Ordered by the Legislative Assembly to be printed, 23 July, 1888.*

FURTHER RETURN to an *Order* made by the Honorable the Legislative Assembly of New South Wales, dated the 22nd March, 1888, That there be laid upon the Table of this House,—

“Copies of the Balance-sheets of each of the Pastures and Stock Protection Boards for the year ending 31st December, 1887.”

*(Mr. J. P. Abbott.)*

## BALANCE-SHEET.

STATEMENT of Revenue and Expenditure of the Pastures and Stock Protection Board at Brewarrina, for the Year ending 31st December, 1887.

DR.			CR.
Assessment levied on stock during half-year:—	£	s. d.	
On large stock, at 10s. per 100...	84	0 0	
On sheep, at 10s. per 1,000 ...	452	10 0	
	536	10 0	
Less arrears of assessment .....	3	16 6	
Government subsidy .....	126	6 6	
	£	659 0 0	
			By certificates issued for scalps:—
			Kangaroo, at 1s. per scalp.....
			Wallaby, at .. .. .
			Native dogs, at 10s. .. .. .
			Pigs, at 1s. .. .. .
			Secretary's salary .. .. .
			Printing .. .. .
			Advertising .. .. .
			Stationery .. .. .
			Interest .. .. .
			Dr. balance at 1/1/87 .. .. .
			Balance, as per Bank-book at 1/1/88.....
			£
			659 0 0

M. McDONALD, Treasurer.

Dated at Brewarrina, this 5th day of June, 1888.

We hereby certify that all the books and vouchers in the possession of the Board have been duly audited by us, and found to be correct.

H. G. MORGAN, }  
T. B. DAVIS, } Auditors.

[3d.]

1066—

[830 copies—Approximate Cost of Printing (labour and material), £1 8s. 9d.]

The first part of the document discusses the importance of maintaining accurate records of all transactions. It emphasizes that every entry should be clearly documented and supported by appropriate evidence. This includes receipts, invoices, and other relevant documents that can be used to verify the accuracy of the records.

The second part of the document outlines the various methods used to collect and analyze data. It describes the process of gathering information from different sources and how this data is then processed and analyzed to identify trends and patterns. This section also discusses the importance of using reliable and valid data sources to ensure the accuracy of the findings.

The third part of the document focuses on the interpretation of the results. It explains how the data is analyzed and how the findings are used to draw conclusions and make recommendations. This section also discusses the importance of communicating the results clearly and effectively to the relevant stakeholders.

The fourth part of the document discusses the challenges and limitations of the research. It identifies the various factors that can affect the accuracy and reliability of the data and the results. This section also discusses the importance of being transparent about the limitations and challenges of the research.

The fifth part of the document provides a summary of the key findings and conclusions. It highlights the main points of the research and the implications of the findings. This section also discusses the importance of continuing to monitor and evaluate the results over time to ensure the long-term effectiveness of the research.

1887.

(THIRD SESSION.)

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NEW SOUTH WALES.

---

IMPORTED STOCK ACTS, 1871-1884.

(REGULATION.)

---

Presented to Parliament pursuant to Acts.

---

Department of Mines, Stock Branch,  
Sydney, 17 June, 1887.

IMPORTED STOCK ACT OF 1871, AND THE IMPORTED STOCK ACT AMENDMENT ACT OF 1884.

HIS Excellency the Governor, with the advice of the Executive Council, has been pleased to cancel so much of No. 8 of the Regulation of 1st July, 1886, issued under the abovenamed Act, as refers to the quarantine of Stud Sheep imported from any clean Australian Colony, and to substitute the following Regulation in lieu thereof:—

*Quarantine of Australian Imported Sheep.*

The quarantine for such sheep shall only extend to such time as will admit of their being once dipped.

FRANCIS ABIGAIL.

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1887.

(THIRD SESSION.)

NEW SOUTH WALES.

## IMPORTED STOCK ACTS, 1871-1884.

(REGULATION.)

Presented to Parliament pursuant to Acts.

Department of Mines, Stock Branch,  
Sydney, 13 August, 1887.

IMPORTED STOCK ACT OF 1871, AND THE IMPORTED STOCK ACT AMENDMENT ACT OF 1884.

THE following Regulation, made by His Excellency the Governor, with the advice of the Executive Council, under the provisions of the abovenamed Act, is hereby published for general information, in lieu of Regulation of 6th August, 1886, which is hereby cancelled.

*How imported Australian sheep are to be admitted overland from other Colonies.*

Sheep imported from any clean Australian Colony into any other clean Colony, and intended to be introduced overland into this Colony, may be admitted, if their owner produce to the Inspector for this Colony at the border a certificate, under the hand of the Chief Inspector for the Colony from which they are intended to be introduced, that when such sheep were introduced into that Colony they were certified to be free from infection by the Chief Inspector for the Colony from which they were imported, and that such sheep have been once dipped with proper preparations of tobacco and sulphur, or of sulphur and lime, in a bath given at the temperature and of the duration and in the manner prescribed by number 8 of the Regulations of 1st July, 1886. But all such sheep, unless they shall have been imported, quarantined, and dressed as herein prescribed, shall, on crossing the border, be placed in quarantine, and kept and dipped in the same manner in every respect as prescribed with regard to Australian imported sheep landed at Sydney.

JAS. INGLIS.



1887-8.

## NEW SOUTH WALES.

## IMPORTED STOCK ACTS.

(REGULATIONS UNDER.)

Presented to Parliament pursuant to the Imported Stock Act of 1871.

## IMPORTED STOCK ACTS.

NEW SOUTH WALES, } Proclamation by His Excellency The  
to wit. } Right Honourable CHARLES ROBERT,  
BARON CARRINGTON, a Member of Her  
Majesty's Most Honourable Privy  
(L.S.) Council, Knight Grand Cross of the  
CARRINGTON, Most Distinguished Order of Saint  
Governor. Michael and Saint George, Governor and  
Commander-in-Chief of the Colony of  
New South Wales and its Dependencies.

WHEREAS by section three of an Act passed in the forty-eighth year of the Reign of Her present Majesty, intituled "The Imported Stock Act Amendment Act of 1884," it is enacted that the term "Stock" shall, in addition to cattle and sheep, include goats, swine, dogs, and such other animals, as the Governor may, by Proclamation published in the Government Gazette, declare to be subject to the provisions of the said Act: And whereas horses suffer from the diseases known as Glanders and Farcy, and deer suffer from the diseases known as Foot and Mouth Disease and Rinderpest: And it is therefore desirable that their importation into the Colony should be made subject to the provisions of the abovenamed Act and of the "Imported Stock Act of 1871": Now, therefore, I, CHARLES ROBERT, BARON CARRINGTON, the Governor aforesaid, with the advice of the Executive Council, do, by this my Proclamation, hereby cancel the Proclamation of 6th February, 1888, and declare that horses, camels, and deer shall be included in the term "Stock," and shall be subject to the provisions of "The Imported Stock Act of 1871" and "The Imported Stock Act Amendment Act of 1884."

Given under my Hand and Seal, at Government House, Sydney, this twenty-second day of May, in the year of our Lord one thousand eight hundred and eighty-eight, and in the fifty-first year of Her Majesty's Reign.

By His Excellency's Command,

FRANCIS ABIGAIL.

GOD SAVE THE QUEEN!

929—A

NEW SOUTH WALES, } Proclamation by His Excellency The  
to wit. } Right Honourable CHARLES ROBERT,  
BARON CARRINGTON, a Member of Her  
Majesty's Most Honourable Privy  
(L.S.) Council, Knight Grand Cross of the  
CARRINGTON, Most Distinguished Order of Saint  
Governor. Michael and Saint George, Governor and  
Commander-in-Chief of the Colony of  
New South Wales and its Dependencies.

WHEREAS by section one of an Act passed in the thirty-fifth year of the Reign of Her present Majesty, intituled "The Imported Stock Act of 1871," the Governor, with the advice of the Executive Council, is empowered to declare, by Proclamation in the Gazette, diseases, other than Rinderpest, Foot and Mouth Disease, and Sheep-pox, to be infectious or contagious diseases for the purposes of the said Act: Now, therefore, I, CHARLES ROBERT, BARON CARRINGTON, the Governor aforesaid, with the advice of the Executive Council, do, by this my Proclamation, hereby cancel the Proclamation of 6th February, 1888, and declare the diseases known as Scab, Catarrh, Rabies, Pleuro-Pneumonia, Tuberculosis, Glanders, Farcy, Swine-fever, and Mange in Dogs to be infectious or contagious diseases within the meaning and for the purposes of the said Act.

Given under my Hand and Seal, at Government House, Sydney, this twenty-second day of May, in the year of our Lord one thousand eight hundred and eighty-eight, and in the fifty-first year of Her Majesty's Reign.

By His Excellency's Command,

FRANCIS ABIGAIL.

GOD SAVE THE QUEEN!

NEW SOUTH WALES, } Proclamation by His Excellency The  
to wit. } Right Honourable CHARLES ROBERT,  
BARON CARRINGTON, a Member of Her  
Majesty's Most Honourable Privy  
(L.S.) Council, Knight Grand Cross of the  
CARRINGTON, Most Distinguished Order of Saint  
Governor. Michael and Saint George, Governor and  
Commander-in-Chief of the Colony of  
New South Wales and its Dependencies.

WHEREAS by section 10 of the "Imported Stock Act of 1871," the Governor is empowered, by Proclamation in the Government Gazette, to restrict or absolutely prohibit for any specified time the importation or introduction of any

stock, fodder, or fittings from any other colony or country in which there is reason to believe any infectious or contagious disease in stock exists; and whereas there is reason to believe that certain infectious and contagious diseases exist in some of the countries in Europe, Asia, Africa, America, and in colonies other than the Australian Colonies: And whereas the introduction of certain stock was prohibited by Proclamation dated 6th February last from the countries and colonies therein named: Now, therefore I, CHARLES ROBERT, BARON CARRINGTON, the Governor aforesaid, do, by this my Proclamation, hereby cancel the said Proclamation, and absolutely prohibit for a period of two years from the date hereof the importation or introduction into this Colony of the stock, articles, or things mentioned in Schedule A hereto, except from the countries and colonies therein named, and under the conditions therein specified, and subject to the Regulations issued under the abovenamed Act.

SCHEDULE A.

IMPORTED STOCK ACT OF 1871 AND THE IMPORTED STOCK ACT AMENDMENT ACT OF 1884.

Foreign Stock and Things Prohibited from being Imported or Introduced.

Stock.	From what colony or country.
Cattle, Sheep, and Dogs.	From all foreign countries and colonies, except from Great Britain and Ireland, unless such cattle, sheep, or dogs shall have been 14 days in Great Britain or Ireland.
Swine .....	From all foreign colonies and countries.
Goats and Deer .....	From all foreign colonies and countries, unless they are imported for a Zoological Society, when they may be landed and quarantined as provided by regulation.
Fodder and Litter.....	From any foreign colony or country, or from any foreign vessel.

Given under my Hand and Seal, at Government House, Sydney, this twenty-second day of May, in the year of our Lord one thousand eight hundred and eighty-eight, and in the fifty-first year of Her Majesty's Reign.

By His Excellency's Command,  
FRANCIS ABIGAIL.

GOD SAVE THE QUEEN!

Note.—The foreign stock undermentioned are not within the terms of the above prohibition.

Foreign Stock not Prohibited.

Stock.	From what colony or country.
Horses.....	Any colony or country.
Camels .....	Any colony or country.
Cattle .....	From Great Britain and Ireland.
Sheep .....	From Great Britain and Ireland.
Goats .....	From any colony or country, if they are intended for a Zoological Society; otherwise they are inadmissible.
Deer .....	
Dogs .....	From Great Britain and Ireland.

NEW SOUTH WALES, } Proclamation by His Excellency The  
to wit. } Right Honourable CHARLES ROBERT,  
BARON CARRINGTON, a Member of Her Majesty's Most Honourable Privy Council, Knight Grand Cross of the Most Distinguished Order of Saint Michael and Saint George, Governor and Commander-in-Chief of the Colony of New South Wales and its Dependencies.

(L.S.)  
CARRINGTON,  
Governor.

WHEREAS by the third section of an Act passed in the forty-eighth year of the reign of Her present Majesty, intituled "The Imported Stock Act Amendment Act of 1884," the Governor is empowered by Proclamation to suspend the provisions of any one or more of the sections of that Act or of "The Imported Stock Act of 1871" for any period not exceeding six months, in respect to any stock introduced or proposed to be introduced from any of the Australian Colonies: And whereas it is desirable to suspend the operation of the provisions of the fourth section of "The Imported Stock Act Amendment Act of 1884" and of any regulation made thereunder relating to the quarantining of stock, other than sheep imported from any of the Australian Colonies, for a period of six months: Now, therefore, I, CHARLES ROBERT, BARON CARRINGTON, the Governor aforesaid, with the advice of the Executive Council, do hereby suspend, for a period of six months from this date, the provisions of section 3 of "The Imported Stock Act

Amendment Act of 1884," and of any such regulation as aforesaid, so far as the same relate to the quarantining of stock other than sheep from any of the Australian Colonies.

Given under my Hand and Seal, at Government House, Sydney, this twenty-second day of May, in the year of our Lord one thousand eight hundred and eighty-eight, and in the fifty-first year of Her Majesty's Reign.

By His Excellency's Command,  
FRANCIS ABIGAIL.

GOD SAVE THE QUEEN!

NEW SOUTH WALES, } Proclamation by His Excellency The  
to wit. } Right Honourable CHARLES ROBERT,  
BARON CARRINGTON, a Member of Her Majesty's Most Honourable Privy Council, Knight Grand Cross of the Most Distinguished Order of Saint Michael and Saint George, Governor and Commander-in-Chief of the Colony of New South Wales and its Dependencies.

(L.S.)  
CARRINGTON,  
Governor.

WHEREAS by section ten of the "Imported Stock Act of 1871," the Governor is empowered by Proclamation in the Government Gazette, to restrict or absolutely prohibit for any specified time the importation or introduction of any stock, fodder, or fittings from any other colony or country in which there is reason to believe any infectious or contagious disease in stock exists: And whereas by a Proclamation under the hand of His Excellency the Governor, published in the Government Gazette of this date, pursuant to the provisions of "The Imported Stock Act of 1871," amongst other things Scab in Sheep was declared to be an infectious or contagious disease: And whereas there is reason to believe that Scab at the present time exists in sheep both in the Colony of New Zealand and also in the Colony of Western Australia: Now, therefore, I, CHARLES ROBERT, BARON CARRINGTON, the Governor aforesaid, with the advice of the Executive Council, do, by this my Proclamation, absolutely prohibit for a period of twelve months from the date of this Proclamation, the importation or introduction of any sheep, or any fodder or fittings put on board any vessel with, or for the use of, any sheep, from either of the Colonies of New Zealand or of Western Australia.

Given under my Hand and Seal, at Government House, Sydney, this twenty-second day of May, in the year of our Lord one thousand eight hundred and eighty-eight, and in the fifty-first year of Her Majesty's Reign.

By His Excellency's Command,  
FRANCIS ABIGAIL.

GOD SAVE THE QUEEN!

Department of Mines,  
Stock Branch,  
Sydney, 22nd May, 1888.

IMPORTED STOCK ACT OF 1871, AND THE IMPORTED STOCK ACT AMENDMENT ACT OF 1884.

THE following Regulations which have been made by His Excellency the Governor, with the advice of the Executive Council, for carrying into effect the provisions of the abovenamed Acts relating to the importation and introduction of stock by sea into this Colony, are hereby published for general information.

FRANCIS ABIGAIL.

These Regulations are divided into the following Parts:—

- A.—INTRODUCTORY AND GENERAL.
- B.—FOREIGN STOCK AND THINGS.
- C.—AUSTRALIAN STOCK AND THINGS.
- D.—PENALTIES, CONFISCATIONS, &c.

PART A.—INTRODUCTORY AND GENERAL.

I.—INTRODUCTORY.

Repeal of previous Regulations.

1. All previous Regulations under the abovenamed Acts are hereby repealed.

Interpretation.

2. In these Regulations, the following words and terms shall have the meanings which they bear in section 1 of the Imported Stock Act of 1871, namely:—

"Attendant," "Cattle," "Destroy," "Disease," "Fodder," "Governor," "Inspector," "Master," "Minister," and "Sheep"; and the following other words and terms shall, in these Regulations, unless the context otherwise indicate, have the meanings set against them respectively, namely:—

"Australian."—As regards places—any of the Colonies of Queensland, New South Wales, Victoria, South Australia, Western Australia, Tasmania, and New Zealand, and any port or place in any of such Colonies; as regards stock or things—any stock or things from any of such Colonies; and as regards vessels—any vessels trading solely and which have traded solely for twelve months preceding between such Colonies.

- "Dog."—Any dog, slut, or whelp of any breed or age.
- "Fittings."—Any pens, stalls, boxes, cages, cases, or materials for keeping or confining stock; and any halters, brushes, clothes, buckets, and other articles used with, for, or about stock.
- "Foreign."—As regards places, stock, things, or vessels—any place, stock, thing, or vessel other than any Australian place, port, stock, thing, or vessel.
- "Horses."—Any one or more horses, mares, colts, fillies, foals, asses, or mules.
- "Imported stock."—Any stock arriving in this Colony by sea, and for six months after arrival; and the skin, hair, wool, horns, and hoofs of any such stock.
- "Infected."—As applicable to stock—any stock suffering from or actually affected with disease, or which have been in direct or indirect contact with, or on the same vessel as, such infected stock during the next preceding six months, or which have been under treatment during such period for disease, or dressed or disinfected for disease; and as applicable to vessels or things—any vessels or things with which any such infected stock shall have come in contact within the next preceding three months.
- "Infectious or Contagious Disease."—Cattle plague or rinderpest, foot and mouth disease, sheep-pox, swine-fever, scab, in sheep and camels, catarrh, rabies, pleuro-pneumonia, glanders, farcy, and tuberculosis.
- "Litter."—Any straw, or other bedding or litter, or any manure or other excreta with which stock shall have been in direct or indirect contact.
- "Owner."—Any consignee or owner, jointly or in severalty, superintendent, or person in the possession or charge of any stock, fodder, or fittings.
- "Prescribed" means prescribed by any Regulations.
- "Stock."—Any one or more horses, camels, cattle, sheep, goats, swine, deer, and dogs.
- "Stud stock."—Any stock, whether thoroughbred or not, intended to be bred from.
- "Swine."—Any one or more boars, sows, farrows, or pigs of any breed or age.
- "Vessel."—Any steamer, ship, lighter, launch, boat, punt, or ferryboat.

## II.—GENERAL.

### *Owners to give notice of arrival of stock.*

3. If any stock are brought by sea to a port or place in this Colony, the owner thereof shall, within twelve hours of their arrival, give the inspector at or near such port or place notice to the effect of Form 1 hereto.

### *Declaration and certificate to accompany all stock.*

4. All stock intended to be landed shall be accompanied by a Declaration and Certificate to the effect of Form 3 hereto.

### *No stock to be landed but on Inspector's permit.*

5. No stock, fodder, fittings, or effects relating to stock, nor any skins, although their introduction may not be prohibited, shall be landed, or moved from, or allowed to leave the vessel by which they shall have arrived, without the written permission of an Inspector, to the effect of Form 2 hereto, except Australian dogs as provided by No. 39 hereof.

### *Owner to receive notice when stock are ailing or when destroyed.*

6. When any stock are ailing or shall have been destroyed under the abovenamed Acts or Regulations thereunder, notice thereof shall be given to the owner of such stock to the effect of Form 4 hereto.

### *How notices are to be given.*

7. Notices under the abovenamed Acts or Regulations may be either served personally on the person to whom such notice is required to be given, or left at his residence or place of business, or sent to him by registered letter through the post.

## PART B.—FOREIGN STOCK AND THINGS.

### III.—FOREIGN STOCK, &c., ADMISSIBLE.

8. The foreign stock and things specified which are permitted to be imported or introduced into this Colony shall be so, subject to the provisions of the abovenamed Acts, and of the Regulations hereinafter prescribed.

#### I.—Foreign Stock prior to leaving Port of Shipment.

*Foreign horses, camels, cattle, sheep, swine, and goats to be accompanied by Certificate from Inspector for District from which they come.*

9. If an owner intend to introduce any foreign stock into this Colony he shall give the Chief Inspector of Stock at least six weeks' notice of his intention to the effect of Form 5 hereto. All foreign horses and camels, cattle, sheep, swine, and goats intended and permitted to be introduced into this Colony,

shall be accompanied by a declaration from the breeder or owner, and by a certificate to the effect of Form 3 hereto, from the Inspector for the District from which they start for the port of shipment, that they are not, nor have within the next preceding six months been, infected with any infectious or contagious disease.

### *Inspection of stock by Veterinary Surgeons appointed for the Colony at port of shipment.*

10. Prior to any foreign stock which are intended to be introduced into this Colony leaving the port at which they are to be shipped, all such stock, as well as all other stock put or to be put on board the same vessel as the first-mentioned stock (including those not intended to be introduced and those for the use of the passengers and crew), shall be carefully inspected by a duly qualified Veterinary Surgeon appointed in that behalf for this Colony, and the owner or shipper of the stock shall satisfy such Veterinary Surgeon that the stock are not infected, and shall pay him the authorized fee for their inspection.

### *If stock are not infected Veterinary Surgeon to grant and hand certificate to Master.*

11. If the Veterinary Surgeon appointed in that behalf for this Colony shall have been satisfied that the stock intended to be introduced into this Colony have been brought direct to the port of shipment, and that they have not been in any conveyance, stable, or other place where stock liable to the same diseases as such stock have been within the next preceding sixty days, and that such stock have been fourteen days at least in Great Britain or Ireland, and that such stock and all other stock put on board, or to be put on board for the ship's use, are free from infection, and that all the other requirements of the abovenamed Acts and of these Regulations up to that time, have been duly complied with, he shall, but not otherwise, grant a certificate to the effect of Form 5 hereto, and shall deliver the same to the Master of the vessel, together with the certificate by the Inspector hereinafter mentioned where prescribed.

#### II.—Foreign Stock during the Voyage.

### *Record of health of stock to be kept by attendant and certified by Master.*

12. If any stock on board a foreign vessel bound for this Colony become infected, or show any symptoms of disease, the attendant on such stock shall during the voyage make a daily entry in a book, to be kept by him for that purpose, of the state of their health; and the Master of the vessel shall once in every week during the voyage examine all such stock and certify to the correctness of the entries made by the attendant.

### *Skins of stock slaughtered or dying not to be landed.*

13. The skins of all stock which may have died or been slaughtered on board any foreign vessel during the voyage, and not destroyed or thrown overboard, shall be salted and securely packed in cases or casks, and shall not be landed in this Colony.

#### III.—Foreign Stock on arrival, and while in the Waters of this Colony.

### *Stock while in New South Wales waters to be properly confined.*

14. It shall be the duty of the Master of the vessel, on board of which there are any foreign stock, as well as of the actual owner thereof, to cause all such stock to be kept securely confined, penned, chained, or fastened up, as soon as such vessel is in the waters of this Colony; and no person except the attendant on such stock shall touch or handle the same without the permission of the Inspector; and while the vessel remains thereon all such stock shall be kept and treated, to the satisfaction of the Inspector, so as that they shall not be able to come in contact with any person other than their attendant, nor with other stock which may come on board such vessel, until the Inspector shall otherwise order in writing.

### *Master on arrival to make declaration, and hand over certificate, &c.*

15. On the arrival of a foreign vessel the Master and the attendant on the stock on board such vessel shall make and deliver to the Customs Officer first boarding such vessel a declaration to the effect of Form 6 hereto, and shall forthwith deliver at the Office of the Chief Inspector of Stock the record kept by the attendant (if any) on board such vessel, and all documents relating to the same required by the abovenamed Acts or these Regulations.

### *Foreign stock only admitted at Sydney.*

16. No foreign stock shall be admitted into this Colony except at the Port of Sydney.

IV.—As to Foreign Stock Intended to be Landed.

*All foreign stock intended to be landed to be examined by a veterinary surgeon and inspector.*

17. Foreign stock which may lawfully be landed in this Colony shall, previous to landing, be forthwith examined on board the vessel by which they arrived, by a duly qualified veterinary surgeon and by an inspector of stock, who shall report whether or not such or any other stock on board such vessel are infected, and shall join in a certificate to the effect of Form 8 hereto, which they shall forthwith forward to the Chief Inspector of Stock.

*Foreign stock infected to be disposed of as Minister directs.*

18. If such stock are reported to be infected, the report shall be immediately submitted by the Chief Inspector to the Minister; and if the Minister decide that such stock are infected they shall be forthwith destroyed or otherwise disposed of as he shall direct; and if ordered to be destroyed, the Inspector shall serve the owner with a notice to the effect of Form 14 hereto.

*As to camels.*

19. If camels are found on arrival to be infected with scab, they shall not be destroyed, but shall be dressed as the Chief Inspector shall direct.

V.—Landing, Quarantine, Disinfecting, and Dressing of Foreign Stock.

*Foreign horses admitted on inspection.*

20. Foreign horses shall be admitted without detention or quarantine, if found, on inspection at Sydney, to be free from disease.

*Foreign stock not infected, if intended to be landed, to be sent to quarantine.*

21. If foreign stock other than horses are not prohibited from being landed, and are reported to be free from infection, and if the Chief Inspector is satisfied that they are not infected, and that the requirements of the abovenamed Acts and these Regulations have been complied with, he shall, on obtaining from the owner or consignee of such stock a bond and guarantee, duly executed by the owner or consignee and two approved sureties, in the terms of Form 9 hereto, grant an order for the removal of such stock to quarantine to the effect of Form 2 hereto, without which no stock shall leave the vessel by which they arrived.

*Stock to be taken by water to quarantine, and kept at owner's risk and expense.*

22. All such foreign stock found on inspection to be free from infection shall, where necessary, before leaving the vessel, be washed and disinfected as the Chief Inspector shall direct, and shall be taken from the vessel by which they arrive in "the stream," and previous to her coming to or near the wharf, and shall be conveyed by water, at the owner's risk and expense, to the quarantine set apart for such foreign stock, and shall remain in quarantine for the terms respectively prescribed hereunder for the different kinds of such stock, during which they shall be kept at their owner's risk and expense, and shall be washed, dipped, and disinfected as prescribed by these Regulations, and as the Chief Inspector of Stock shall direct.

*Quarantine of foreign stock.*

23. Foreign stock permitted to be introduced shall, on being landed, remain in quarantine for the periods specified in Form 7 hereto.

*As to foreign sheep in quarantine.*

24. All foreign sheep landed in this Colony shall forthwith receive three dressings with tobacco and sulphur or with lime and sulphur, at intervals of from ten to fifteen days between each dressing; and the medicaments shall be of the strength and the bath at the temperature and for the duration hereinafter prescribed in regard to imported Australian sheep under the abovenamed Acts and Regulations thereunder.

*Foreign dogs may in certain cases be at once destroyed.*

25. In all cases which the Inspector or Veterinary Surgeon consider urgent, dogs found to be infected with rabies, may be forthwith destroyed by the order of either officer.

*How foreign stock released from quarantine.*

26. On the expiry of the prescribed term of quarantine for such stock, they shall be examined by a duly qualified Veterinary Surgeon and an Inspector of Stock, who shall ascertain whether the disinfecting and dressing prescribed by the abovenamed Acts and Regulations, as well as all the other requirements thereof, have been duly complied with, and shall thereupon determine whether such stock are free from infection, and forthwith forward to the Chief Inspector of Stock a certificate to the effect of Form 11 hereto; but such stock shall not leave quarantine until the charges and expenses due thereon shall have been paid to the Inspector, and until an order for their release shall have been endorsed by the Chief Inspector on such certificate.

IV.—CHARGES FOR INSPECTION AND RISK OF TRANSPORT, AND QUARANTINE OF FOREIGN STOCK.

*Charges and expenses in relation to foreign stock to be borne by owner.*

27. All charges and expenses connected with the veterinary inspection or treatment, and the landing, conveying, detaining, feeding, dressing, disinfecting, and reconveying of any stock, or with the destruction, or other dealing with any stock fodder or under the said Acts or any regulations thereunder, shall be borne by the owner of such stock, and such charges and expenses shall be at the rates stated respectively in Form 12 hereto, in so far as therein specified.

*The like as to risk and loss.*

28. All loss sustained with respect to such stock fodder, or whilst being conveyed to or from, or whilst in quarantine, whether by accident or by sickness arising from natural causes, or contracted from other stock, or by the destruction or detention or quarantine of such stock, to prevent the spread of disease, shall be borne by the owner of such stock, and he shall have no claim whatever for compensation for any such loss nor for any loss sustained by such owner through the carrying out or enforcement of these Regulations.

V.—FOREIGN STOCK FOR SHIPS' USE AND FOR TRANSHIPMENT.

*Foreign stock to be quarantined.*

29. All foreign dogs brought into New South Wales waters, whether intended to be introduced into this Colony or not, shall within twenty-four hours after they shall have been examined by an Inspector, be removed to quarantine, where they shall remain at their owner's risk and expense until re-shipped on the order of the Chief Inspector of Stock, on board some foreign vessel about to leave this Colony.

*No foreign stock to be transhipped without permit and not on to Australian vessels.*

30. No foreign stock, except dogs as provided by No. 39 hereof, shall be transhipped in the waters of this Colony without the permission, in writing, of the Inspector: And no stock, other than stock from any Australian Colony, brought by any vessels into the waters of this Colony, shall be transhipped from such vessel to any of the vessels usually or occasionally trading between any of the Australian Colonies until such stock, if allowed to be landed, shall have performed the quarantine, and otherwise complied with the provisions of the abovenamed Acts and these Regulations.

31. Foreign dogs which are securely penned and fastened up may, if there are no other dogs on board an Australian vessel, be transhipped by such vessel to their destination.

VI.—MISCELLANEOUS REGULATIONS RELATING TO FOREIGN STOCK.

*Foreign stock and attendants' clothes and stalls and pens to be disinfected.*

32. While within the waters and territory of New South Wales all foreign stock shall be kept and cleansed and disinfected, together with the clothes of their attendants, and of any person coming in contact therewith, and their stalls, pens, and fittings, as the Chief Inspector shall direct.

*Foreign fodder or litter not to be landed, fillings, &c., to be disinfected.*

33. No fodder or litter on board any foreign vessel, nor any fodder or litter with which foreign stock or their attendants shall have come into direct or indirect contact, shall be landed in this Colony; and all fillings used on board any foreign vessel with or about any stock, and all effects belonging to their attendants, shall be disinfected both before and after being landed, as and where the Chief Inspector shall direct.

*Australian stock coming into contact with foreign stock to be held to be infected.*

34. All Australian stock coming into direct or indirect contact with foreign stock, or with infected stock, shall be held and deemed to be infected stock; and all foreign or infected stock, as the case may be, which have not passed through quarantine, and which shall not have been released in accordance with the abovenamed Acts and these Regulations, shall be held and deemed to be infected stock.

PART C.—AUSTRALIAN IMPORTED STOCK AND THINGS.

X.—GENERAL, AS REGARDS AUSTRALIAN IMPORTED STOCK AND THINGS.

*Declaration and certificate to be produced to Inspector examining stock.*

35. If an owner intends to introduce any Australian imported stock other than sheep into this Colony, he shall produce to the Inspector examining the same a declaration duly certified by the Inspector of the port or place from which such stock were shipped to the effect of Form 8 hereto.

*If found free from infection, stock, other than sheep, to be allowed to land.*

36. If any such stock other than sheep brought to port or place in this Colony shall be accompanied by a declaration as prescribed, and be found, on examination by the Inspector, to be free from infection, he may grant permission for the same to be landed in terms of Form 2 hereto, without which such stock shall not be landed.

*If Inspector is doubtful he may detain stock.*

37. If on the examination of such stock the Inspector has any reason to doubt their entire freedom from infection, he may either temporarily detain the same on board the vessel by which they were brought, or temporarily isolate them on some other vessel or in some safe and convenient place; and the owners of the stock shall bear the expense of such detention or isolation.

*Infected stock, how to be disposed of.*

38. If any such stock shall be found on arrival or within one month thereafter to be infected, such stock shall be either destroyed by the owner, without compensation, or otherwise disposed of as the Minister shall direct.

## 2. SPECIAL AS REGARDS AUSTRALIAN DOGS.

*Imported Australian Dogs to be admitted by Customs Officer on Declaration of Certificate from Inspector.*

39. All Australian dogs imported from any of the Australian Colonies, if they are apparently free from disease and are accompanied by a declaration, duly certified by the Inspector for the port from which such dogs were shipped, to the effect of Form 3 hereto—may be landed on the permit of the Officer of Customs in charge of the vessel by which such dogs are so imported.

*Dogs not accompanied by certificate to be admitted on inspection if found uninfected.*

40. If any Australian dog imported from any of the Australian Colonies is not accompanied by a declaration and certificate, as provided by the next preceding Regulation, such dog shall not be landed until the owner thereof shall have made a declaration to the effect of Form 3 hereto, and the dog shall have been examined by the Inspector and found to be free from disease.

## 3. AUSTRALIAN STUD SHEEP.

*Sheep to be only landed at Sydney.*

41. No stud sheep from any Colony other than New South Wales shall be landed at any port or place in New South Wales other than the port of Sydney.

*What is to be deemed a clean Colony.*

42. No Colony shall be deemed to be a clean Colony in which scab or catarrh or any other infectious or contagious disease exists, or is suspected to exist, nor any Colony in which scab shall have existed within the next preceding twelve months, and no sheep shall be imported except from a clean Australian Colony.

*What is to be deemed a clean vessel.*

43. No stud sheep shall be imported except by a clean vessel, and no vessel shall be deemed a clean vessel which shall within the next preceding twelve months have traded to a place not in a clean Australian Colony, nor any vessel which shall within the period hereinbefore mentioned have had any sheep on board from any place not in a clean Australian Colony.

*Vessel to carry sheep must be cleansed and disinfected.*

44. Every part of a vessel where it is intended to place any such stud sheep shall be thoroughly cleansed and disinfected before the sheep are shipped.

*Sheep must be accompanied by a certificate from Inspector of exporting Colony.*

45. All such stud sheep shall be accompanied by a certificate and declaration to the effect of Form 3 hereto, that they have been examined carefully by an Inspector for the Colony from which they are exported certifying that they have been so examined and that they are free from any infectious or contagious disease, and that scab has not existed in such Colony for the next preceding twelve months.

*Sheep on arrival to be examined by an Inspector and Veterinary Surgeon.*

46. No sheep from any clean Australian Colony shall be landed in this Colony until they shall have been examined and a certificate to the effect of Form 3 hereto, granted by an Inspector of Stock and a duly qualified Veterinary Surgeon, that all the requirements of the abovenamed Acts and of these Regulations with respect to such sheep have been duly complied with and that they are not infected.

*Infected sheep, how destroyed or disposed of.*

47. If any such stud sheep brought by sea into a port or place in this Colony be found to be infected they may be forthwith destroyed, or otherwise disposed of, as the Minister may direct.

*Quarantine and dressing of Australian imported sheep.*

48. Stud sheep from any clean Australian Colony may, if found on inspection to be not infected, be landed and taken by a conveyance to the quarantine for such sheep, where they shall be quarantined and dipped under the supervision and direction of the Inspector, and the length of such quarantine, the medicaments to be used in dipping, the temperature and duration of the bath, the dipping, and the fees to be charged for the keeping and dipping of the sheep, shall be as follows, viz. :—

### Quarantine.

(1.) The sheep shall remain in quarantine until they shall have been dipped as hereinafter prescribed.

### Medicaments.

(2.) The medicaments to be used in dipping shall be good sound tobacco, or tobacco leaves and flowers of sulphur, at the rate of 1lb. of each to every 5 gallons of water, the tobacco to be put into boiling water and infused for five hours at least, and the sulphur to be added to the infusion in the dip.

### Temperature.

(3.) The temperature shall not be less than 100 nor more than 110 degrees Fahrenheit.

### Bath and Duration.

(4.) The sheep shall swim and be completely immersed while in the bath, and the bath shall last from one to two minutes, according to its temperature, and as the case may require.

### Number of Dippings.

(5.) The sheep shall receive one dipping.

### Charges.

(6.) The rates to be charged for the keeping and dressing of sheep in quarantine shall be as set forth in Form 12 hereto.

*Declaration by persons dipping, dressing, or disinfecting.*

49. Every Inspector or other person who shall have superintended any dipping, dressing, or disinfecting, shall make and transmit with due despatch to the Chief Inspector a declaration to the effect of Form 13 hereto.

*How sheep are to be released from quarantine.*

50. No sheep shall be released from quarantine until they shall have been examined by the Inspector and a duly qualified Veterinary Surgeon in consultation, and a certificate granted by them to the effect of Form 11 hereto that such sheep have been duly quarantined and dressed, as prescribed by these Regulations, and are free from infection.

*How imported Australian sheep are to be admitted overland from other Colonies.*

51. Sheep imported from any clean Australian Colony into any other clean Colony, and intended to be introduced overland into this Colony, may be admitted if their owner produce to the Inspector for this Colony at the border a certificate under the hand of the Chief Inspector for the Colony from which they are intended to be introduced, that when such sheep were introduced into that Colony they were certified to be free from infection by an inspector of that Colony from which they were imported, and that such sheep have been once dipped with proper preparations of tobacco and sulphur, or of sulphur and lime, in a bath given at the temperature and of the duration and in the manner prescribed by number 47 of these Regulations. But all such sheep, unless they shall have been imported, quarantined, and dressed as herein prescribed, shall, on crossing the Border, be placed in quarantine, and kept and dipped in the same manner in every respect as prescribed with regard to Australian imported sheep landed at Sydney.

*How Australian imported sheep which have not complied with all the Regulations are to be admitted.*

52. Should any Australian sheep be imported into this Colony by a vessel which shall not have been cleansed and disinfected, as provided by these Regulations, or should any such sheep not have been examined in the Colony from which they were exported, as prescribed by these Regulations, then such sheep may, with the sanction of the Minister, be admitted to and shall remain in quarantine for twenty-one days, and shall in every such case receive three dippings at intervals of not less than ten days.

*Stud sheep from inland or overland from other Colonies to be treated as "imported" if in or near Sydney at same time.*

53. Stud and show sheep brought from any of the inland districts of this Colony or introduced overland from any adjoining clean Colony which shall be in Sydney or in any of the suburbs during the time that any imported sheep shall remain in Sydney or the suburbs, shall, prior to their leaving the coast district, be dipped the same as if they were imported Australian sheep.

*Owners of special quarantines to pay for attendant.*

54. In any case where a special quarantine has been granted for Australian imported sheep, an attendant may, where necessary, be placed by the Chief Inspector of Stock in charge of the sheep in such quarantine; and the person to whom such quarantine has been granted shall pay the expense of such attendant.

*No fodder, &c., to be landed, without disinfecting.*

55. No fodder or other food, straw, or litter, which shall have been used for, with, or about imported sheep, nor any fittings on board any vessel for such sheep shall be landed; and all cases or cages brought with such sheep shall before being landed be cleansed and disinfected as the Chief Inspector shall direct.

## XI.—AS TO AUSTRALIAN FAT SHEEP FOR SLAUGHTER.

*Conditions on which these sheep may be landed for slaughter.*

56. Fat imported sheep from a clean Australian Colony may be landed at the port of Sydney for slaughter under the following conditions, namely:—

*Owner to give notice of arrival and produce certificate.*

1st. The owner of such sheep shall give the Inspector for the Port immediate notice of their arrival, and shall produce to him a declaration and certificate of health to the effect of Form 3 hereto, from the Inspector of the Port from which such sheep were shipped.

*Sheep not to leave vessel until inspected.*

2nd. Such sheep shall not be allowed to leave the vessel by which they arrive until they have been examined by the Inspector.

*Sheep to be taken direct to Abattoirs.*

3rd. Upon being inspected and found free from infection such sheep shall be taken direct to the Abattoirs on Glebe Island, and there delivered into the charge of the Inspector of Slaughter-houses, to be slaughtered under his supervision.

## XII.—TRANSHIPMENT OF AUSTRALIAN IMPORTED STOCK.

*Transshipment of Australian stock.*

57. No Australian imported stock shall be transhipped in the waters of this Colony without the permission, in writing, of the Inspector.

*Australian uninfected stock may be landed for transshipment.*

58. Any such stock arriving at a port or place in this Colony for transshipment may, if accompanied by the prescribed declaration and certificate, and found to be free from infection, be landed and kept in any place approved by the Chief Inspector for a period not exceeding fourteen days without being subject to quarantine and dipping.

## PART D.—PENALTIES, CONFISCATIONS, &amp;c.

## XIII.—PENALTIES.

## I.—General Penalties.

*Penalties for breaches of Regulations.*

59. If any person does any of the following things he shall be guilty of an offence against these Regulations, and shall on conviction for every such offence be liable to a penalty not exceeding £20.

*For introducing infected stock.*

- (1.) If he lands, introduces, or tranships, or attempts to land, introduce, or tranship, or assists, or is concerned in landing, introducing, or transhipping any infected stock.
- (2.) If, not being the attendant, he touches, handles, or in any way interferes with foreign stock on board any vessel in the waters of this Colony without the permission of the Inspector.

*For trespass on Quarantine.*

- (3.) If he shall enter upon any quarantine without the written permission of an Inspector, or approach or handle, examine, let loose, or in any way interfere with any foreign stock without such permission.

*For refusing to carry out Inspector's directions.*

- (4.) If he shall refuse or neglect forthwith to carry out any requisition made or direction issued under these Regulations.

*For obstructing an Inspector.*

- (5.) If he shall obstruct or hinder an Inspector in the execution of his duty under these Regulations.

*For not paying expenses incurred by Inspector.*

- (6.) If he shall neglect or refuse to pay on demand by an Inspector any costs, charges, or expenses for which he is liable under these Regulations.

*For refusing to give information.*

- (7.) If, being in a position to give any information required by an Inspector as such, he refuses to give such information or gives misleading information with respect to any stock or thing.
- (8.) If he commits any other breach of these Regulations for which a penalty is not specially provided.

## II.—Penalties for Offences by Masters of Vessels.

60. Every master of a vessel with any stock on board who does any of the following things, shall be guilty of an offence against these Regulations,—

*For failure to give notice to Inspector.*

- (1.) If he shall fail or neglect to forward to the Inspector notice of the arrival of such vessel with stock on board, or to produce on demand the declaration and certificate as per Form 3 hereto for such stock.

*For allowing stock to stray off vessel or to be transhipped without Inspector's order.*

- (2.) If he shall, without the written permission of an Inspector, permit or suffer any stock to stray or go ashore from his vessel or to be transhipped or moved to or from any other vessel while such first-mentioned vessel is in the water of this Colony.

*For failing to secure animal as Inspector directs.*

- (3.) If he shall fail or neglect to cause any foreign stock on board his vessel to be securely confined or otherwise secured, as the Inspector shall direct, or shall allow any person to touch or handle such stock.

*For allowing stock to stray on to vessel.*

- (4.) If the master, mate, or other member of the crew of any foreign vessel shall permit or suffer any stock to go on board such vessel while there is any foreign stock thereon.

And he shall, on conviction for every such offence, be liable to a penalty not exceeding £20.

## III.—Penalties for Offences by Owners of Stock.

61. The owner (including the consignee, agent of the owner, or person in possession or charge) of any stock who does any of the following things shall be guilty of an offence against these Regulations,—

*For allowing stock to stray on to Foreign vessels.*

- (1.) If he takes or allows any stock, of which he is the owner, to stray on to any vessel on which there is any foreign stock.

*For allowing stock to stray on to Quarantines.*

- (2.) If he takes or allows any stock, of which he is the owner, to stray on to any quarantine for foreign stock.

*For failing to carry out Inspector's instructions.*

- (3.) If he for more than twenty-four hours fails or neglects, when directed by an Inspector, to remove any stock from any vessel to or from a quarantine ground, or other place, or to any vessel.

And he shall, on conviction for every such offence, incur a penalty not exceeding £20.

## XIV.—DESTRUCTION OR CONFISCATION OF STOCK AND THINGS.

*When Stock and things may be disposed of by Minister.*

62. Stock may under all or any of the following circumstances, be destroyed or otherwise disposed of, as the Minister shall direct:—

*If they are infected.*

- (1.) If stock are infected with any infectious or contagious disease, whether they be on land, or on board any vessel within the territorial limits of this Colony.

*If owners commit breach of Acts or Regulations.*

- (2.) If the owners of any stock shall have committed, or attempted to commit, or be concerned in committing, any breach of the abovenamed Acts or of any Regulations thereunder.

*If stock are Foreign, and are not properly confined or secured.*

- (3.) If foreign stock be found unconfined or unsecured on, or be removed or stray from, the vessel by which they arrive, or from quarantine.

*If stock stray on board a foreign vessel.*

- (4.) If stray stock from shore be found on board a vessel on which there is any foreign stock.

*If stock are found in quarantine.*

- (5.) If stock, other than those for which an Inspector shall have issued an order for quarantine, are found within any quarantine for foreign stock.

*If charges and expenses be not paid.*

- (6.) If the fees, charges, and expenses connected with any stock be not duly paid.

*If stock are not removed when quarantine is up.*

- (7.) If any stock shall not be removed on the expiry of the term of quarantine.

**FORMS.**

**Form 1.**

**IMPORTED STOCK ACT OF 1871, AND THE IMPORTED STOCK ACT AMENDMENT ACT OF 1884.**

*Notice of arrival of stock.*

To **Inspector of Stock,** 188 .  
 TAKE notice that the  
 belonging to  
 of, more particularly described in the Schedule  
 below, are expected to arrive by the vessel named, at or about  
 the time therein stated (or have arrived).  
 Owner or his Agent.

**SCHEDULE.**

No.	Description of stock.	Where from.	By what vessel, and where lying.	When expected.		For what purpose.
				Date.	Time.	

N.B.—A separate notice must be given for each owner's stock.

**Form 2.**

**IMPORTED STOCK ACT OF 1871, AND THE IMPORTED STOCK ACT AMENDMENT ACT OF 1884.**

*Permit to land imported stock.*

To the Landing Waiter  
 at **Wharf,**  
**Sydney,** 188 .  
 Please allow which has arrived by the  
 from to be landed  
**Inspector of Stock.**

**Form 3.**

**IMPORTED STOCK ACT OF 1871, AND THE IMPORTED STOCK ACT AMENDMENT ACT OF 1884.**

*Declaration and Certificate of Health.*

I (*Name and Address*) do solemnly and sincerely declare that the undermentioned stock are, to the best of my knowledge and belief, free from all infectious and contagious diseases, and have not within the next preceding six months been in direct or indirect contact with stock infected with any such diseases, and are the produce of

Particulars of Numbers, Sexes, Kinds, and Brands of the Stock:—  
 And I make this solemn declaration, conscientiously believing the same to be true, and in virtue of the provisions of an Act made and passed in the ninth year of the reign of Her present Majesty, intituled "An Act for the more effectual abolition of Oaths and Affirmations taken and made in various Departments of the Government of New South Wales and to substitute Declarations in lieu thereof and for the suppression of Voluntary and Extra-judicial Oaths and Affidavits."

Signed  
 Made and signed before me at }  
 this day of 188 . }  
 (Signature of Magistrate.)

J.P.

I have examined the stock referred to, and have no reason to doubt the correctness of this declaration in any particular.

V.S. or Inspector of Stock.

**Form 4.**

**IMPORTED STOCK ACT OF 1871, AND THE IMPORTED STOCK ACT AMENDMENT ACT OF 1884.**

*Notice of Sickness of Stock.*

To Mr.  
 Take notice that the  
 belonging to  
 more particularly described  
 in the Schedule below [*here state subject of the notice*].

**SCHEDULE REFERRED TO.**

No.	Description.	Sex.	Brands, &c.	By what Ship.	Name and Address of Owner or Consignee.	Where Stock are.

Dated at this day of 188 .  
**Inspector of Stock.**

**Form 5.**

**IMPORTED STOCK ACT OF 1871, AND THE IMPORTED STOCK ACT AMENDMENT ACT OF 1884.**

*Certificate by Veterinary Surgeon at port of shipment.*

I, of a duly qualified Veterinary Surgeon, appointed in that behalf for the Colony of New South Wales, having made a thorough inquiry respecting and a careful examination of the stock about to be shipped from the Port of by the of which is the Master, for the port of Sydney, which are more particularly described in the Schedule below, and having made the like inquiry respecting and examination of all stock on board or about to be put on board such vessel for the use of the passengers or crew (particulars of which are also given below), do hereby certify that none of the said stock are infected with any infectious or contagious disease.

Dated at this day of 188 .  
**V.S.**

**SCHEDULE REFERRED TO ABOVE.**

No. of Stock.	Sex.	Description.	Brands and marks.	Date of shipment.	Name and address of owner and of attendant.	Consignee.	Destination.

**Form 6.**

**IMPORTED STOCK ACT OF 1871, AND THE IMPORTED STOCK ACT AMENDMENT ACT OF 1884.**

*Form of Declaration by Master of vessel.*

No. of Stock shipped.	Description.	Sex.	Breed, colour, brands, and marks.	Where from.	Sickness or deaths during voyage.	Cause of sickness or death.	Date of outbreak of disease.	Date of last death.

I, master, do hereby solemnly declare that the above statement is true with regard to the stock shipped on board the , which is now lying at , and for which are agents. And I moreover solemnly declare that such stock have been duly examined by me, as prescribed by these Regulations, and that such stock, fodder, fittings, and effects are likely to be infected (or not likely to be infected).

Dated this day of 188 .  
 (Signed) Master.

Notice to Masters of Vessels.

No straw, fodder, or any other food shipped for the use of the stock on board, on any account to be landed, under a penalty of £200.

Masters of vessels, before signing this declaration, are requested to observe that the meaning under the abovementioned Act of the term "Infected Stock" is as follows:—  
 "Any stock suffering from or actually affected with disease, glanders, farcy, tuberculosis, cattle plague, foot and mouth disease, sheep-pox, scab in sheep and camels, catarrh, rabies, and pleuro-pneumonia, swine fever, or which have been in direct or indirect contact, or have been on the same vessel with such infected stock during the next preceding three months, or which have been under treatment during such period for the cure of any such disease." And that the term "Stock" includes cattle, sheep, swine, goats, dogs and deer.

**Form 7.**

**IMPORTED STOCK ACT OF 1871, AND THE IMPORTED STOCK ACT AMENDMENT ACT OF 1874.**

**LENGTH OF QUARANTINE OF STOCK.**

Stock.	Quarantine.
Horses .....	None.
Camels .....	120 days.
Cattle .....	120 days.
Sheep .....	90 days.
Pigs .....	90 days.
Goats .....	90 days.
Antelopes .....	90 days.
Deer .....	90 days.
Dogs .....	6 month

**Form 8.**

**IMPORTED STOCK ACT OF 1871, AND THE IMPORTED STOCK ACT AMENDMENT ACT OF 1884.**

*Joint certificate of inspection of imported Stock.*

We, the undersigned, Inspector of Stock and \_\_\_\_\_, a duly qualified Veterinary Surgeon, having satisfied ourselves that all the requirements of the above-named Acts and of these Regulations with respect to the declarations and certificates to be made, granted, and produced, for the \_\_\_\_\_ more particularly described in the Schedule below, and with respect also to the vessel by which such have arrived, and having carefully examined such do hereby certify that such \_\_\_\_\_ are infected with [or are apparently free from infection.]

Inspector.  
V.S.

Sydney, 188 .

**SCHEDULE.**

No.	Description of Stock.	Brands or marks.	Where from, by what ship, and when.	Name and address of owner and of person in charge.	Quarantined at.

**Form 9.**

**IMPORTED STOCK ACT OF 1871, AND THE IMPORTED STOCK ACT AMENDMENT ACT OF 1884.**

*Importer's Bond and Guarantee.*

To the Inspector of Stock, Sydney,  
We, \_\_\_\_\_ do hereby request that the imported stock which arrived on the \_\_\_\_\_ by the ship \_\_\_\_\_ and of which the owner \_\_\_\_\_, more particularly described in the Schedule below, may, if found free from infection, be removed to Quarantine under the conditions set forth in the Regulations under the above-named Acts, which Regulations are signed as relative hereto, and which we agree to carry out, and by way of guarantee we hold ourselves firmly bound to the Chief Inspector of Stock in the sum of \_\_\_\_\_, to be paid to him or his assigns on demand.

Owner  
or  
Consignee.  
Surety.  
Surety.

Dated at \_\_\_\_\_ this \_\_\_\_\_ day of 188 .

**SCHEDULE.**

No.	Sex.	Description.	Brands or marks.	Age.	Consignees.

**Form 10.**

**IMPORTED STOCK ACT OF 1871, AND THE IMPORTED STOCK ACT AMENDMENT ACT OF 1884.**

*Order to Quarantine Keeper to Receive Stock.*

Sydney, \_\_\_\_\_, 188 .

The Quarantine Keeper  
at \_\_\_\_\_

Be so good as to receive into Quarantine the \_\_\_\_\_ ex \_\_\_\_\_ from \_\_\_\_\_ more particularly described in the Schedule below.

Inspector of Stock.

No. of Stock.	Sex.	Description.	Brands and marks.	Name and address of owner.	Name and address of agent or consignee.	Remarks.

**Form 11.**

**IMPORTED STOCK ACT OF 1871, AND THE IMPORTED STOCK ACT AMENDMENT ACT OF 1884.**

*Clean Certificate and Release from Quarantine.*

We, the undersigned, Chief Inspector (or Inspector) of Stock and \_\_\_\_\_, a duly qualified veterinary surgeon, having carefully examined the \_\_\_\_\_ of which the owner, and which are more particularly specified in the Schedule below, do hereby certify that such \_\_\_\_\_ have remained in quarantine for a period of more than \_\_\_\_\_ and have been duly dressed and disinfected in accordance with the provisions of the above-named Acts, and of the Regulations issued thereunder; and that such \_\_\_\_\_ are not infected, and may be removed from quarantine to the destination specified.

Chief Inspector (or Inspector).  
V.S.

Sydney, \_\_\_\_\_, 188 .

**SCHEDULE.**

No.	Description.	Brands or marks.	Where from, by what ship, and at what date.	Name and address of owner and of person in charge.	Route and Destination.

**Form 12.**

**IMPORTED STOCK ACT OF 1871, AND THE IMPORTED STOCK ACT AMENDMENT ACT OF 1884.**

**SCALE OF TRANSPORT AND QUARANTINE CHARGES AND EXPENSES.**

*Veterinary Surgeon's Fees for inspection.*

*Foreign horses and cattle.*

Where the number does not exceed two head, a fee of	£	s.	d.
Where the number exceeds two head, and does not exceed four head, an additional fee for every additional head of	0	10	0
For every additional head over four head, an additional fee of	0	5	0

*Foreign sheep, goats, pigs, or dogs.*

Where the number does not exceed four head, for each visit and inspection, a fee of	1	1	0
Where the number exceeds four, and does not exceed eight head, for every additional head an additional fee of	0	2	6
Where the number exceeds eight head, or where the sheep, goats, pigs, or dogs are inspected along with the cattle, an additional fee for each of	0	1	0
When inspected with horses or cattle, whatever the number may be, a fee each of	0	1	0

Charges for Transport of Stock to and from Quarantine.—  
Payable each way.

*Foreign cattle.*

For one head	£	s.	d.
For two head	1	5	0
For every additional head arriving on board the same vessel	0	5	0

*Foreign sheep, goats, pigs, or dogs.*

When conveyed with cattle, every sheep, goat, dog, or pig	0	1	0
When conveyed without cattle, any number from 1 to 20	1	5	0
When conveyed without cattle, any number from 21 to 50	1	15	0
When conveyed without cattle, any number from 51 to 100	2	10	0
When conveyed without cattle, any number from 101 and upwards	3	0	0
For every trip to either quarantine with forage or other loading	1	5	0
For unnecessary detention over 1 hour, per hour	0	10	0

*Charges for sustenance and in quarantine of foreign animals.*

Cattle per head, per day—	£	s.	d.
Stud cattle	0	3	0
Ship's cattle	0	2	6
Pigs, each, per day	0	1	0
Young pigs, 2 months old (not over)	0	0	8
Sheep	0	0	6
Dog	0	0	6
Pups, 2 months old	0	0	3

The cost of disinfecting such stock, or the vessel in which they arrive, or the fittings thereof, or the effects of their attendants, as well as all other charges and expenses of every description incurred through the importation of such stock.

*Keep of Australian Sheep in Quarantine.*

	£ s. d.
Sustenance and attendance per sheep per day .....	0 0 6
<i>Dipping Foreign and Australian Sheep—each dressing.</i>	
	£ s. d.
1 sheep.....	0 10 0
2 sheep, and not more than 5 sheep, per sheep.....	0 5 0
6 sheep, and not more than 10 sheep, per sheep ...	0 3 0
11 sheep, and not more than 20 sheep, per sheep ...	0 2 0
21 sheep, and not more than 40 sheep, per sheep ...	0 1 6
41 sheep, and not more than 100 sheep, per sheep	0 1 0
101 sheep, and not more than 200 sheep, per sheep	0 0 9
201 sheep and over, per sheep .....	0 0 6

**Form 13.**

**IMPORTED STOCK ACT OF 1871, AND THE IMPORTED STOCK ACT AMENDMENT ACT OF 1884.**

*Declaration as to dipping.*

I, \_\_\_\_\_, do solemnly and sincerely declare that the sheep of which \_\_\_\_\_ is the owner, and which are more particularly described in the Schedule below, have been dipped \_\_\_\_\_ times in all respects as prescribed by the Regulations under the abovenamed Acts, on the dates specified.

**SCHEDULE.**

No.	Description.	Brands or marks.	Where from, and by what ship.	Name and address of owner and of person in charge of Quarantine.	Quarantine.	Dates of dipping.

And I make this solemn declaration, conscientiously believing the same to be true, and in virtue of the provisions of an Act made and passed in the ninth year of the reign of Her present Majesty, intituled "An Act for the more effectual abolition of

Oaths and Affirmations taken and made in various departments of the Government of New South Wales and to substitute Declarations in lieu thereof and for the suppression of Voluntary and Extra-judicial Oaths and Affidavits."

Made and signed before me at \_\_\_\_\_, this }  
day of \_\_\_\_\_, 188 . }

(Signed.) \_\_\_\_\_ J.P.

**Form 14.**

**IMPORTED STOCK ACT OF 1871, AND THE IMPORTED STOCK ACT AMENDMENT ACT OF 1884.**

*Notice to destroy infected stock.*

(This form is provided for under the Imported Stock Act of 1871.)

**Form 15.**

**IMPORTED STOCK ACT OF 1871, AND THE IMPORTED STOCK ACT AMENDMENT ACT OF 1884.**

*Notice of intention to introduce Foreign Stock.*

To the Chief Inspector of Stock,  
Sydney.

Take notice that it is my intention to introduce in the Colony of New South Wales the Foreign Stock more particularly described in the Schedule below.

(Owner).

Dated at \_\_\_\_\_ this \_\_\_\_\_ day of \_\_\_\_\_, 188 .

**SCHEDULE REFERRED TO ABOVE.**

No.	Sex.	Description.	Breed, Colour, Brands, & Marks.	Name and Address of Owner.	Wherefrom and by what Vessel.	When expected to arrive.	Consigned.



1887-8.

## NEW SOUTH WALES.

DISEASES IN SHEEP ACTS AND IMPORTED STOCK ACTS.  
(REGULATIONS UNDER)

Presented to Parliament pursuant to Acts 30 Vic. No. 16, sec. 77, and 35 Vic. No. 6, sec. 7.

NEW SOUTH WALES, } Proclamation by His Excellency The  
to wit. } Right Honourable CHARLES ROBERT,  
BARON CARRINGTON, a Member of Her  
Majesty's Most Honourable Privy  
(L.S.) Council, Knight Grand Cross of the  
CARRINGTON, Most Distinguished Order of Saint  
Governor. Michael and Saint George, Governor and  
Commander-in-Chief of the Colony of  
New South Wales and its Dependencies.

WHEREAS by section 45 of an Act passed in the thirtieth year of the Reign of Her present Majesty, and numbered sixteen, intituled "The Diseases in Sheep Act of 1866," it is, amongst other things, enacted that no sheep shall be introduced from an adjacent Colony at any crossing-places other than those appointed from time to time by Proclamation in the Gazette: Now, therefore, I, CHARLES ROBERT, BARON CARRINGTON, the Governor aforesaid, with the advice of the Executive Council, do, by this my Proclamation, hereby appoint the crossing-places named below to be crossing-places at which sheep may cross from the Colonies of Queensland, Victoria, and South Australia into this Colony, namely:—

	For Sheep from Queensland.
Ballandean	Dangar's Horse Station, near Barrington
Goondiwindi	Hungerford
Mungindi	Brenda

	For Sheep from Victoria.
Tintaldra	Bama
Jungollic	Swan Hill
Wagga	Euston
Albury	Tooleybuc
Corowa	Wentworth
Mulwala	Bondi
Tocumwal	Kirkmanong, near Delegate
Mouma	

	For Sheep from South Australia.
Thackeringa	Chowella
Mootra	

Given under my Hand and Seal, at Government House, Sydney, this sixth day of February, in the year of our Lord one thousand eight hundred and eighty-eight, and in the fifty-first year of Her Majesty's Reign.

By His Excellency's Command,  
FRANCIS ABIGAIL.

GOD SAVE THE QUEEN!

NEW SOUTH WALES, } Proclamation by His Excellency The  
to wit. } Right Honourable CHARLES ROBERT,  
BARON CARRINGTON, a Member of Her  
Majesty's Most Honourable Privy  
(L.S.) Council, Knight Grand Cross of the  
CARRINGTON, Most Distinguished Order of Saint  
Governor. Michael and Saint George, Governor and  
Commander-in-Chief of the Colony of  
New South Wales and its Dependencies.

WHEREAS by section 49 of an Act of the Parliament of New South Wales, passed in the thirtieth year of the Reign of Her present Majesty, intituled "The Diseases in Sheep Act of 1866," it is enacted that the Governor may, for any period not exceeding six months, by Proclamation, suspend the provisions of any one or more of the sections 45, 46, and 48 thereof, in respect of sheep introduced or proposed to be introduced from any adjoining Colony in which disease is not known to exist. And whereas the disease called "Scab in Sheep," is not known to exist in the Colonies of Queensland and South Australia: Now, therefore, I, CHARLES ROBERT, BARON CARRINGTON, the Governor aforesaid, with the advice of the Executive Council, do hereby suspend for a period of six months from the date of this Proclamation, the whole of sections 45 and 48 of the said Act, and so much of the provisions of section 46 of the said Act, with respect to sheep introduced or proposed to be introduced from the said Colonies of Queensland and South Australia, as will admit of such sheep being introduced, upon their owner giving the Inspector for the District in this Colony, into which such sheep cross, not less than 48 nor more than 96 hours notice in writing, stating where and when such sheep shall first enter this Colony, and their route and destination.

Given under my Hand and Seal, at Government House, Sydney, this sixth day of February, in the year of our Lord one thousand eight hundred and eighty-eight, and in the fifty-first year of Her Majesty's Reign.

By His Excellency's Command,  
FRANCIS ABIGAIL.

GOD SAVE THE QUEEN!

NEW SOUTH WALES, } Proclamation by His Excellency The  
to wit. } Right Honourable CHARLES ROBERT,  
BARON CARRINGTON, a Member of Her  
Majesty's Most Honourable Privy  
Council, Knight Grand Cross of the  
Most Distinguished Order of Saint  
Michael and Saint George, Governor and  
Commander-in-Chief of the Colony of  
New South Wales and its Dependencies.

(L.S.)  
CARRINGTON,  
Governor.

WHEREAS by section 30 of an Act passed in the forty-first year of the reign of Her present Majesty, intitled the "Diseases in Sheep Acts Amendment Act of 1878," it is enacted that the Governor, with the advice of the Executive Council, may, by Proclamation in the Gazette, suspend all or any of the provisions of the fifty-fifth and fifty-eighth sections of the principal Act (the Diseases in Sheep Act of 1866), for any period not exceeding twelve months: And whereas it is provided by the said sections that Coastwise and Coast District Sheep shall receive certain dressings prior to their being taken inland or out of the Coast Seab District: Now, therefore, I, CHARLES ROBERT, BARON CARRINGTON, the Governor aforesaid, with the advice of the Executive Council, do hereby for a further period of twelve months from the date of this Proclamation suspend the whole of the provisions of the said sections 55 and 58 so far as they apply to Coastwise Sheep, and so much of the provisions of the said sections in as far as they relate to the dressing of Coast District Sheep, and declare that for the said period Coastwise Sheep may be taken inland, and Coast District Sheep may be taken out of the Coast Seab District without such dressings, upon their owner obtaining from the Inspector a certificate that such sheep are free from disease and a permit for their removal.

Given under my Hand and Seal, at Government House, Sydney, this sixth day of February, in the year of our Lord one thousand eight hundred and eighty-eight, and in the fifty-first year of Her Majesty's Reign.

By His Excellency's Command,  
FRANCIS ABIGAIL.

GOD SAVE THE QUEEN!

Department of Mines,  
Stock Branch,  
Sydney, 6th February, 1888.

DISEASES IN SHEEP ACT OF 1866, AND THE  
DISEASES IN SHEEP ACTS AMENDMENT ACTS  
OF 1878 AND 1882.

THE following Regulations, which have been made and issued by His Excellency the Governor, with the advice of the Executive Council, for carrying into effect the provisions of the abovenamed Acts, are hereby published for general information.

FRANCIS ABIGAIL.

I. PRELIMINARY.

*Repeal of previous Regulations.*

1. All previous Regulations under the abovenamed Acts are hereby repealed.

*Definition of words and terms.*

2. In these Regulations the following words and terms shall have the meanings which they bear in section 2 of the Diseases in Sheep Act of 1866, and section 3 of the Diseases in Sheep Acts Amendment Act of 1878, namely:—"Brand," "Coast Sheep," "Destroy," "Director," "Disease," "District," "Drover," "Governor," "Infected Sheep," "Inspector," "Introduced Sheep," "Minister," "Owner," "Proprietor," "Run," "Sheep," and "Travelling Stock"; and the following other words and terms shall in these Proclamations and Regulations, unless the context otherwise indicate, have the meanings set against them respectively, namely:—

"Crossing-place"—Any place on the Border of the Colony proclaimed a crossing-place under the abovenamed Acts.

"Distinctive"—As applied to any brand or mark—any brand or mark branded or marked to denote any matter or thing other than ownership.

"Mark"—Any mark made by cutting on stock.

"Reserve"—Any travelling stock or camping reserve.

"Tattoo Mark"—Any tattoo mark on sheep.

C.—INTRODUCED ANIMALS.

II.—REGULATIONS AS TO INTRODUCED SHEEP.

*Imported Sheep introduced Overland.*

3. No sheep which have been imported within the next preceding six months into any adjoining Colony shall be introduced into this Colony unless in conformity with the provisions of the Imported Stock Act of 1871 and of the Imported Stock Act Amendment Act of 1884, and of any Proclamations or Regulations issued or made thereunder in regard to imported sheep.

*Crossings for sheep intended to be introduced.*

4. All sheep intended to be introduced into this Colony from any adjoining Colony shall, unless the provisions of section 45 of the Diseases in Sheep Act of 1866 shall have been suspended with respect to sheep from any such Colony, be so at one or other of the proclaimed crossing-places, or at some other crossing-place specially sanctioned by the Directors for the District through which the sheep would first pass on crossing the Border.

*Owner to give Inspector notice of intention to cross.*

5. The owner of sheep, which it is proposed to bring overland into this Colony, shall give the Inspector for the crossing-place at which they are intended to be introduced not less than forty-eight nor more than ninety-six hours' notice in writing, stating the day and hour when it is intended to cross such sheep, to the effect of Form A hereto.

*Sheep to be branded before crossing.*

6. All such sheep shall, before crossing the Border, be legibly branded as required by section 47 of the Diseases in Sheep Act of 1866, in addition to their owners brand, and shall be kept so branded for six months after their introduction.

D.—TRAVELLING STOCK.

*Districts in which Regulations relating to travelling sheep are in force.*

7. The Regulations 1, 2, 3, and 4, contained in section 14 of the Act 41 Vic. No. 19, with respect to travelling sheep, shall apply to and be in force in the following sheep districts, namely:—

Albury.	Iiume.
Armidale.	Ivanhoe.
Balranald.	Menindie.
Bathurst.	Molong.
Bombala.	Merriwa.
Brewarrina.	Moree.
Braidwood.	Mudgee.
Bourke.	Murrumbudi.
Booligal.	Narrandera.
Cannonbar.	Narrabri.
Carcoar.	Pilliga.
Cobar.	Queanbeyan.
Cooma.	Singleton.
Coonabarrabran.	Tamworth.
Coudobolin.	Penterfield.
Coonamble.	Urana.
Corowa.	Wagga Wagga.
Deniliquin.	Walgett.
Dubbo.	Warraldra.
Forbes.	Wentworth.
Glen Innes.	Wilcannia.
Goulburn.	Yass.
Gundagai.	Young.
Hay.	

*Owner requiring permit, or renewed permit, to make application to Inspector.*

8. Every owner intending to travel any sheep for which a permit or renewed permit is required shall, as the case may be, make an application to an Inspector, to the effect of Form B hereto; and if the application is for a renewed permit the owner shall, with such application, transmit or deliver to the Inspector the original or renewed permit under which such sheep shall be travelling at the time the application is made; and the Inspector shall, in accordance with these Regulations, grant the applicant, as the case may be, a permit to the effect of Form C, or a renewed permit to the effect of Form D hereto, on receipt of the travelling charges payable for such renewed permit.

*Owner may appeal against travelling charges on depositing amount or giving bond for it.*

9. The travelling charges payable for any renewed permit for travelling sheep, may be paid under protest to the Director or Inspector granting the same, or a bond for the amount thereof, and of the expenses of appeal, in terms of Form G hereto, executed by two responsible persons to be approved by the Director or Inspector, as the case may be, may be lodged with him under protest; and the drover of the sheep or their owner, or some one on his behalf, may appeal to the Minister against the payment of such charges; and the Minister on obtaining the report of the proper Board or Boards of Directors will decide whether or not such charges shall be paid.

*Inspector may call for declaration as to returning fat sheep.*

10. Every owner requiring a renewed permit for sheep which are represented as fat sheep sent *bona fide* to and returning unsold from market, shall, when required by the Inspector, make and deliver to him a statutory declaration (Form E) to the effect that the statements contained in the application for such permit are true.

*Stock may be counted.*

11. The Inspector may, when necessary, count any travelling stock, and the drover thereof shall, when required, afford the Inspector every assistance in making such count.

## E.—SHEEP MARKS AND BRANDS.

### I.—CUT MARKS.

#### *The "Tip" or "Crop" Ear-mark prohibited.*

12. The tip or point shall not be cut or cropped off any sheep's ear except unless in so far as it shall be so by an authorized mark.

#### *Number of Cuts in Ear-mark.*

13. All owners' sheep ear-marks shall consist of one or two cuts or marks and no more, except in the case of special marks.

#### *Shape and size of Ear-marks.*

14. The shape and size of the several "owners'" sheep ear-marks (other than special marks, which may be of such shape and size as the Chief Inspector shall decide) shall be as set forth in Form H hereto.

#### *No marks shall be made except with ear-pliers.*

15. All sheep ear-marks shall be made or marked with an ear-plier, the cutters of which shall be of the size and shape described by Form H hereto; and all owners' sheep ear-marks made or marked in any other way than with an ear-plier shall be held and deemed to be unrecorded ear-marks.

#### *Rules of marking "owners" and "distinctive" marks.*

16. The "owners'" sheep ear-mark shall in every case be marked on the near or left ear of male sheep, and on the off or right ear of female sheep; and "distinctive" ear-marks, such as those denoting the age and class of sheep, shall in every case be marked on the off or right ear of male sheep, and on the near or left ear of female sheep. And all ear-marks made on sheep after the publication of this Regulation shall be held and deemed to be "owners'" or "distinctive" ear-marks, according to the ear of the sheep on which they are marked.

#### *When the same brand or mark is claimed by two or more applicants.*

17. Sheep brands and marks not already registered, if unobjectionable, shall be recorded in the order in which they are received; and if two or more owners in the same district apply at the same time for a similar brand or mark, it shall be allotted by the Inspector to the applicant who can prove that he was the first to use such brand or mark in that district; but if no such proof can be adduced the brand or mark shall be allotted to the applicant who owns the larger number of sheep.

## II.—RECORDING OF SHEEP BRANDS AND MARKS.

### *Order of Registration.*

18. When two or more applicants claim the same owners' brand or mark, and they decline to agree to the settlement proposed by the Inspector, their claims shall be referred by him to the Directors for the District, who shall hear and decide the same, and deal with the expenses of such hearing in the same manner as applications are heard and decided under the "Diseases in Sheep Act of 1866"; and the brand or mark in dispute shall be allotted and recorded as the Directors shall so decide. If the Directors decline to decide, the brand or mark shall be allotted as the Minister shall direct.

#### *A fee of ten shillings to be paid for special brands.*

19. An Owner applying for a special brand must lodge with his application the sum of ten shillings to cover the expense of the block required for publishing the same in the Government Gazette.

## III.—TATTOO SHEEP MARKS.

### *Their description, size, registration, and order of marking.*

20. All tattoo sheep marks shall be of the description and size, and shall be registered and marked as follows, namely:—

#### *Description and size of Tattoo Marks.*

- (1.) Tattoo marks used as owners' sheep marks shall consist of one or more letters, signs, or characters.
- (2.) The letters used shall be of the Roman or Script style, and all letters and signs or characters shall be not less than  $\frac{3}{8}$  of an inch in length and  $\frac{1}{4}$  of an inch in width.

#### *Mode of Registration of Tattoo Marks.*

- (3.) All applications for tattoo marks shall be made in the first instance to the Inspector for the District in which it is intended to use such marks (Form L. 1), who will make the necessary entries in his Record, and forward the applications to the office of the Registrar of Brands, Sydney, to be recorded for the Colony.
- (4.) The fee for recording each tattoo mark, including publication in the Gazette, will be six shillings (6s.)

#### *Mode and order of marking and proof of ownership of Tattoo Marks.*

- (5.) The portions of the sheep on which recorded tattoo marks shall be imprinted shall be the following:—
  - Portion 1. The under side of the near or left ear.
  - " 2. The under side of the off or right ear.
  - " 3. The under side of the tail.
  - " 4. On the ribs, beneath the near fore arm.
  - " 5. On the ribs, beneath the off fore arm.

- (6.) The part of the sheep's ears nearest to the head shall be held to be highest part of that portion; and the part of the tail nearest to the body of the sheep the highest part of that portion.
- (7.) In imprinting recorded tattoo marks on sheep, the breeder or person imprinting the first mark shall do so on the highest available part of portion 1; and the second and every subsequent tattoo mark imprinted shall be so immediately under the preceding mark, if there be room on the same portion, and, if not, then on the highest available part of the next portion, according to the order hereinbefore laid down.
- (8.) All sheep shall be deemed to be marked with the recorded tattoo mark which shall appear to be the last mark imprinted upon such sheep, according to the order hereinbefore prescribed.
- (9.) Notwithstanding any thing contained in these Regulations, the owner of pedigree sheep may, with the sanction of the Directors, number such sheep with a tattoo mark on the off ear for stud purposes, and in that case the third portion shall be held to be the next in order to the first.

## F.—STOCK BOARD OF EXAMINERS.

### VIII.—EXAMINATION OF APPLICANTS FOR APPOINTMENT AS INSPECTORS.

21. The Chairman of the Board of Sheep Directors, Sydney, the Chief Inspector of Stock, and such duly qualified Veterinary Surgeon as the Minister may from time to time appoint, shall be a Board to examine persons who may intend to apply for the appointment of Inspector of Sheep, and such Board shall meet at such places and times, and hold such examinations as the Minister for Mines shall direct, and shall report the result of the same to the Minister within ten days after the holding of the same.

22. The Board on being satisfied that the persons examined possess the necessary qualifications, and are in all other respects fit to hold the appointment of Inspector, shall grant a certificate to the effect of Form M. hereto; and any person unable to produce any such certificate shall not be eligible to apply for such appointment.

23. No certificate shall be granted by the Board unless the person examined shall produce to the Board satisfactory testimonials as to character, temperance, honesty, trustworthiness, as well as practical experience of stock and their management, and is found to possess, among others, the following qualifications:—

- (1.) That the applicant is over 25 and under 50 years of age.
- (2.) That he is not in any way incapacitated by ill-health or bodily infirmity for the active discharge of an Inspector's duties.
- (3.) That he is thoroughly conversant with the provisions of the Acts relating to Diseases in Stock, the branding, marking, mustering, travelling, and impounding of stock; to the prevention of stock-stealing; to the destruction of noxious animals; to public watering-places; to dividing fences; and to those portions of the Land Law which relate to reserves for travelling stock.
- (4.) That he is possessed of a practical knowledge of horses, cattle, and sheep, and their management, and a thorough theoretical and practical knowledge of the diseases known as Scab, Catarrh, Fluke, Worms, Foot-rot, Pleuro-pneumonia, Black-leg, Tuberculosis, Anthrax (Cumberland) Disease, Influenza in horses, and of the proper treatment of these diseases.
- (5.) That he has a general knowledge of the character, nature, cause, symptoms, and treatment of Rinderpest, Sheep-pox, Foot and Mouth Disease, Glanders, Farcy, Swine-fever, Rabies, and Hydatids.

24. Notwithstanding anything hereinbefore contained, the Board, on receiving twenty-four hours notice may, in urgent cases, where the Minister may deem it necessary to appoint Acting-Inspectors, examine provisionally the persons applying for such appointments; and if the Board is satisfied that the examinees are qualified to fill such appointments it shall grant provisional certificates accordingly.

25. At all meetings for examinations two members shall form a quorum.

## G.—APPEALS AND APPLICATIONS.

26. Any person intending to make an application or appeal to a Board of Sheep Directors, as provided by section 86 of the Diseases in Sheep Act of 1866, shall, with every such application or appeal, deposit with the Inspector the sum of £10, to pay the expenses connected therewith, and in the case of appeals against the payment of travelling charges on sheep, the amount of such charges shall also be deposited, or a bond for the amount, to the effect of Form G. hereto.

**Form A.**

DISEASES IN SHEEP ACT OF 1866, AND DISEASES IN SHEEP ACTS AMENDMENT ACTS OF 1878 AND 1882.  
*Notice of intention to introduce stock.*

To Inspector of Stock,  
 TAKE notice that it is intention to introduce at the  
 crossing place at the which  
 are more particularly described in the Schedule below, at the time and date therein mentioned, and of which  
 , of is the owner.  
 Dated , 188 . Owner or his Agent.

**SCHEDULE.**

No.	Description.	Where bred.	Where from.	By what route.	When expected.	
					Date.	Time.

**Form B.**

DISEASES IN SHEEP ACT OF 1866, AND DISEASES IN SHEEP ACTS AMENDMENT ACTS OF 1878 AND 1882.  
*Application for Permit or Renewed Permit to travel sheep.*

To the Inspector of Sheep,—  
 have to request that you will furnish with a Permit (or Renewed Permit) to travel the sheep more  
 particularly described in the Schedule below, as required by section 14 of the abovenamed Act. The sheep are sound, and have  
 not travelled (or have travelled) within the next preceding weeks.

**SCHEDULE REFERRED TO ABOVE.**

Number.	Description.	Brands and marks.	Name and address of owner and of person in charge.	From what District and Run.	Route intended to travel and distance.	Consignee and destination.

Applicant.

Dated at this day of 188 .

No.

**Form C.**

DISEASES IN SHEEP ACT OF 1866, AND DISEASES IN SHEEP ACTS AMENDMENT ACTS OF 1878 AND 1882.  
*Permit to travel.*

(This Form is provided for under the Diseases in Sheep Acts Amendment Act of 1878. See the second Schedule thereto.)

**Form D.**

DISEASES IN SHEEP ACT OF 1866, AND DISEASES IN SHEEP ACTS AMENDMENT ACTS OF 1878 AND 1882.  
*Renewed Permit to travel.*

THIS is to certify that a Renewed Permit has this day been granted to to travel the sheep more particularly described  
 in the Schedule below, from their destination, to ; and I acknowledge to have received the  
 sum of £ , as the Travelling Charges payable for such Renewed Permit.

**SCHEDULE REFERRED TO ABOVE.**

Number.	Description.	Brands or marks.	Name and address of owner and of person in charge.	Date of arrival at last destination, and where sheep originally started from.	Route now permitted to travel.	Consignee and destination.	Number of miles	Travelling charges at two pence per mile per hundred.		
								£	s.	d.

188 .

Inspector of Stock.

**Form E.**

**DISEASES IN SHEEP ACT OF 1866, AND DISEASES IN SHEEP ACTS AMENDMENT ACTS OF 1878 AND 1882.**

*Declaration with respect to fat sheep returning from market.*  
 I of do solemnly and sincerely declare that the particulars stated in the accompanying application for a renewed permit to travel *bona fide* fat sheep back from their previous destination, to are correct to the best of my knowledge and belief: And I make this solemn declaration, conscientiously believing the same to be true, and by virtue of the provisions of an Act made and passed in the ninth year of the reign of Her present Majesty, intituled "An Act for the more effectual abolition of Oaths and Affirmations taken and made in various Departments of the Government of New South Wales and to substitute Declarations in lieu thereof and for the suppression of voluntary and extra-judicial Oaths and Affidavits."

Made and signed before me, at this day of 188 . }  
 Signature of a Justice of the Peace— }

**Form F.**

**DISEASES IN SHEEP ACT OF 1866, AND DISEASES IN SHEEP ACTS AMENDMENT ACTS OF 1878 AND 1882.**

*Travelling Statement.*

I, of do solemnly declare that I am the of the travelling stock, more particularly described in the Schedule below: And I further declare that the said stock are this day to be taken by drover, from [state name of place or run] in the Sheep District of , and are intended to be driven by to being their destination [name of place or run] in the district of by the following route, which is [ordinary or direct] route, viz. :-

and to be delivered thereto as consignee.

**SCHEDULE REFERRED TO.**

Number of Stock.	Description of Stock.	Sex.	Marks.	How and Where Branded.	Diseased or Sound.

Owner (or Superintendent).  
 Signed at this day of 188 .  
 Witness—

**Form G.**

**DISEASES IN SHEEP ACT OF 1866, AND DISEASES IN SHEEP ACTS AMENDMENT ACTS OF 1878 AND 1882.**

*Bond where owner appeals against payment of travelling charges.*

Know all men by these presents, That , of , in the Colony of New South Wales, and , of , in the Colony aforesaid, are jointly and severally held and firmly bound unto Her Most Gracious Majesty Queen Victoria, under the abovenamed Acts, in the sum of to be paid to Her said Majesty, her heirs, or successors, for which payment to be made we bind ourselves, and each of us bind ourselves, our heirs, executors, and administrators severally, firmly, by these presents.

Sealed with our Seals, and dated )  
 the day of )  
 188 . )  
 Witness.

N.B.—The above bond is granted by in security for the payment of the travelling charges due on sheep belonging to for which of has granted from to in the event of the Honorable the Minister for Mines after receiving the report of the Board of Sheep Directors for the District of deciding that such charges shall be paid.

**Form H.**

**DISEASES IN SHEEP ACT OF 1866, AND DISEASES IN SHEEP ACTS AMENDMENT ACTS OF 1878 AND 1882.**

**NAME, SHAPE, AND SIZE OF SHEEP EAR-MARKS.**

Name of mark.	Shape of mark.	Length, not exceeding—	Width, not exceeding—
The bayonet .....		1 inch ...	$\frac{4}{8}$ inch.
„ club .....		$\frac{7}{8}$ „	$\frac{5}{8}$ „
„ fork .....		$\frac{6}{8}$ „	$\frac{4}{8}$ „
„ half half-penny .....		$\frac{6}{8}$ „	$\frac{3}{8}$ „
„ hole .....		$\frac{6}{8}$ „	$\frac{6}{8}$ „
„ note .....		1 „	$\frac{4}{8}$ „
„ shears .....		$\frac{6}{8}$ „	$\frac{5}{8}$ „
„ slash .....		$1\frac{2}{8}$ „	$\frac{1}{16}$ „
„ slit .....		$\frac{7}{8}$ „	$\frac{1}{16}$ „
„ swallow-tail .....		$\frac{5}{8}$ „	$\frac{6}{8}$ „
„ thistle .....		$\frac{6}{8}$ „	$\frac{4}{8}$ „
„ triangle .....		$\frac{5}{8}$ „	$\frac{5}{8}$ „
„ W .....		$\frac{6}{8}$ „	$\frac{6}{8}$ „

**Form I.**

**DISEASES IN SHEEP ACT OF 1866, AND DISEASES IN SHEEP ACTS AMENDMENT ACTS OF 1878 AND 1882.**

*Application to record a sheep brand or mark.*

Owner's Brand. Owner's Marks. Age Mark. Class Mark.  
 188 .  
 To

**Inspector of Sheep,**

I have to request that you will record the Brand and Marks on the margin hereof, as the Sheep Brand and Marks to be used on Station, of , of which is the Post Town, and on which there are now sheep and lambs belonging to ; and that you will also enter in your Record that the age of the sheep on the station is denoted by and the class by

I enclose the authorized fee, amounting to £ particulars of which are given in the Schedule below.

Witness— Owner (or Superintendent).

**SCHEDULE REFERRED TO ABOVE.**

Particulars recorded.	Number of sheep.	Fees.	
		Rate each.	Amount.
Recording owner's brand, tar...		.....	
„ „ paint or tar		.....	
„ „ mark.....		5/-	
„ „ distinctive age mark		1/-	
„ „ class mark...		1/-	
Publication in Gazette.....each		1/-	

**When received.**

Date.	Time.

## Form J.

DISEASES IN SHEEP ACT OF 1866, AND DISEASES  
IN SHEEP ACTS AMENDMENT ACTS OF 1878  
AND 1882.

*Certificate of Record.*

No.

188

THIS is to certify, that the owner's brand and mark  
mentioned in the margin hereof, was this day duly  
recorded as the sheep brand and mark of  
in terms of the provisions of the abovenamed Acts.  
Inspector of Stock.

## Form K.

DISEASES IN SHEEP ACT OF 1866, AND DISEASES  
IN SHEEP ACTS AMENDMENT ACTS OF 1878  
AND 1882.

*Memorandum of acceptance of modification.*

188

Brand. Ear-mark. Distinctive Mark.

Brand or marks applied for...

Modifications suggested.....

I HEREBY agree to accept the Brand or Mark modified as above,  
and request that the same may be recorded accordingly.

Signature .....

Insert date.....

Witness—

Should this memorandum not be returned within twenty-  
one days from the above date, the Brands or Marks herein  
suggested will be recorded as yours, in terms of the above-  
named Acts.

## Form L.

DISEASES IN SHEEP ACT OF 1866, AND DISEASES  
IN SHEEP ACTS AMENDMENT ACTS OF 1878  
AND 1882.

*Memorandum of transfer of brand or mark.*

188

Owner's Brand. Owner's Mark. Age Mark. Class Mark.

To the Inspector of Sheep,  
District of

I being the recorded owner of the Sheep Brand  
and Marks on the margin hereof, having transferred the same  
with sheep and lambs to of  
do hereby request that you will make the necessary transfer to  
of such Brand and Mark in your Record, and  
enclose herewith the sum of , as the  
authorized fees for such transfer.

Transferor.  
Transferee.

Witness—

## Form L 1.

DISEASES IN SHEEP ACTS AMENDMENT ACT OF  
1878.

*Application to Record a Sheep Tattoo Mark.*

188

To Inspector of Sheep,

HAVE to request that you will record the first available of  
any of the five Sheep Tattoo Marks mentioned on the margin  
hereof, to be imprinted on the portion specified in  
the Schedule hereunder, as the "Owners" Sheep Tattoo Mark  
of of Station, of which is the Post  
Town, and I hereby enclose the sum of six shillings (6s.), the  
authorised fee for recording the same.

Owner (or Superintendent).

*Schedule referred to above :—*

- Portion 1. The under side of the near or left ear.  
" 2. The under side of the off or right ear.  
" 3. The under side of the tail.  
" 4. On the ribs beneath the near fore arm.  
" 5. On the ribs beneath the off fore arm.

## Form M.

DISEASES IN SHEEP ACT OF 1866, AND DISEASES  
IN SHEEP ACTS AMENDMENT ACTS OF 1878  
AND 1882.

*Certificate of Examination.*

WE, the undersigned, being a quorum of the Board of  
Examiners, appointed by His Excellency the Governor, with  
the advice of the Executive Council, for the purpose of  
examining applicants for the appointment of Inspector of

Stock, having examined and having found that  
he possesses the qualifications prescribed by the regulations  
issued under the abovementioned Acts, do hereby certify to  
that effect.—Dated at Sydney, this day of  
A.D. 188

Signatures of Examiners }

## IMPORTED STOCK ACTS.

NEW SOUTH WALES, } Proclamation by His Excellency The  
to wit. } Right Honourable CHARLES ROBERT,  
BARON CARRINGTON, a Member of Her  
Majesty's Most Honourable Privy  
(L.S.) Council, Knight Grand Cross of the  
CARRINGTON, Most Distinguished Order of Saint  
Governor. Michael and Saint George, Governor and  
Commander-in-Chief of the Colony of  
New South Wales and its Dependencies.

WHEREAS by section three of an Act passed in the forty-  
eighth year of the Reign of Her present Majesty, intituled,  
"The Imported Stock Act Amendment Act of 1884," it is  
enacted that the term "Stock" shall, in addition to cattle  
and sheep, include goats, swine, dogs, and such other animals  
as the Governor may, by Proclamation published in the Govern-  
ment Gazette, declare to be subject to the provisions of  
the said Act: And whereas horses suffer from the diseases  
known as Glanders and Farcy and deer suffer from the diseases  
known as Foot and Mouth Disease and Rinderpest: And it is  
therefore desirable that their importation into the Colony  
should be made subject to the provisions of the abovenamed  
Act and of the "Imported Stock Act of 1871": Now, there-  
fore, I, CHARLES ROBERT, BARON CARRINGTON, the Governor  
aforesaid, with the advice of the Executive Council, do, by  
this my Proclamation, hereby cancel the proclamation of 5th  
January, 1885, and declare that horses, camels, and deer  
shall be included in the term "Stock," and shall be subject to  
the provisions of "The Imported Stock Act of 1871," and  
"The Imported Stock Act Amendment Act of 1884."

Given under my Hand and Seal, at Government House,  
Sydney, this sixth day of February, in the year  
of our Lord one thousand eight hundred and eighty-  
eight, and in the fifty-first year of Her Majesty's  
Reign.

By His Excellency's Command,

FRANCIS ABIGAIL.

GOD SAVE THE QUEEN!

NEW SOUTH WALES, } Proclamation by His Excellency The  
to wit. } Right Honourable CHARLES ROBERT,  
BARON CARRINGTON, a Member of Her  
Majesty's Most Honourable Privy  
(L.S.) Council, Knight Grand Cross of the  
CARRINGTON, Most Distinguished Order of Saint  
Governor. Michael and Saint George, Governor and  
Commander-in-Chief of the Colony of  
New South Wales and its Dependencies.

WHEREAS by section one of an Act passed in the thirty-  
fifth year of the Reign of Her present Majesty, intituled,  
"The Imported Stock Act of 1871," the Governor, with  
the advice of the Executive Council, is empowered to  
declare, by Proclamation in the Gazette, diseases, other than  
Rinderpest, Foot and Mouth Disease, and Sheep-pox, to be  
infectious or contagious diseases for the purposes of the said  
Act: Now, therefore, I, CHARLES ROBERT, BARON CARRING-  
TON, the Governor aforesaid, with the advice of the Executive  
Council, do, by this my Proclamation, hereby cancel the  
proclamation of 5th January, 1885, and declare the diseases  
known as Scab, Catarrh, Rabies, Pleuro-Pneumonia, Tubercu-  
losis, Glanders, Farcy, Swine-fever, and Mange in Dogs to be  
infectious or contagious diseases within the meaning and for  
the purposes of the said Act.

Given under my Hand and Seal, at Government House,  
Sydney, this sixth day of February, in the year of  
Lord one thousand eight hundred and eighty-eight,  
and in the fifty-first year of Her Majesty's Reign.

By His Excellency's Command,

FRANCIS ABIGAIL.

GOD SAVE THE QUEEN!

NEW SOUTH WALES, } Proclamation by His Excellency the  
to wit. } Right Honourable CHARLES ROBERT,  
BARON CARRINGTON, a Member of Her  
Majesty's Most Honourable Privy  
Council, Knight Grand Cross of the  
Most Distinguished Order of Saint  
Michael and Saint George, Governor and  
Commander-in-Chief of the Colony of  
New South Wales and its Dependencies.

(L.S.)  
CARRINGTON,  
Governor.

WHEREAS by a Proclamation dated the fourteenth day of January, 1887, issued under the 10th section of the Act of Parliament of New South Wales, passed in the thirty-fifth year of the reign of Her present Majesty, intituled the "Imported Stock Act of 1871," and numbered six, the importation or introduction into this Colony of cattle, sheep, goats, or swine, and of fodder or fittings from Europe, Asia, Africa, and America, or any place not being within the Australian Colonies as defined by the said Act, are prohibited for a period of twelve months, from the 1st of February, 1887: And whereas it is considered that while certain descriptions of stock may, under proper regulations, be imported into this Colony from certain colonies and countries without introducing infectious or contagious disease, there are other colonies and countries in which there is reason to believe such disease exists: Now, therefore, I, CHARLES ROBERT, BARON CARRINGTON, the Governor aforesaid, with the advice of the Executive Council, do, by this my Proclamation, for a period of two years from the date hereof, absolutely prohibit the importation or introduction into this Colony of the stock mentioned in Schedule A hereto.

SCHEDULE A.

IMPORTED STOCK ACT OF 1871, AND THE IMPORTED STOCK ACT AMENDMENT ACT OF 1884.

Foreign Stock and things prohibited from being Imported or Introduced.

Stock.	From what colony or country.
Cattle, Sheep, and Dogs.	From all foreign countries and colonies, except from Great Britain and Ireland, unless such cattle, sheep, or dogs shall have been 14 days in Great Britain or Ireland.
Swine ... ..	From all foreign colonies and countries.
Goats and Deer ... ..	From all foreign colonies and countries, unless they are imported for a Zoological Society, when they may be landed and quarantined as provided by regulation.
Fodder and Fittings...	From any foreign colony or country, or from any foreign vessel.

Given under my Hand and Seal, at Government House, Sydney, this sixth day of February, in the year of our Lord, one thousand eight hundred and eighty-eight, and in the fifty-first year of Her Majesty's Reign.

By His Excellency's Command,  
FRANCIS ABIGAIL.

GOD SAVE THE QUEEN!

NOTE.—The foreign stock undermentioned are not within the terms of the above prohibition.

Foreign Stock not prohibited.

Stock.	From what colony or country.
Horses ... ..	Any colony or country.
Camels ... ..	Any colony or country.
Cattle ... ..	From Great Britain and Ireland.
Sheep ... ..	From Great Britain and Ireland.
Goats ... ..	From any colony or country, if they are intended for a Zoological Society; otherwise they are inadmissible.
Deer ... ..	From Great Britain and Ireland.
Dogs ... ..	From Great Britain and Ireland.

NEW SOUTH WALES, } Proclamation by His Excellency The  
to wit. } Right Honourable CHARLES ROBERT,  
BARON CARRINGTON, a Member of Her  
Majesty's Most Honourable Privy  
Council, Knight Grand Cross of the  
Most Distinguished Order of Saint  
Michael and Saint George, Governor and  
Commander-in-Chief of the Colony of  
New South Wales and its Dependencies.

(L.S.)  
CARRINGTON,  
Governor.

WHEREAS by the third section of an Act passed in the forty-eighth year of the reign of Her present Majesty, intituled "The Imported Stock Act Amendment Act of 1884," the Governor is empowered by Proclamation to suspend the provisions of any one or more of the sections of that Act or of

"The Imported Stock Act of 1871" for any period not exceeding six months, in respect to any stock introduced or proposed to be introduced from any of the Australian Colonies: And whereas it is desirable to suspend the operation of the provisions of the fourth section of "The Imported Stock Act Amendment Act of 1884" and of any regulation made thereunder relating to the quarantining of stock, other than sheep imported from any of the Australian Colonies, for a period of six months: Now, therefore, I, CHARLES ROBERT, BARON CARRINGTON, the Governor aforesaid, with the advice of the Executive Council, do hereby suspend, for a period of six months from this date, the provisions of section 3 of "The Imported Stock Act Amendment Act of 1884," and of any such regulation as aforesaid, so far as the same relate to the quarantining of stock other than sheep from any of the Australian Colonies.

Given under my Hand and Seal, at Government House, Sydney, this sixth day of February, in the year of our Lord one thousand eight hundred and eighty-eight, and in the fifty-first year of Her Majesty's Reign.

By His Excellency's Command,  
FRANCIS ABIGAIL.

GOD SAVE THE QUEEN!

NEW SOUTH WALES, } Proclamation by His Excellency The  
to wit. } Right Honourable CHARLES ROBERT,  
BARON CARRINGTON, a Member of Her  
Majesty's Most Honourable Privy  
Council, Knight Grand Cross of the  
Most Distinguished Order of Saint  
Michael and Saint George, Governor and  
Commander-in-Chief of the Colony of  
New South Wales and its Dependencies.

(L.S.)  
CARRINGTON,  
Governor.

WHEREAS by section ten of the "Imported Stock Act of 1871," the Governor is empowered, by Proclamation in the Government Gazette, to restrict or absolutely prohibit for any specified time the importation or introduction of any stock, fodder, or fittings from any other Colony or country in which there is reason to believe any infectious or contagious disease in stock exists: And whereas by a Proclamation under the hand of His Excellency the Governor, published in the Government Gazette of this date, pursuant to the provisions of "The Imported Stock Act of 1871," amongst other things Scab in Sheep was declared to be an infectious or contagious disease: And whereas there is reason to believe that Scab at the present time exists in sheep both in the Colony of New Zealand and also in the Colony of Western Australia: Now, therefore, I, CHARLES ROBERT, BARON CARRINGTON, the Governor aforesaid, with the advice of the Executive Council, do, by this my Proclamation, absolutely prohibit for a period of twelve months from the date of this proclamation, the importation or introduction of any sheep, or any fodder or fittings put on board any vessel with, or for the use of, any sheep, from either of the Colonies of New Zealand or of Western Australia.

Given under my Hand and Seal, at Government House, Sydney, this sixth day of February, in the year of our Lord one thousand eight hundred and eighty-eight, and in the fifty-first year of Her Majesty's Reign.

By His Excellency's Command,  
FRANCIS ABIGAIL.

GOD SAVE THE QUEEN!

Department of Mines,  
Stock Branch,  
Sydney, 6th February, 1888.

IMPORTED STOCK ACT OF 1871, AND THE IMPORTED STOCK ACT AMENDMENT ACT OF 1884.

The following Regulations which have been made by His Excellency the Governor, with the advice of the Executive Council, for carrying into effect the provisions of the above-named Acts relating to the importation and introduction of stock by sea into this Colony, are hereby published for general information.

FRANCIS ABIGAIL.

These Regulations are divided into the following Parts:—

- A.—INTRODUCTORY AND GENERAL.
- B.—FOREIGN STOCK AND THINGS.
- C.—AUSTRALIAN STOCK AND THINGS.
- D.—PENALTIES, CONFEISCATIONS, &c.

PART A.—INTRODUCTORY AND GENERAL.

I.—INTRODUCTORY.

Repeal of previous Regulations.

1. All previous Regulations under the above-named Acts are hereby repealed.

*Interpretation.*

2. In these Regulations the following words and terms shall have the meanings which they bear in section 1 of the Imported Stock Act of 1871, namely:—

"Attendant," "Cattle," "Destroy," "Disease," "Fittings," "Fodder," "Governor," "Inspector," "Master," "Minister," "Owner," and "Sheep"; and the following other words and terms shall, in these Regulations, unless the context otherwise indicate, have the meanings set against them respectively, namely:—

"Australian"—As regards Colonies, places, or ports—any of the Colonies of Queensland, New South Wales, Victoria, South Australia, Western Australia, Tasmania, and New Zealand, and any port or place in any of such Colonies; as regards stock or things—any stock or things from any of such Colonies; and as regards vessels—any vessels trading solely and which have traded solely for twelve months preceding between such Colonies.

"Dog"—Any dog, slut, or whelp of any breed or age.

"Foreign"—Any Colony, place, port, animal, thing, or vessel other than any Australian Colony, place, port, stock, thing, or vessel.

"Horses"—Any one or more horses, mares, colts, fillies, foals, asses, or mules.

"Imported stock"—Any stock arriving by sea, and for six months after arrival.

"Infected"—As applicable to stock—any stock suffering from or actually affected with disease, or which have been in direct or indirect contact with, or on the same vessel as, such infected stock during the next preceding six months, or which have been under treatment during such period for disease, or dressed, or disinfected for disease; and as applicable to vessels or things—any vessels or things with which any such infected stock shall have come in contact within the next preceding three months.

"Infectious or Contagious Disease"—Cattle plague or rinderpest, foot and mouth disease, sheep-pox, swine-fever, scab, in sheep and camels, catarrh, rabies, pleuro-pneumonia, glanders, farcy, and tuberculosis.

"Prescribed" means prescribed by any Regulations.

"Stock"—Any one or more horses, camels, cattle, sheep, goats, swine, deer, and dogs.

"Stud stock"—Any stock, whether thoroughbred or not, intended to be bred from.

"Swine"—Any one or more boars, sows, farrows, or pigs of any breed or age.

"Vessel"—Any steamer, ship, lighter, launch, boat, punt, or ferry.

II.—GENERAL.

*Owners to give notice of arrival of stock.*

3. If any stock are brought by sea to a port or place in this Colony, the owner thereof shall, within twelve hours of their arrival, give the inspector at or near such port or place notice to the effect of Form 1 hereto.

*Declaration and certificate to accompany all stock.*

4. All stock intended to be landed shall be accompanied by a Declaration and Certificate to the effect of Form 3 hereto.

*No stock to be landed but on Inspector's permit.*

5. No stock, although their introduction may not be prohibited, shall be landed, or moved from, or allowed to leave the vessel by which they shall have arrived, without the written permission of an Inspector, to the effect of Form 2 hereto.

*Owner to receive notice when stock are ailing or when destroyed.*

6. When any stock are ailing or shall have been destroyed under the abovenamed Acts or Regulations thereunder, notice thereof shall be given to the owner of such stock to the effect of Form 4 hereto.

*How notices are to be given.*

7. Notices under the abovenamed Acts or Regulations may either be served personally on the person to whom such notice is required to be given, or left at his residence or place of business, or sent to him by registered letter through the post.

PART B.—FOREIGN STOCK AND THINGS.

III.—FOREIGN STOCK, &c., ADMISSIBLE.

8. The foreign stock and things specified which are permitted to be imported or introduced into this Colony shall be so, subject to the provisions of the abovenamed Acts, and of the Regulations hereinafter prescribed.

1.—Foreign Stock prior to leaving Port of Shipment.

*Foreign horses, camels, cattle, sheep, swine, and goats to be accompanied by Certificate from Inspector for District from which they come.*

9. All foreign horses and camels, cattle, sheep, swine, and goats intended and permitted to be introduced into this Colony, shall be accompanied by a declaration from the breeder or owner, and by a certificate to the effect of Form 3 hereto, from the Inspector for the District from which they start for the port of shipment, that they are not, nor have within the next preceding six months been, infected with any infectious or contagious disease.

*Inspection of stock by Veterinary Surgeons appointed for the Colony at port of shipment.*

10. Prior to any foreign stock which are intended to be introduced into this Colony leaving the port at which they are to be shipped, all such stock, as well as all other stock put or to be put on board the same vessel as the first-mentioned stock (including those not intended to be introduced and those for the use of the passengers and crew), shall be carefully inspected by a duly qualified Veterinary Surgeon appointed in that behalf for this Colony, and the owner or shipper of the stock shall satisfy such Veterinary Surgeon that the stock are not infected and shall pay him the authorised fee for their inspection.

*If stock are not infected Veterinary Surgeon to grant and hand certificate to Master.*

11. If the Veterinary Surgeon appointed in that behalf for this colony shall have been satisfied that the stock intended to be introduced into this colony have been brought direct to the port of shipment, and that they have not been in any conveyance, stable, or other place, where stock liable to the same diseases as such stock have been within the next preceding sixty days, and that such stock have been fourteen days at least in Great Britain or Ireland, and that such stock and all other stock put on board, or to be put on board for the ship's use, are free from infection, and that all the other requirements of the abovenamed Acts and of these Regulations up to that time, have been duly complied with, he shall, but not otherwise, grant a certificate to the effect of Form 5 hereto, and shall deliver the same to the Master of the vessel together with the certificate by the Inspector hereinafter mentioned where prescribed.

2.—Foreign Stock during the Voyage.

*Record of health of stock to be kept by attendant and certified by Master.*

12. The attendant on foreign stock intended to be introduced into this Colony shall during the voyage make a daily entry in a book, to be kept by him for that purpose, of the state of their health, and of that of all other stock on board such vessel; and the Master of the vessel shall once in every week during the voyage examine all such stock and certify to the correctness of the entries made by the attendant.

*Skins of stock slaughtered or dying not to be landed.*

13. The skins of all stock which may have died or been slaughtered on board any foreign vessel during the voyage, and not destroyed or thrown overboard, shall be salted and securely packed in cases or casks, and shall not be landed in this Colony.

3.—Foreign stock on Arrival, and while in the Waters of this Colony.

*Stock while in New South Wales waters to be properly confined.*

14. It shall be the duty of the Master of the vessel, on board of which there are any foreign stock, as well as of the actual owner thereof, to cause all such stock to be kept securely confined, penned, chained, or fastened up, as soon as such vessel is in the waters of this Colony; and while the vessel remains therein all such stock shall be kept and treated, to the satisfaction of the Inspector, so as that they shall not be able to come in contact with any person other than their attendant, nor with other stock which may come on board such vessel, until the Inspector shall otherwise order in writing.

*Master on arrival to make declaration, and hand over certificate, &c.*

15. On the arrival of a foreign vessel the Master shall make and deliver to the Customs Officer first boarding such vessel a declaration to the effect of Form 6 hereto, and shall forthwith deliver at the Office of the Chief Inspector of Stock the record kept by the attendant (if any) on board such vessel, and all documents relating to the same required by the abovenamed Acts or these Regulations.

*Foreign stock only admitted at Sydney.*

16. No Foreign stock shall be admitted into this Colony except at the Port of Sydney.

4.—As to Foreign stock intended to be landed.

*All foreign stock intended to be landed to be examined by a Veterinary Surgeon and Inspector.*

17. Foreign stock which may lawfully be landed in this Colony shall, previous to landing, be forthwith examined on board the vessel by which they arrived by a duly qualified Veterinary Surgeon and by an Inspector of Stock, who shall report whether or not such or any other stock on board such vessel are infected, and shall join in a certificate to the effect of Form 8 hereto, which they shall forthwith forward to the Chief Inspector of Stock.

*Foreign stock infected to be disposed of as Minister directs.*

18. If such stock are reported to be infected, the report shall be immediately submitted by the Chief Inspector to the Minister; and if the Minister decide that such stock are infected they shall be forthwith destroyed or otherwise disposed of as he shall direct; and if ordered to be destroyed, the Inspector shall serve the owner with a notice to the effect of Form 14 hereto.

*As to Camels.*

19. If camels are found on arrival to be infected with scab or skin disease, they shall not be destroyed, but shall be dressed as the Chief Inspector shall direct.

V.—Landing, Quarantine, Disinfecting, and Dressing of Foreign Stock.

*Foreign horses admitted on inspection.*

20. Foreign horses shall be admitted without detention or quarantine, if found, on inspection at Sydney, to be free from disease.

*Foreign stock not infected, if intended to be landed, to be sent to quarantine.*

21. If foreign stock other than horses are not prohibited from being landed, and are reported to be free from infection, and if the Chief Inspector is satisfied that they are not infected, and that the requirements of the abovenamed Acts and these Regulations have been complied with, he shall, on obtaining from the owner or consignee of such stock a bond and guarantee, duly executed by the owner or consignee and two approved sureties, in the terms of Form 9 hereto, grant an order for the removal of such stock to quarantine to the effect of Form 2 hereto, without which no stock shall leave the vessel by which they arrived.

*Stock to be taken by water to quarantine, and kept at owner's risk and expense.*

22. All such foreign stock found on inspection to be free from infection, shall, where necessary, before leaving the vessel be washed, and disinfected as the Chief Inspector shall direct, and shall be conveyed by water, at the owner's risk and expense, to the quarantine set apart for such foreign stock, and shall remain in quarantine for the terms respectively prescribed hereunder for the different kinds of such stock, during which they shall be kept at their owner's risk and expense, and shall be washed, dipped, and disinfected as prescribed by these Regulations, and as the Chief Inspector of Stock shall direct.

*Quarantine of Foreign Stock.*

23. Foreign stock permitted to be introduced shall, on being landed, remain in quarantine for the periods specified in Form 7 hereto.

*As to foreign sheep in quarantine.*

24. All foreign sheep landed in this Colony shall forthwith receive three dressings with tobacco and sulphur or with lime and sulphur, at intervals of from ten to fifteen days between each dressing; and the medicaments shall be of the strength and the bath at the temperature and for the duration hereinafter prescribed in regard to Imported Australian sheep under the abovenamed Acts and Regulations thereunder.

*Foreign dogs may in certain cases be at once destroyed.*

25. In all cases which the Inspector or Veterinary Surgeon consider urgent, dogs found to be infected with rabies, may be forthwith destroyed by the order of either officer.

*How foreign stock released from quarantine.*

26. On the expiry of the prescribed term of quarantine for such stock, they shall be examined by a duly qualified Veterinary Surgeon and an Inspector of Stock, who shall ascertain whether the disinfecting and dressing prescribed by the abovenamed Acts and Regulations, as well as all the other requirements thereof, have been duly complied with, and shall thereupon determine whether such stock are free from infection, and forthwith forward to the Chief Inspector of Stock a certificate to the effect of Form 11 hereto; but such stock shall not leave quarantine until the charges and expenses due thereon shall have been paid to the Inspector, and until an order for their release shall have been endorsed by the Chief Inspector on such certificate.

IV.—CHARGES FOR INSPECTION AND RISK OF TRANSPORT, AND QUARANTINE OF FOREIGN STOCK.

*Charges and expenses in relation to foreign stock to be borne by owner.*

27. All charges and expenses connected with the veterinary inspection or treatment, and the landing, conveying, detaining, feeding, dressing, disinfecting, and reconveying of any stock, or with the destruction, or other dealing with any stock under the said Acts or any regulations thereunder, shall be borne by the owner of such stock, and such charges and expenses shall be at the rates stated respectively in Form 12 hereto, in so far as therein specified.

*The like as to risk and loss.*

28. All loss sustained with respect to such stock whilst being conveyed to or from, or whilst in quarantine, whether by accident or by sickness arising from natural causes, or contracted from other stock, or by the destruction or detention or quarantine of such stock, to prevent the spread of disease, shall be borne by the owner of such stock, and he shall have no claim whatever for compensation for any such loss nor for any loss sustained by such owner through the carrying out or enforcement of these Regulations.

V.—FOREIGN STOCK FOR SHIPS' USE AND FOR TRANSHIPMENT.

*Foreign stock to be quarantined.*

29. All foreign stock brought into New South Wales waters, whether intended to be introduced into this Colony or not, shall within twenty-four hours after they shall have been examined by an Inspector, be removed to quarantine, where they shall remain at their owner's risk and expense until re-shipped on the order of the Chief Inspector of Stock, on board some foreign vessel about to leave this Colony.

*No Foreign stock to be transhipped without permit and not on to Australian vessels.*

30. No foreign stock shall be transhipped in the waters of this Colony without the permission, in writing, of the Inspector: And no stock, other than stock from any Australian Colony brought by any vessels into the waters of this Colony, shall be transhipped from such vessel to any of the vessels usually or occasionally trading between any of the Australian Colonies until such stock, if allowed to be landed, shall have performed the quarantine, and otherwise complied with the provisions of the abovementioned Acts and these Regulations.

VI.—MISCELLANEOUS REGULATIONS RELATING TO FOREIGN STOCK.

*Foreign stock and attendants' clothes and stalls and pens to be disinfected.*

31. While within the waters and territory of New South Wales all foreign stock shall be kept and cleansed and disinfected, together with the clothes of their attendants and their stalls, pens, and fittings, as the Chief Inspector shall direct.

*Foreign fodder or fittings not to be landed except in certain cases.*

32. No fodder, or fittings, which shall have been put on board any vessel for the use of foreign stock, nor any fodder or fittings with which foreign stock or their attendants shall have come into direct or indirect contact, shall be landed in this Colony.

*Australian stock coming into contact with foreign stock to be held to be infected.*

33. All Australian stock coming into direct or indirect contact with foreign stock, or with infected stock, shall be held and deemed to be infected stock; and all foreign or infected stock, as the case may be, which have not passed through quarantine, and which shall not have been released in accordance with the abovenamed Acts, and these Regulations shall be held and deemed to be infected stock.

PART C.—AUSTRALIAN IMPORTED STOCK AND THINGS.

X.—GENERAL, AS REGARDS AUSTRALIAN IMPORTED STOCK AND THINGS.

*Declaration and certificate to be produced to Inspector examining stock.*

34. If an owner intends to introduce any Australian imported stock other than sheep into this Colony, he shall produce to the Inspector examining the same a declaration duly certified by the Inspector of the port or place from which such stock were shipped to the effect of Form 3 hereto.

*If found free from infection, stock, other than sheep, to be allowed to land.*

35. If any such stock other than sheep brought to port or place in this Colony, shall be accompanied by a declaration as prescribed and be found, on examination by the Inspector, to be free from infection, he may grant permission for the same to be landed in terms of Form 2 hereto, without which such stock shall not be landed.

*If Inspector is doubtful he may detain stock.*

36. If on the examination of such stock the Inspector has any reason to doubt their entire freedom from infection, he may either temporarily detain the same on board the vessel by which they were brought, or temporarily isolate them on some other vessel, or in some safe and convenient place; and the owners of the stock shall bear the expense of such detention or isolation.

*Infected stock, how to be disposed of.*

37. If any such stock shall be found on arrival or within one month thereafter to be infected, such stock shall be either destroyed by the owner, without compensation, or otherwise disposed of as the Minister shall direct.

## 2.—SPECIAL AS REGARDS AUSTRALIAN DOGS.

*Imported Australian Dogs to be admitted by Customs Officer on Declaration of Certificate from Inspector.*

38. All Australian dogs imported from any of the Australian Colonies, if they are apparently free from disease and are accompanied by a declaration, duly certified by the Inspector for the port from which such dogs were shipped, to the effect of Form 3 hereto—may be landed on the permit of the Officer of Customs in charge of the vessel by which such dogs are so imported.

*Dogs not accompanied by certificate to be admitted on inspection if found uninfected.*

39. If an Australian dog imported from any of the Australian Colonies is not accompanied by a declaration and certificate, as provided by the next preceding Regulation, such dog shall not be landed until the owner thereof shall have made a declaration to the effect of form 3 hereto, and the dog shall have been examined by the Inspector, and found to be free from disease.

## 3.—AUSTRALIAN STUD SHEEP.

*Sheep to be only landed at Sydney.*

40. No stud sheep from any Colony other than New South Wales shall be landed at any port or place in New South Wales at other than the port of Sydney.

*What is to be deemed a clean Colony.*

41. No colony shall be deemed to be a clean Colony in which scab or catarrh or any other infectious or contagious disease exists, or is suspected to exist, nor any Colony in which scab shall have existed within the next preceding twelve months, and no sheep shall be imported except from a clean Australian colony.

*What is to be deemed a clean vessel.*

42. No stud sheep shall be imported except by vessels that have not traded to any but a clean Australian Colony within the next preceding twelve months, nor by any vessel which shall within the period hereinbefore mentioned have had any sheep on board from any Colony other than a clean Australian Colony.

*Vessel to carry sheep must be cleansed and disinfected.*

43. Every vessel on which it is intended to carry any such stud sheep shall be thoroughly cleansed and disinfected before the sheep have been shipped.

*Sheep must be accompanied by a certificate from Inspector of exporting Colony.*

44. All such stud sheep shall be accompanied by a certificate and declaration to the effect of form 3 hereto, that they have been examined one by one by an Inspector for the Colony from which they are exported certifying that they have been so examined, and that they are free from any infectious or contagious disease, and that scab has not existed in such Colony for the next preceding twelve months.

*Sheep on arrival to be examined by an Inspector and Veterinary Surgeon.*

45. No sheep from any clean Australian Colony shall be landed in this Colony until they shall have been examined and a certificate to the effect of Form 3 hereto, granted by an Inspector of Stock and a duly qualified Veterinary Surgeon, that all the requirements of the abovesaid Acts and of these Regulations with respect to such sheep have been duly complied with, and that they are not infected.

*Infected sheep, how destroyed or disposed of.*

46. If any such stud sheep brought by sea into a port or place in this Colony be found to be infected they may be forthwith destroyed, or otherwise disposed of, as the Minister may direct.

*Quarantine and dressing of Australian imported sheep.*

47. Stud sheep from any clean Australian Colony may, if found on inspection to be not infected, be landed and taken by a conveyance to the quarantine for such sheep, where they shall be quarantined and dipped under the supervision and direction of the Inspector, and the length of such quarantine, the medicaments to be used in dipping, the temperature and duration of the bath, the dipping, and the fees to be charged for the keeping and dipping of the sheep, shall be as follows, viz. :—

*Quarantine.*

(1.) The sheep shall remain in quarantine until they shall have been dipped as hereinafter prescribed.

*Medicaments.*

(2.) The medicaments to be used in dipping shall be good sound tobacco, or tobacco leaves and flowers of sulphur, at the rate of 1lb. of each to every 5 gallons of water, the tobacco to be put into boiling water and infused for five hours at least, and the sulphur to be added to the infusion in the dip.

*Temperature.*

(3.) The temperature shall not be less than 100 nor more than 110 degrees Fahrenheit.

*Bath and Duration.*

(4.) The sheep shall swim and be completely immersed while in the bath, and the bath shall last from one to two minutes, according to its temperature, and as the case may require.

*Number of dippings.*

(5.) The sheep shall receive one dipping.

*Charges.*

(6.) The rates to be charged for the keeping and dressing of sheep in quarantine shall be as set forth in Form 12 hereto.

*Declaration by persons dipping, dressing, or disinfecting.*

48. Every Inspector or other person who shall have superintended any dipping, dressing, or disinfecting, shall make and transmit with due dispatch to the Chief Inspector a declaration to the effect of Form 13 hereto.

*How sheep are to be released from quarantine.*

49. No sheep shall be released from quarantine until they shall have been examined by the Inspector and a duly qualified Veterinary Surgeon in consultation and a certificate granted by them to the effect of Form 11 hereto that such sheep have been duly quarantined and dressed, as prescribed by those Regulations, and are free from infection.

*How imported Australian sheep are to be admitted overland from other Colonies.*

50. Sheep imported from any clean Australian Colony into any other clean Colony, and intended to be introduced overland into this Colony, may be admitted if their owner produce to the Inspector for this Colony at the border a certificate under the hand of the Chief Inspector for the Colony from which they are intended to be introduced, that when such sheep were introduced into that Colony they were certified to be free from infection by an inspector for the Colony from which they were imported, and that such sheep have been once dipped with proper preparations of tobacco and sulphur, or of sulphur and lime, in a bath given at the temperature and of the duration and in the manner prescribed by number 47 of these Regulations. But all such sheep, unless they shall have been imported, quarantined, and dressed as herein prescribed, shall, on crossing the Border, be placed in quarantine, and kept and dipped in the same manner in every respect as prescribed with regard to Australian imported sheep landed at Sydney.

*How Australian imported sheep which have not complied with all the Regulations are to be admitted.*

51. Should any Australian sheep be imported into this Colony by a vessel which shall not have been cleansed and disinfected, as provided by these Regulations, or should any such sheep not have been examined in the Colony from which they were exported, as prescribed by these Regulations, then such sheep may, with the sanction of the Minister, be admitted to and shall remain in quarantine for twenty-one days, and shall in every such case receive three dippings at intervals of not less than ten days.

*Stud sheep from inland or overland from other Colonies to be treated as "imported" if in or near Sydney at same time.*

52. Stud and show sheep brought from any of the inland districts of this Colony or introduced overland from any adjoining clean Colony which shall be in Sydney or in any of the suburbs during the time that any imported sheep shall remain in Sydney or the suburbs, shall, prior to their leaving the coast district, be dipped the same as if they were imported Australian sheep.

*Owners of special quarantines to pay for attendant.*

53. In any case where a special quarantine has been granted for Australian imported sheep, an attendant may, where necessary, be placed by the Chief Inspector of Stock in charge of the sheep in such quarantine; and the person to whom such quarantine has been granted shall pay the expense of such attendant.

*No fodder, &c., to be landed, without disinfecting.*

54. No fodder or other food, straw, or litter, which shall have been used for, with, or about imported sheep, nor any fittings on board any vessel for such sheep shall be landed; and all cases or cages brought with such sheep shall before being landed be cleansed and disinfected as the Chief Inspector shall direct.

#### XI.—AS TO AUSTRALIAN FAT SHEEP FOR SLAUGHTER.

*Conditions on which these sheep may be landed for slaughter.*

55. Fat imported sheep from a clean Australian Colony may be landed at the port of Sydney for slaughter under the following conditions, namely:—

*Owner to give notice of arrival and produce certificate.*

1st. The owner of such sheep shall give the Inspector for the Port immediate notice of their arrival, and shall produce to him a declaration and certificate of health to the effect of Form 3 hereto, from the Inspector of the Port from which such sheep were shipped.

*Sheep not to leave vessel until inspected.*

2nd. Such sheep shall not be allowed to leave the vessel by which they arrive until they have been examined by the Inspector.

*Sheep to be taken direct to Abattoirs.*

3rd. Upon being inspected and found free from infection such sheep shall be taken direct to the Abattoirs on Glebe Island, and there delivered into the charge of the Inspector of Slaughter-houses, to be slaughtered under his supervision.

#### XII.—TRANSHIPMENT OF AUSTRALIAN IMPORTED STOCK.

*Transhipment of Australian stock.*

56. No Australian imported stock shall be transhipped in the waters of this Colony without the permission, in writing, of the Inspector.

*Australian uninfected stock may be landed for transhipment.*

57. Any such stock arriving at a port or place in this Colony for transhipment may, if accompanied by the prescribed declaration and certificate, and found to be free from infection, be landed and kept in any place approved by the Chief Inspector for a period not exceeding fourteen days without being subject to quarantine and dipping.

#### PART D.—PENALTIES, CONFISCATIONS, &c.

##### XIII.—PENALTIES.

###### I.—General Penalties.

*Penalties for breaches of Regulations.*

58. If any person does any of the following things he shall be guilty of an offence against these Regulations, and shall on conviction for every such offence be liable to a penalty not exceeding £20.

*For introducing infected stock.*

(1.) If he lands, introduces, or tranships, or attempts to land, introduce, or tranship, or assists, or is concerned in landing, introducing, or transhipping any infected stock.

*For trespass on Quarantine.*

(2.) If he shall enter upon any quarantine without the written permission of an Inspector, or approach or handle, examine, let loose, or in any way interfere with any foreign stock without such permission.

*For refusing to carry out Inspector's directions.*

(3.) If he shall refuse or neglect forthwith to carry out any requisition made or direction issued under these Regulations.

*For obstructing an Inspector.*

(4.) If he shall obstruct or hinder an Inspector in the execution of his duty under these Regulations.

*For not paying expenses incurred by Inspector.*

(5.) If he shall neglect or refuse to pay on demand by an Inspector any costs, charges, or expenses for which he is liable under these Regulations.

*For refusing to give information.*

(6.) If, being in a position to give any information required by an Inspector as such, he refuses to give such information or gives misleading information with respect to any stock or thing.

(7.) If he commits any other breach of these Regulations for which a penalty is not specially provided.

###### II.—Penalties for Offences by Masters of Vessels.

59. Every master of a vessel with any stock on board who does any of the following things, shall be guilty of an offence against these Regulations,—

*For failure to give notice to Inspector.*

(1.) If he shall fail or neglect to forward to the Inspector notice of the arrival of such vessel with stock on board, or to produce on demand the declaration and certificate as per Form 3 hereto for such stock.

*For allowing stock to stray off vessel or to be transhipped without Inspector's order.*

(2.) If he shall, without the written permission of an Inspector, permit or suffer any stock to stray or go ashore from his vessel or to be transhipped or moved to or from any other vessel while such first-mentioned vessel is in the water of this Colony.

*For failing to secure animal as Inspector directs.*

(3.) If he shall fail or neglect to cause any foreign stock on board his vessel to be securely confined or otherwise secured, as the Inspector shall direct.

*For allowing stock to stray on to vessel.*

(4.) If the master, mate, or other member of the crew of any foreign vessel shall permit or suffer any stock to go on board such vessel while there is any foreign stock thereon,

And he shall, on conviction for every such offence, be liable to a penalty not exceeding £20.

###### III.—Penalties for Offences by Owners of Stock.

60. The owner (including the consignee, agent of the owner, or person in possession or charge) of any stock who does any of the following things shall be guilty of an offence against these Regulations,—

*For allowing stock to stray on to Foreign vessels.*

(1.) If he takes or allows any stock, of which he is the owner, to stray on to any vessel on which there is any foreign stock.

*For allowing stock to stray on to Quarantines.*

(2.) If he takes or allows any stock, of which he is the owner, to stray on to any quarantine for foreign stock.

*For failing to carry out Inspector's instructions.*

(3.) If he for more than twenty-four hours fails or neglects, when directed by an Inspector, to remove any stock from any vessel to or from a quarantine ground, or other place, or to any vessel.

And he shall, on conviction for every such offence, incur a penalty not exceeding £20.

#### XIV.—DESTRUCTION OR CONFISCATION OF STOCK AND THINGS.

*When Stock and Things may be disposed of by Minister.*

61. Stock may, under all or any of the following circumstances, be destroyed or otherwise disposed of, as the Minister shall direct:—

*If they are infected.*

(1.) If stock are infected with any infectious or contagious disease, whether they be on land, or on board any vessel within the territorial limits of this Colony.

*If owners commit breach of Acts or Regulations.*

(2.) If the owners of any stock shall have committed, or attempted to commit, or be concerned in committing, any breach of the abovenamed Acts or of any Regulations thereunder.

*If stock are Foreign, and are not properly confined or secured.*

(3.) If foreign stock be found unconfined or unsecured on, or be removed or stray from the vessel by which they arrive, or from quarantine.

*If stock stray on board a foreign vessel.*

(4.) If stray stock from shore be found on board a vessel on which there is any foreign stock.

*If stock are found in quarantine.*

(5.) If stock, other than those for which an Inspector shall have issued an order for quarantine, are found within any quarantine for foreign stock.

*If charges and expenses be not paid.*

(6.) If the fees, charges, and expenses connected with any stock be not duly paid.

*If stock are not removed when quarantine is up.*

(7.) If any stock shall not be removed on the expiry of the term of quarantine.

FORMS.

**Form 1.**

**IMPORTED STOCK ACT OF 1871, AND THE IMPORTED STOCK ACT AMENDMENT ACT OF 1884.**

*Notice of arrival of stock.*

188 .

To Inspector of Stock,

TAKE notice that the belonging to of, more particularly described in the Schedule below, are expected to arrive by the vessel named, at or about the time therein stated (or have arrived).

Owner or his Agent.

**SCHEDULE.**

No.	Description of stock.	Where from.	By what vessel, and where lying.	When expected.		For what purpose.
				Date.	Time.	

N.B.—A separate notice must be given for each owner's stock.

**Form 2.**

**IMPORTED STOCK ACT OF 1871, AND THE IMPORTED STOCK ACT AMENDMENT ACT OF 1884.**

*Permit to land imported stock.*

To the Landing Waiter at Wharf. Sydney 188 .  
Please allow which has arrived by the from to be landed Inspector of Stock.

**Form 3.**

**IMPORTED STOCK ACT OF 1871, AND THE IMPORTED STOCK ACT AMENDMENT ACT OF 1884.**

*Declaration and Certificate of Health.*

I (name and address) do solemnly and sincerely declare that the undermentioned stock are, to the best of my knowledge and belief, free from all infectious and contagious diseases, and have not within the next preceding six months been in direct or indirect contact with stock infected with any such diseases, and are the produce of

PARTICULARS OF NUMBERS, SEXES, KINDS, AND BRANDS OF THE STOCK :—

And I make this solemn declaration, conscientiously believing the same to be true, and in virtue of the provisions of an Act made and passed in the ninth year of the reign of Her present Majesty, intituled "An Act for the more effectual abolition of oaths and affirmations taken and made in various departments of the Government of New South Wales, and to substitute declarations in lieu thereof, and for the suppression of voluntary and extra-judicial oaths and affidavits."

Signed

Made and signed before me at this day of 188 .  
(Signature of Magistrate)

J.P.

I have examined the stock referred to, and have no reason to doubt the correctness of this declaration in any particular.

V.S. or Inspector of Stock.

**Form 4.**

**IMPORTED STOCK ACT OF 1871, AND THE IMPORTED STOCK ACT AMENDMENT ACT OF 1884.**

*Notice of Sickness of Stock.*

To Mr. Take notice that the belonging to more particularly described in the Schedule below [here state subject of the notice].

**SCHEDULE REFERRED TO.**

No.	Description.	Sex.	Brands, &c.	By what Ship.	Name and Address of Owner or Consignee.	Where Stock are.

Inspector of Stock.

Dated at this day of 188 .

**Form 5.**

**IMPORTED STOCK ACT OF 1871, AND THE IMPORTED STOCK ACT AMENDMENT ACT OF 1884.**

*Certificate by Veterinary Surgeon at port of shipment.*

I, of a duly qualified Veterinary Surgeon, appointed in that behalf for the Colony of New South Wales, having made a thorough inquiry respecting and a careful examination of the stock about to be shipped from the Port of by the of which is the Master, for the port of Sydney, which are more particularly described in the Schedule below, and having made the like inquiry respecting and examination of all stock on board or about to be put on board such vessel for the use of the passengers or crew (particulars of which are also given below), do hereby certify that none of the said stock are infected with any infectious or contagious disease.

V.S.

Dated at this day of 188 .

**SCHEDULE REFERRED TO ABOVE.**

No. of Stock.	Sex.	Description.	Brands and marks.	Date of shipment.	Name and address of owner and of attendant.	Consignee.	Destination.

**Form 6.**

**IMPORTED STOCK ACT OF 1871, AND THE IMPORTED STOCK ACT AMENDMENT ACT OF 1884.**

*Form of Declaration by Master of vessel.*

No. of stock shipped.	Description.	Where from.	Sickness or deaths during voyage.	Cause of sickness or death.	Date of outbreak of disease.	Date of last death.

I, master, do hereby solemnly declare that the above statement is true with regard to the stock shipped on board the , which is now lying at , and for which are agents. And I moreover solemnly declare that such stock have been duly examined by me, as prescribed by these Regulations, and that such stock, fodder, fittings, and effects are likely to be infected (or not likely to be infected).

Dated this day of 188 .  
(Signed) Master.

**NOTICE TO MASTERS OF VESSELS.**

No straw, fodder, or any other food shipped for the use of the stock on board, on any account to be landed, under a penalty of £200.

Masters of vessels, before signing this declaration, are requested to observe that the meaning under the abovementioned Act of the term "Infected Stock" is as follows:— "Any stock suffering from or actually affected with disease, glanders, farcy, tuberculosis, cattle plague, foot and mouth disease, sheep-pox, scab in sheep and camels, catarrh, rabies, and pleuro-pneumonia, swine fever, or which have been in direct or indirect contact, or have been on the same vessel with such infected stock during the next preceding three months, or which have been under treatment during such period for the cure of any such disease." And that the term "Stock" includes cattle, sheep, swine, goats, dogs and deer.

**Form 7.**

**IMPORTED STOCK ACT OF 1871, AND THE IMPORTED STOCK ACT AMENDMENT ACT OF 1884.**  
**LENGTH OF QUARANTINE OF STOCK.**

Stock.	Quarantine.
Horses .....	None.
Camels .....	120 days.
Cattle .....	120 days.
Sheep .....	90 days.
Pigs .....	90 days.
Goats .....	90 days.
Antelopes .....	90 days.
Deer .....	90 days.
Dogs .....	6 months.

**Form 8.**

**IMPORTED STOCK ACT OF 1871, AND THE IMPORTED STOCK ACT AMENDMENT ACT OF 1884.**

*Joint certificate of inspection of imported Stock.*

We, the undersigned, Inspector of Stock and \_\_\_\_\_, a duly qualified Veterinary Surgeon, having satisfied ourselves that all the requirements of the abovementioned Acts and of these Regulations with respect to the declarations and certificates to be made, granted, and produced, for the \_\_\_\_\_ more particularly described in the Schedule below, and with respect also to the vessel by which such have arrived, and having carefully examined such do hereby certify that such \_\_\_\_\_ are infected with [or are apparently free from infection.]

Inspector.  
V.S.

Sydney, 188 .

**SCHEDULE.**

No.	Description of Stock.	Brands or marks.	Where from, by what ship, and when.	Name and address of owner and of person in charge.	Quarantined at.

**Form 9.**

**IMPORTED STOCK ACT OF 1871, AND THE IMPORTED STOCK ACT AMENDMENT ACT OF 1884.**

*Importer's Bond and Guarantee.*

To the Inspector of Stock, Sydney,  
We, \_\_\_\_\_ do hereby request that the imported stock which arrived on the \_\_\_\_\_ by the ship \_\_\_\_\_ and of which the owner \_\_\_\_\_, more particularly described in the Schedule below, may, if found free from infection, be removed to Quarantine under the conditions set forth in the Regulations under the abovementioned Acts, which Regulations are signed as relative hereto, and which we agree to carry out, and by way of guarantee we hold ourselves firmly bound to the Chief Inspector of Stock in the sum of \_\_\_\_\_, to be paid to him or his assigns on demand.

Owner  
or  
Consignee.  
Surety.  
Surety.

Dated at \_\_\_\_\_ this \_\_\_\_\_ day of \_\_\_\_\_ 188 .

**SCHEDULE.**

No.	Sex.	Description.	Brands or marks.	Owner.	Consignees.

**Form 10.**

**IMPORTED STOCK ACT OF 1871, AND IMPORTED STOCK ACT AMENDMENT ACT OF 1884.**

*Order to Quarantine Keeper to Receive Stock.*

Sydney, 188 .

The Quarantine Keeper

at

Be so good as to receive into Quarantine the \_\_\_\_\_ ex \_\_\_\_\_ from \_\_\_\_\_ more particularly described in the Schedule below.

Inspector of Stock.

No. of Stock.	Sex.	Description.	Brands and marks.	Name and address of owner.	Name and address of agent or consignee.	Remarks

**Form 11.**

**IMPORTED STOCK ACT OF 1871, AND THE IMPORTED STOCK ACT AMENDMENT ACT OF 1884.**

*Clean Certificate and Release from Quarantine.*

We, the undersigned, Chief Inspector (or Inspector) of Stock and \_\_\_\_\_, a duly qualified veterinary surgeon, having carefully examined the \_\_\_\_\_, of which the owner, and which are more particularly specified in the Schedule below, do hereby certify that such \_\_\_\_\_ have remained in quarantine for a period of more than \_\_\_\_\_, and have been duly drossed and disinfected in accordance with the provisions of the abovementioned Acts, and of the Regulations issued thereunder; and that such \_\_\_\_\_ are not infected, and may be removed from quarantine to the destination specified.

Chief Inspector (or Inspector).  
V.S.

Sydney, 188 .

**SCHEDULE.**

No.	Description.	Brands or marks.	Wherefrom, by what ship, and at what date.	Name and address of owner and of person in charge.	Route and Destination.

**Form 12.**

**IMPORTED STOCK ACT OF 1871, AND THE IMPORTED STOCK ACT AMENDMENT ACT OF 1884.**

**SCALE OF TRANSPORT AND QUARANTINE CHARGES AND EXPENSES.**

*Veterinary Surgeon's Fees for inspection on board ship.*

*Foreign horses and cattle.*

	£	s.	d.
Where the number does not exceed two head, a fee of	1	1	0
Where the number exceeds two head, and does not exceed four head, an additional fee for every additional head of	0	10	0
For every additional head over four head, an additional fee of	0	5	0

*Foreign sheep, goats, pigs, or dogs.*

Where the number does not exceed four head, for each visit and inspection, a fee of	1	1	0
Where the number exceeds four, and does not exceed eight head, for every additional head an additional fee of	0	2	6
Where the number exceeds eight head, or where the sheep, goats, pigs, or dogs are inspected along with the cattle, an additional fee for each of	0	1	0
When inspected with horses or cattle, whatever the number may be, a fee each of	0	1	0

Inspection in Quarantine,—For each visit and inspection, one-half of the above rates.

Charges for Transport of Stock to and from Quarantine.—  
Payable each way.

<i>Foreign cattle.</i>		£ s. d.
For one head .....		1 0 0
For two head .....		1 5 0
For every additional head arriving on board the same vessel .....		0 5 0
<i>Foreign sheep, goats, pigs, or dogs.</i>		
When conveyed with cattle, every sheep, goat, dog, or pig up to twenty .....		0 1 0
When conveyed without cattle, any number not exceeding five .....		1 0 0
For every additional sheep, goat, dog, or pig, not exceeding twenty, without cattle .....		0 1 0
For every sheep, goat, dog, or pig over twenty, with or without cattle .....		0 0 9
<i>Keep in quarantine of foreign animals.</i>		
Cattle, per head, per day—		
Stud cattle .....		0 3 0
Ship's cattle .....		0 2 6
Pigs, each, per day .....		0 1 0
Young pigs, 2 months old (not over) .....		0 0 3
Sheep .....		0 0 6
Dog .....		0 0 6
Pups, 2 months old .....		0 0 3
The cost of disinfecting such stock, or the vessel in which they arrive, or the fittings thereof, or the effects of their attendants, as well as all other charges and expenses of every description incurred through the importation of such stock.		
<i>Keep of Australian Sheep in Quarantine.</i>		
	£ s. d.	
Sustenance and attendance per sheep per day .....		0 0 6
<i>Dipping Foreign and Australian Sheep—each dressing.</i>		
1 sheep .....		0 10 0
2 sheep, and not more than 5 sheep, per sheep .....		0 5 0
6 sheep, and not more than 10 sheep, per sheep .....		0 3 0
11 sheep, and not more than 20 sheep, per sheep .....		0 2 0
21 sheep, and not more than 40 sheep, per sheep .....		0 1 6
41 sheep, and not more than 100 sheep, per sheep .....		0 1 0
101 sheep, and not more than 200 sheep, per sheep .....		0 0 9
201 sheep and over, per sheep .....		0 0 6

Form 13.

IMPORTED STOCK ACT OF 1871, AND THE IMPORTED STOCK ACT AMENDMENT ACT OF 1884.

*Declaration as to dipping.*

I, \_\_\_\_\_, do solemnly and sincerely declare that the sheep of which \_\_\_\_\_ is the owner, and which are more particularly described in the Schedule below, have been dipped \_\_\_\_\_ times in all respects as prescribed by the Regulations under the abovenamed Acts, on the dates specified.

SCHEDULE.

No.	Description.	Brands or marks.	Where from and by what ship.	Name and address of owner and of person in charge of Quarantine.	Quarantine.	Dates of dipping.

and I make this solemn declaration, conscientiously believing the same to be true, and in virtue of the provisions of an Act made and passed in the ninth year of the reign of Her present Majesty, intatuled "An Act for the more effectual abolition of Oaths and Affirmations taken and made in various departments of the Government of New South Wales, and to substitute Declarations in lieu thereof, and for the suppression of voluntary and extra-judicial Oaths and Affidavits."

Made and signed before me at \_\_\_\_\_, this }  
day of \_\_\_\_\_, 188 . }  
(Signed.) \_\_\_\_\_ J.P.

Form 14:

IMPORTED STOCK ACT OF 1871, AND THE IMPORTED STOCK ACT AMENDMENT ACT OF 1884.

*Notice to destroy infected stock.*

(This Form is provided for under the Imported Stock Act of 1871.)

1887-8.

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LEGISLATIVE ASSEMBLY.  
NEW SOUTH WALES.

---

**ANIMALS INFECTIOUS DISEASES BILL.**

(MESSAGE No. 37.)

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*Ordered by the Legislative Assembly to be printed, 1 March, 1888.*

---

CARRINGTON,  
*Governor.*

*Message No. 37.*

In accordance with the provisions contained in the 54th section of the Constitution Act, the Governor recommends for the consideration of the Legislative Assembly the expediency of making provision to meet the requisite expenses in connection with a Bill to regulate experiments with diseases, and to regulate the introduction and propagation of such diseases amongst wild or domestic animals.

*Government House,  
Sydney, 1st March, 1888.*

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1887-8.

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LEGISLATIVE ASSEMBLY.  
NEW SOUTH WALES.

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**DISEASED ANIMALS AND MEAT BILL.**

(MESSAGE No. 62.)

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*Ordered by the Legislative Assembly to be printed, 26 June, 1888.*

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CARRINGTON,

*Governor.*

*Message No. 62.*

In accordance with the provisions contained in the 54th section of the Constitution Act, the Governor recommends for the consideration of the Legislative Assembly the expediency of making provision to meet the requisite expenses in connection with a Bill for prohibiting the Sale of Diseased Animals, and amending the Law relating to the Sale of Diseased Meat.

*Government House,*

*Sydney, 26th June, 1888.*

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1887.

(THIRD SESSION.)

LEGISLATIVE ASSEMBLY.  
NEW SOUTH WALES.

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**ABATTOIRS, GLEBE ISLAND.**

(PETITION FOR REMOVAL OF—MAYOR AND ALDERMEN OF LEICHHARDT.)

*Received by the Legislative Assembly, 22 September, 1887.*

To the Honorable the Legislative Assembly, in Parliament assembled.

The humble Petition of the Mayor and Aldermen of the Municipal District of Leichhardt, in the Colony of New South Wales,—

SHOWETH:—

1. That your Petitioners and the inhabitants of Leichhardt suffer great injury, and live in considerable danger to their health through the unwholesome odours arising from the public Abattoirs on Glebe Island.

2. That although the existence of typhoid and other diseases, which are caused by inhaling noxious smells, has been officially attributed to other sources, your Petitioners are of opinion that such diseases are largely traceable to the pestiferous odours from the Abattoirs.

3. That Leichhardt contains 2,540 houses and 10,500 inhabitants, fully one-half of the latter being directly affected by the foul smells above alluded to.

4. That some three or four years ago the Mayor and Aldermen of this Council were, at a deputation to the then Colonial Treasurer, Mr. Dibbs, promised by that Minister that the Abattoirs should be forthwith abolished.

5. That nothing has been done to ameliorate the condition of the thousands so disastrously affected by the noxious odours, and that unless some remedial steps be soon taken your Petitioners apprehend serious consequences to the inhabitants.

Your Petitioners therefore humbly pray that your Honorable House will take immediate steps for the abolition of the public Abattoirs now existing on Glebe Island.

And your Petitioners, as in duty bound, will ever pray, &c.

Dated this 18th day of April, in the year of our Lord, 1887.

[Here follow 10 signatures.]

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1887-8.

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LEGISLATIVE ASSEMBLY.

NEW SOUTH WALES.

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# PUBLIC TANKS AND WELLS.

(INFORMATION RESPECTING CONSTRUCTION AND MAINTENANCE.)

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RETURN TO AN ORDER MADE BY THE HONORABLE THE  
LEGISLATIVE ASSEMBLY OF NEW SOUTH WALES,  
DATED 23 NOVEMBER, 1887.

---

ORDERED BY THE LEGISLATIVE ASSEMBLY TO BE PRINTED,

*7 February, 1888.*

---

SYDNEY: CHARLES POTTER, GOVERNMENT PRINTER.

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1888.



1887-8.

LEGISLATIVE ASSEMBLY.

NEW SOUTH WALES.

## PUBLIC TANKS AND WELLS.

INFORMATION RESPECTING CONSTRUCTION AND MAINTENANCE.)

*Ordered by the Legislative Assembly to be printed, 7 February, 1888.*

RETURN to an *Order* made by the Honorable the Legislative Assembly of New South Wales, dated 23rd November, 1887, That there be laid upon the Table of this House,—

“Copies of all papers, minutes, and reports with reference to complaints made by Officers of the Mines Department against Mr. Bennett, Commissioner and Engineer for Roads, *re* the construction and maintenance of wells and tanks; also, all other correspondence between the Works and Mines Department having reference to loss and inconvenience that have been occasioned through the works of construction and maintenance of wells and tanks being divided between the two Departments,—with additional information, subsequent to date of order, embodied on authority of the Minister for Mines.”

*(Mr. Stokes, for Mr. Waddell.)*

Department of Mines, Public Watering Places,  
Sydney, 20 January, 1888.

## Minute Paper by The Chief Inspector of Public Watering Places.

*Subject* :—Papers to be submitted to Tanks and Wells Commission as evidence.

The Chairman of the Royal Commission *re* Tanks and Wells, having stated that no papers will be received in evidence unless verified on oath, should perhaps be informed that the printed papers herewith are submitted in evidence, that the originals are at the service of the Commissioners, and that no doubt the originals can be verified by the writers. The Commissioners should perhaps be invited to call for this evidence.

P.W.P.,  
88-474.

HARRY GILLIAT,  
Chief Inspector of Public Watering Places.

Submitted for approval. The Commission will of course decide which of the matters require verification, and what witnesses will be required for that purpose.—H.W., 23/1/88.

Approved. I should think the Royal Commission will satisfy themselves as to the truth or otherwise of any statements made in any of the papers submitted; in cases where this is not done, I should take it as accepting in truth that which does not want confirmation.—F.A., 24/1/88.

## Minute Paper by The Chief Inspector of Public Watering Places.

*Subject* :—Summary of deductions based on cases submitted to Royal Commission on Tanks and Wells.

Department of Mines, Public Watering Places, Sydney, 10 January, 1888.

In the cases herewith submitted to the Royal Commission *re* tanks and wells, there appears to be evidence of—

1. Faults of judgment in the selection of sites for tanks.
2. Of defective design and faulty construction, with but little concern to take advantage of formation of ground or selection of catchment area, so as to avoid collection of silt; of too steep batters in most cases, and apparently the adoption of a certain form of tank, without reference to formation of ground or nature of soil; the defective construction of flumes and erection of inlet pipes, with carelessness in laying out drains, and excessive cost in construction.

3.

422—A

[1,005 copies—Approximate Cost of Printing (labour and material) £288 3s. 3d.]

3. Expensive forms of machinery for lifting water, necessitating greater cost of maintenance.
  4. Faulty construction and excessive cost of fencing.
  5. Interference with caretakers and overseers; greasing of service tanks.
  6. Sub-letting of contracts.
  7. Faulty construction of wells, sinking, timbering and centering of shafts, erection of head works, whim, service tanks, and troughing before testing for supply and quality of water.
  8. Excessive cost of construction.
  9. Costly hutting for caretakers.
  10. Defective construction of troughing.
- And finally, the evidence throughout confirming the unfortunate effects of a divided control, under which each Department denies responsibility.

The Under Secretary for Mines.

HARRY GILLIAT,  
Chief Inspector of Public Watering Places.

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*Précis* of Cases submitted to the Royal Commission *re* Construction and Maintenance of Tanks and Wells.

I—P.W.P.,  
87-5,750. A PARAGRAPH appeared in the *Sydney Morning Herald* containing statements and reflections upon the officers of the Public Works Department. Mr. Bennett wrote a reply to the *S.M. Herald*, imputing the authorization of paragraph to interested motives of the officers of Mines Department. The Chief Inspector, in denying this, desired to be allowed to reply publicly, but the Minister refused, urging that although Mr. Bennett had broken a well-known departmental rule, it was a bad example to follow, and that Mr. Bennett's reflections upon the Mines officers were unjust and unwarrantable, and that the Commission will judge who is right and who is wrong.

II—P.W.P.,  
87-6,426. THE Minister's minute, directing preparation of papers for submission to the Commission, and directing that Chief Inspector should hand the minute to the Commissioners and state the facts of the case that no reflections had been cast upon the integrity or capacity of Works officers, but reference only had been made to the way the works were carried out and the rates paid.

III—P.W.P.,  
87-6,920. MR. Overseer Brett informs the Chief Inspector that Mr. Road-Superintendent Cronin had written to him asking an expression of opinion upon certain matters relating to tanks and wells. Mr. Abigail drew Mr. Sutherland's attention to this, and the Works Department forwarded copy of circular that had been sent to their local officers as evidence of the only instructions issued to them *re* the inquiry. This Mr. Abigail referred to Mr. Sutherland, and, commenting upon it, asked if this sort of thing, circulated over the Colony, was likely to promote good feeling between the Departments.

IV—P.W.P.,  
87-1,360. THE Minister's minute to the Cabinet, showing legal status of public watering places, and recommending construction and maintenance be placed in the hands of the Mines Department covering an uncopied and unsigned draft prepared by Mr. Gilliat for Mr. Abigail's information, pointing out the results of dual control, &c. This, it is believed, was handed either to the Secretary for Works or the Premier, and all traces of it have been lost. To this Mr. Bennett replied mainly attributing the whole faults to the Mines Department officers. The Chief Inspector replied in 87-2,586, rebutting Mr. Bennett's statements, and adducing evidence of what he states. (See Appendices, *Précis*, and Extracts from Cases.)

V—P.W.P.,  
87-5,162. AN article from Bourke paper *re* dual control, "Centralistic Bureaucracy;" Chief Inspector's minute thereon, and note by the Minister for Mines.

VI—P.W.P.,  
87-6,084. A LETTER from a Mr. Earngey, offering to give evidence *re* conduct of Public Works officers.

VII—P.W.P.,  
87-1,583,  
87-6,585. PAPERS and extracts relative to subletting of contracts: Fencing at Ivanhoc, £114 per mile; sublet three times; drains, 26 miles—let, 4s. 6d. per chain, sublet, 3s. 6d.; Mount Manara Tank—let, 1s. 4½d. per cubic yard, sublet at 1s. per cubic yard; Hulong fence—sublet; 12-mile tank—let at 2s. 6d. per cubic yard, sublet at 1s. 3d. per cubic yard.

## Wooloondool Well.

THIS well has been bored from bottom of shaft, neither pipe nor floor placed in well. Bore liable to, and is, constantly choked from silt. Constant baling, even when water is not required, necessitating great wear and tear and useless labour, insisted on by Works Department as necessary to keep bore from silting. Bore choked on many occasions, and has caused much needless labour and correspondence. The Works Department endeavour to show it is fault of Mines caretaker or lessee.

viii—  
P.W.P.,  
86-1,521,  
*et seq.*

## Dry Lako Well.

A SIMILAR case as foregoing, in which request for repairs and alterations are referred to by Mr. Bennett as complaints.

ix—Tanks  
and Wells,  
85-2,008,  
*et seq.*

## Willandra Well.

THE construction of this well not asked for by the Mines Department; site selected by Works Department. When nearly completed, and supply tank, troughs, and whim erected, it was found portion of head-works were upon Kilfera private property. Chief Inspector recommended one tank between Clare and Ivanhoe. Works constructed one tank and one well. He also pointed out that, from experience gained in district, wells were not suitable. Construction so defective that although only 102 feet deep the cost has exceeded £1,050.

x—P.W.P.,  
86-933.

86-5,781.  
87-5,092.

## Peri Springs Tank.

THESE papers show that a tank had been constructed within 500 yards of a number of springs, one of which is opened and yields 7,000 gallons per diem. Works defends the selection of this site. This is simply a case of construction alongside permanent water.

xi—Public  
Works,  
84-804,  
*et seq.*

## Interference of Works Officer with orders of Local Mines Officer at Pulletop and Hulong Tanks.

IN this case, orders were issued to lessee by Mines officer. These, the papers show, were countermanded by Works officer, though it is denied by that officer, and reflections made upon Mines officers. Lessee uses this to neglect the conditions of his lease and regulations under the Act. At Hulong, orders *re* shoots by local Mines officer countermanded, and a 2½-inch rubber hose sent to do work a shoot 1 foot in chord barely suffices for. Orders *re* painting steam pump interfered with.

xii—P.W.P.  
86-5,852,  
*et seq.*

*Re* coating inside of Supply Tank and Troughs with objectionable Composition.

IN this case a travelling mechanic, employed by Works Department, and paid £6 per week, instructed to coat inside of service tank and troughs with tar-pitch and tallow, rendering water undrinkable, especially for domestic use. When tarring is required, it is the duty of the caretaker or lessee. It is unnecessary to employ skilled and highly paid labour to do the work of the Mines caretaker or tenant.

xiii—P.W.P.  
87-371,  
*et seq.*

## Old Gunbar Well.

WELL completed and transfer accepted by this Department, subject to an analysis of water, which proved to be too salt for any purpose. Although admitted by the Works Department that this water is too salt, they endeavour to show the water is fit for use, and urge that constant baling will improve the quality. This was done for about two years without any improvement. Works then consented to bore well, but this has apparently been abandoned. Mines Department have had in meantime to employ caretaker to bale and protect headworks. The well was completed, supply-tank, troughs, whim, and fencing erected, although Works Department was requested to defer latter work till the water was proved. No stock ever watered here. A small tank has been recommended at this place. Well useless as a public watering-place.

xiv—T. & W.,  
84-1,637,  
*et seq.*

## Clearing out Silt-tank at Merimerriwa by Works Department.

THIS work is one of the Mines caretaker's duties. Papers show this had not been neglected; but at the time, owing to rain and water in silt-tank, caretaker could not perform the work. The Works Department officer conceives this to be a case of neglect by Mines caretaker, and lets a contract for this work; but the contractor also has to wait till silt-tank dries before commencing work. A case of unnecessary expenditure. See also paper *re* caretaker by Mr. Bennett.

xv—87-3,060

## Ivanhoe Tank.

THE Waiko (or Ivanhoe) well fallen in through neglect prior to 1879. Tank required for use of township and travelling stock, and, after much correspondence, the Works consented to construct it. A site was recommended by Mr. Gilliat, but not adopted—another site chosen for tank upon Waiko private property. Tank site was altered to present position in main street of Ivanhoe. Compensation paid to contractor for moving. Tank sunk in bad holding ground. Papers relating to prices paid for fencing and drains, also to character of drains and fencing, in this case.

xvi—83-325.

### Holy Box Well.

- xvii. THIS well was sunk, and small supply of fresh water tapped, followed by a great flow of salt water, which, when twice analysed, was declared unfit for use. Evidence as to saltiness was submitted. Well was abandoned and tank commenced. Works officer stopped work at tank when about 3 feet deep, declaring well water good. Well again handed to Mines, and constant baling insisted upon to improve quality of water; this done without result. Cost of well and price referred to—94 feet deep, cost over £1,000. Mines has to bear cost of maintenance and employ caretaker to bale and protect head-works. There is no prospect of leasing salt wells. Caretaker has carted drinking water 17 miles. Whim, service tank, and troughs erected before quality of water decided suitable. Iron in troughs destroyed by action of salt. Well almost useless for stock, and quite unfit for travelling public.

### Mount Manara Well.

- xviii—Pub. Works, 78-3,677. T. & W., 80-58. THIS well sunk on shoulder of hill; but supply too limited, and depth too great, to be of use. Works erected whim, tank, and troughs before testing supply. Endeavours were made to increase supply by driving without success. Well finally abandoned, and tank sunk 4 miles away. See paragraph from *Sydney Morning Herald*—Mr. Abbott's and Chief Inspector's minutes.

### Boro and Bunghill Tanks.

- xix. Tanks and Wells, 84-616. IN this case the tanks were transferred to the Mines Department, and the state of them shortly afterwards reported by the local Mines officer. The construction, the system of open drinking tanks, is referred to, and the Works officers, while admitting some statements fair, give denial to others. Several minutes passed between the Departments, culminating in one of Mr. Bennett's, in which he states the Mines first neglect the works, and then complain. This Mr. Abbott replied to in minute 30/5/84.

### Day Dream Tank.

- xx. THIS is simply an illustration where faulty work has been passed by the Works Department, necessitating expense in alteration and repairs.

### Dolmoreve Well.

- xxi. IS an instance of brackish and what is considered stock water by the Department of Works. The local officer at time of transfer called attention to quality of water, and advised tank. Constant baling was urged by Works Department to improve the quality, but without success. Possibility of leasing this well is small. Caretaker has had to take his horse 4 miles to fresh water. Case of breakage of wire rope submitted as an instance of action of saline matter in water.

### Papers re Fencing.

- xxii. THESE papers show the cost of fencing, as alleged to have been paid by the Works Department; also the cost at which this Department is prepared to erect it. Examples of undesirable concession made to contractors at One-trec and Ivanhoe, &c., viz., the erection of fence without straining posts, and disregard to the requirements of travelling stock, as at Ivanhoe, and the delay in completion of contracts.

### Erection of Caretakers' Cottages.

- xxiii. THE erection of cottages for caretakers having been decided to be necessary, a vote of £13,000 for the service was taken. Tenders for the work were called for by the Works Department, the average price being £85 each, the highest £114, lowest £46, and these were recommended for acceptance. The papers were submitted to the Mines Department, before committing the country to this expense, for an expression of opinion. This was given, and it stated that £85 was considered too high for the service required, and named £50 each as an average. This is stated by the Works officers to be absurd, and that the work should be transferred to the Mines Department. The Mines Department undertook the work. This work was performed by contract, with exception of four cases, in which daily labour was used, but unfettered by the conditions of the Works Department, the approval of both Ministers being obtained. This Mr. Bennett considered to be a censure upon himself, although the proposal to transfer to the Mines emanated from his own Department; but, after an explanation from the Secretary for Mines that no censure was intended, the vote was transferred and operations commenced with the result that the average of £50 has not been exceeded. The average is now £42 15s. for thirty-four cottages.

### Walla Walla Tank.

- xxiv. PAPERS indicate that this tank is in close proximity to large swamp, although this site was reported upon adversely by the Chief Inspector, Public Watering Places. Even if required at its present site, the rainfall is sufficiently great to have rendered a very much smaller tank sufficient.

Papers *re* Fluming.

SHOWING the defective design and construction in many cases of the inlets or flumes at Government tanks, whereby the difficulties of maintenance have been increased, and where neglect has been imputed to Mines caretakers when flumes have failed to meet the requirements.

xxv.

## Baloola and Normanstonc Wells.

THESE wells have been for a lengthened period in course of construction. The usual headworks erected before supply assured. There appears a reasonable doubt that the sites recommended by the Chief Inspector were not adhered to by the Works Department. Basaltic formation and cost of the wells per foot is also shown. The Normanstone is reported as abandoned.

xxvi.

Papers *re* Transfers.

SHOWING directions of Minister for Mines that all public watering places are to be taken over when notified ready for transfer, and that alterations are to be made good by the Works Department. Showing delays in effecting transfers after notification by Works Department owing to non-completion.

xxvii.

Papers *re* Troughing Rails.

AN alteration, owing to faulty erection of troughing, was found necessary in the railings to enable large stock to water with readiness and comfort. It was authorized by Hon. Secretary for Mines, and in calling attention to this, the Works officers express doubt as to there being any *bonâ fide* complaints; and it was suggested that the alteration, at the caprice of an overseer, should be prevented. Cases are submitted, showing the grounds for complaints and the action taken by this Department.

xxviii.

## Drains.

THESE papers show cases of defective levels, and where it has necessitated grading by the caretaker—Hulong, Ivanhoe, Tom's Lake.

xxix.

## Yentabangee and Warramurtee Tanks.

THIS is a case similar to that of the Peri Springs Tank, viz., tanks excavated in vicinity of almost permanent water. Their construction is defended by the Works Department. The minutes of Chief Inspector and letters from independent sources are submitted.

xxx.

## Roto Well.

THIS well has been sunk alongside almost permanent waterhole in Willandra Creek. The lessee of this well was prosecuted by local overseer for breach of regulations under Public Watering Places Act. The case was dismissed, and the decision of the Bench upholds the above statement.

xxxi.

## Tanks, Bourke to Wanaaring.

MEMO. by the Superintendent of Drills, and telegram from Inspector Mackenzie, show that tanks have been let by the Works Department upon this road, in close proximity to artesian borings, without reference to this Department.

xxxii.

## Chesney's Papers.

A SERIES of articles from *S. M. Herald*, and letters from Mr. Chesney, condemning the system of supplying water, &c., to stock. The replies of Chief Inspector and Mr. A. P. Wood are submitted, showing the reasons for the present system.

xxxiii.

## Galathera and Boggy Creek Tanks.

THIS is simply a proof of the inconvenience of open drinking tanks system, and points out delay in furnishing supply tanks and troughs at these tanks.

xxxiv.

Papers *re* Cost of Works.

xxxv. THESE papers show cost of works, as indicated by returns called for by Mr. Abbott; the prices stated to have been paid for excavation, draining, fencing, engine-sheds, &c., by the Works Department; also showing delay by Works Department to furnish return desired by Mr. Abigail. Cost of steam pumping plant is also shown.

Cost of hutting and fencing and engine-sheds by the Mines and Works Departments respectively is compared.

xxxvi. *Re* non-adaptation of work to formation of ground or local conditions, in case of wells, without reference to the probability of obtaining suitable water.

Roto Well	...	...	...	Proximity to waterhole.
Cobham Lake Tank	...	...	...	Submerged.
Dry Lake Tank	...	...	...	do.
Seaville's Tank...	...	...	...	do.
Booorooban Tank	...	...	...	Proximity to waterhole.
Peri Springs Tank	...	...	...	do springs.
Yantabangee Tank	...	...	...	do waterhole.
Tarella Tank	...	...	...	do do.
Warramurtee Tank	...	...	...	do do.
Box Creek Tank	...	...	...	Injudicious site.
Youhl Plain Tank	...	...	...	do.
Kerrigundi Tank	...	...	...	do.
J.K. Well	...	...	...	Proximity to waterhole; Mr. Kennedy's letter.
Old Gunbar Well	...	...	...	Salt.
Holy Box Well	...	...	...	do.
Dolmoreve Well	...	...	...	do.
Willandra Well	...	...	...	do.
Normanstone Well	...	...	...	In basalt.
Baloola Well	...	...	...	do.
Milparinka Well	...	...	...	In vertical slate formation.
Menamurtic Well	...	...	...	Proximity to waterhole.

xxxvii. Papers showing tone of Correspondence and Minutes by Works Officers.

Boro and Bingham—Papers.		By-wash, Brolgan.
Appliances	do.	Mount Manara.
Brolgan Creek Pump	do.	Tinda.
Boonoona	do.	Boona.
One-tree	do.	Crows' Nest.
Bullagreen	do.	<i>Re</i> Mr. Wood's complaints.

## Tarella and Menamurtee Well.

xxxviii. THESE papers are simply as an example of the construction of tank and well in close proximity to permanent water. The minutes in this case and Mr. Quin's letter are referred to.

Papers *re* Appliances.

xxxix. SHOW that the adoption of steam-pumps, for the service of water to travelling stock, was not advocated by the Mines Department—that their recommendation for simpler appliances was overruled.

xl. REPORTS by Inspectors and Overseers.

## Miscellaneous Papers.

xli. CARSON's swamp tank; means for watering stock; Hovell's dam by-wash; Muriel horse-walk; Shearleg's tank.

## Reports of Chief Inspector of Tanks for 1880-81-82-83.

xlii. PUBLIC Watering Places Act.

## I.

LETTER of Mr. W. C. Bennett, Commissioner and Engineer for Roads and Bridges, to *Herald*, re charges made by Mines Department against Officers of Works Department, and minutes thereon.

Minute by The Chief Inspector of Public Watering Places.

Department of Mines, Public Watering Places, Sydney, 2 November, 1887.

MR. W. C. BENNETT, in his letter to this morning's *Herald* (copy attached), implies that the allegations of the previous day's article, reflecting upon the construction of public watering places, proceeded from officers of the Mines Department. This, I think, should be as publicly denied as it has been made.

P.W.P.,  
87/5,750.

That it is not the case is admitted by the writer of the article of which Mr. Bennett complains. I must also ask leave to point out, with the greatest respect, that I am unaware of any accusation having been made by this Department against Mr. Bennett, as stated in the minute of the Honorable the Secretary for Public Works, quoted by Mr. Bennett.

I beg to submit, for the consideration of the Secretary for Mines, that this information may be given to the editor of the *Herald*.  
HARRY GILLIAT.

EXTRACT from *Sydney Morning Herald* of 2nd November, 1887.

"Government Tanks and Dams.

"Sir,

(To the Editor of the *Herald*.)

"In reference to the allegations as to the jobbery, as it is styled, in carrying out the tank and well works by this Department, it is right the public should be aware that I asked (nay, pressed) for an inquiry into the statements sent to this office from the Mines for the last twelve months. This inquiry has not been instituted; I presume the Government thought it unnecessary.

"I forwarded your article of this morning to the Minister for Works, with the following minute:— 'I request the attention of the Honorable Secretary for Public Works to the extract from this morning's *Herald*, which I attach; I need not say it is unfounded. I would remind the Minister that I pressed for an inquiry into the allegations made by the officers of the Mines Department, and that I furnished reams of replies and reports rebutting these accusations. The article calls for a full vindication of my honesty and capabilities. The allegations are made for a purpose in a way I will not characterize; but if they are well founded I should be at once dismissed; if false, the originators should, on the other hand, be dismissed.'

W.B., 1/11/87."

Mr. Sutherland submitted the paper to the Chief Secretary, who was pleased to write as follows:— "I have carefully read this printed paragraph, which has the internal evidence of being a newspaper writing, and not derived from official sources. In this case Mr. Bennett's only course is to seek redress from the newspaper, who, if demanded of them, must either give up the authority or assume all the responsibility of the publication. Clearly it is not a case for a Board of Inquiry."—H.P.

On which the Minister for Works endorsed the following:—"A Board of Inquiry will be granted as asked for by Mr. Bennett months ago to inquire into the accusations of the officers of the Mines Department against Mr. Bennett and officers of the Roads Department.—J.S."

I must now wait the result of the inquiry for a vindication of the character borne by me in the service for thirty-three years, and in the service of the Crown for nearly forty-three years. This character, which is the sole result of that number of years' hard work, it is now sought to deprive me of in this underhand way by those who have misled your reporter for a purpose which will be patent when the papers are published.—WILLIAM C. BENNETT, Roads Office, 1 November.

Submitted for the consideration of the Minister for Mines. I do not think the letter of Mr. Bennett's should have been sent to the Press, and I cannot recommend that any officer of this Department be allowed to reply to it.—G.E.H. (*pro* U.S.), 2/11/87.

Approved. See minute attached.—F.A., 3/11/87.

Minute of The Hon. the Secretary for Mines.

Department of Mines, Sydney.

Mr. W. C. Bennett's letter to the *Herald*.

I THINK Mr. Bennett has broken a well-known Governmental rule in replying to newspaper paragraphs, and it would be following a very bad example to take the same course. My opinion is that Mr. Bennett's references to officers of this Department are unwarrantable and unjust. As the whole of the papers have been moved for, they may be prepared as speedily as possible; the public will then be able to judge who is right and who is wrong.

F.A., 3/11/87.

## II.

MEMO. by Minister for Mines *re* allegations by Works Department that charges against integrity and capacity of their Officers have been made by Mines Officers.

Tanks and Dams Inquiry.

Department of Mines, Sydney.

P.W.P.  
87-6,426.

SEEING that a Commission, consisting of the Hon. G. H. Cox, M.L.C., Major Penrose, R.E., and Mr. J. C. Woore, Police Magistrate at Queanbeyan, has been appointed by the Executive Council to inquire into and report as to certain allegations made inside and out of Parliament, respecting the construction of tanks, wells, &c., by the Roads Department, I have to request that all the particulars in this Department may be prepared in the clearest manner for submission to the Commission.

When Mr. Gilliat is called it should also be pointed out by that officer that so far as this Department is concerned no reflection has been cast on the integrity of the officers of the Roads Department. What has been done had reference to the unsatisfactory manner that many of the works appear to have been carried out, and the very high prices paid for them.

I hope, therefore, this may be made plain to the Commission.

F. ABIGAIL, 29/11/87.

The Chief Inspector of Public Watering Places.—H.W., 29/11/87.

The Chief Inspector of Public Watering Places to the Under Secretary for Mines,—I may, perhaps, point out that the Royal Commission may elect to peruse all papers before calling witnesses, in which case the explanation herewith authorized by the Minister would not be before them at the commencement of their labours. It is, I urge, of the utmost importance that the attention of the Chairman of the Commission should be called to this statement, as an act of simple justice to this Department, which could not reply to the paragraphs in the press alleging that such charges had been made.—H.G., 1/12/87.

A copy of this minute might perhaps be sent to the Hon. G. H. Cox, as Chairman of the Commission. He might be informed that the papers are being prepared to lay on the Table of the Legislative Assembly, and if he would like to have copies before entering upon the inquiry the printing will be expedited, and copies supplied without delay. He may also be asked how soon the Royal Commission will commence to take evidence so that the country officers may be directed to hold themselves in readiness. Submitted.—H.W., 5/12/87.

Approved.—F.A., 6/12/87. Prepare letters.—H.G., 6/12/87. Letter to Hon. G. H. Cox, 7/12/87.

## III.

*Re* Circular sent by Works Department to their local Officers.

Urana, 19 November, 1887.

Harry Gilliat, Esq., Chief Inspector of P.W. Places,—

Dear Sir,

P.W.P.  
87-6,290.

Your very kind note of the 15th duly to hand to-day. I saw Morris, the owner of the ponies, and he tells me they belong to his children, and he could not say if they were for sale.

I will see him again, and if I cannot get this pair I will get as good, and break them in myself for Mr. Abigail, so that he can drive them with safety. Last week I had a letter from Mr. Cronin, asking me to give an opinion *re* the public watering places I had seen; whether open tanks or troughing were best for watering cattle and sheep, and also as to the general character of the works. In reply I informed him. I understood a Board would be appointed to investigate the dispute between the Works and our Department, and as most likely I would be called to give evidence, I must decline to give an opinion just now. Was not this the best reply to give, my dear Mr. Gilliat? I sincerely hope you will not be like my poor countryman, but come out of this fight in flying colours.

As I have had a lot of tank work some years back, perhaps my evidence would be of some good; if so, drop me a line.

Yours sincerely,

P. R. BRETT.

I beg to call attention to the marked portion of annexed letter. Mr. Inspector Low also reports a letter having been written to a gentleman near Ivanhoe in similar terms. It will, perhaps, be advisable to inform the local officers that a Commission is to be appointed, and that they should be prepared to give evidence if called upon.—H.G., 21/11/87. The Under Secretary.

Submitted that any information they desire to furnish should be sent through this office.—H.W., 28/11/87. Approved.—F.A., 29/11/87.

Sir,

Sir, Department of Public Works, Sydney, 7 December, 1887.  
 Referring to your letter of the 21st ultimo, in regard to officers of the Roads Department seeking information from subordinate officers of the Department of Mines on the subject of tanks and dams, I am directed to transmit for your information copy of the only instructions upon the subject which have been issued to officers of the Roads Department.

P.W.P.,  
 87-6,738.  
 Works.—No.  
 87-10,927.

I have, &c.,

JOHN RAE.

The Hon. F. Abigail, M.P., Minister for Mines.

Roads and Bridges Department, Sydney, 3 November, 1887.

MEMO.

As the Minister for Works has promised that a Board shall be appointed to enquire into the working of the Tank and Well Branch of this Department, you are requested to furnish full information on the following points at once:—

P.W.P.,  
 87-6,738.

- 1st. Mention any and all cases that have come under your notice where the contractors with this Department have sub-let their work, and to what extent this has been done in each case.
- 2nd. Give such reliable information you may possess or may be able to obtain as to whether the contractors for these works have made excessive profits out of the works.
- 3rd. Give a full statement of all such works let without tendering or without public notice being given; the prices paid in all such cases; as also the prices for similar work let under same considerations, but for which tenders were received after public notice.
- 4th. Give a full report of the maintenance of these works by the Mines Department, whether such maintenance has been efficient, or whether neglect has been shown.
- 5th. Give a concise record of all cases where the Mines' Officers in charge of these works have clashed with your suggestions or operations to the detriment of the public interest, and where they have neglected to make repairs recommended by you, or have opposed your making such repairs.
- 6th. Obtain from the Crown lessees, or others who can form reliable opinions on the matter, an expression of opinion *in writing* as to the advantages of the open and trough systems of watering, and furnish the addresses of such gentlemen, as we might open direct communication with them.
- 7th. Obtain records of the prices paid by the squatters for excavation during the dry seasons, giving depth, slopes, &c., of the tanks, also such details in regard to water, grass, rations, &c., as bear on a comparison of prices.
- 8th. Give your own opinion and that of others as to the character of our appurtenances.
- 9th. Give full details as to the capabilities of our pumps, as to their simplicity, effectiveness, &c.; whether they can be kept in good order by an average careful man; and whether their maintenance by the Mines has been neglected and their efficiency impaired.

The report on the preceding points must be in this office not later than the 15th inst.

ARTHUR P. WOOD,  
 Assistant Engineer.

Letter to Minister for Works from Minister for Mines.

My dear Sutherland,

12 December, 1887.

I have just received from your office copy of a memo. sent out from the Roads and Bridges Department, bearing the signature of Mr. Arthur P. Wood, Assistant Engineer, and, while admitting much of the contents are very proper, I desire to direct your attention to the following:—

- Clause 4. Give a full report of the maintenance of these works by the Mines Department; whether such maintenance has been efficient, or whether neglect has been shown.
- Clause 5. Give a concise record of all cases where the Mines Officers in charge of these works have clashed with your suggestions or operations to the detriment of the public interest, and where they have neglected to make repairs recommended by you, or have opposed your making such repairs.
- Clause 9. Give full details as to the capabilities of our pumps, as to their simplicity, effectiveness, &c.; whether they can be kept in good order by an average careful man, and whether their maintenance by the Mines has been neglected, and their efficiency impaired.

I desire to know if you think the above a proper document to be sent all over the Colony from one branch of the Public Service, referring to another, and whether such is calculated to promote that good feeling between Departments so necessary to protect the public interest. Awaiting the favour of your reply,—

I am, yours,  
 F. ABIGAIL.

Copies of the letters addressed to the Inspectors and Overseers of P.W. Places in connection with the enquiry by the Royal Commission may perhaps be attached for the information of the Commissioners.—H.G., 12/12/87. The Under Secretary.

Submitted.—H.W., 12/12/87. Approved.—F.A., 13/12/87. Copies annexed.—T.H.S., 14/12/87.

P.W.P.,  
87-6,095.

Sir, Department of Mines, Public Watering Places, Sydney, 1 December, 1887.  
In compliance with a direction of the Hon. the Minister for Mines, you will be good enough to furnish me as quickly as possible with replies to the following questions. It is to be understood that the information afforded shall be based on your own experience or observation:—

1. At the public tanks whether is it preferable that stock should have admission to the excavation, or be supplied from troughing? State reasons for your preference.
2. What are the general rates paid per cubic yard for excavation by private persons and by the Government?
3. What are the general rates for sinking wells per lineal foot paid by private persons and by the Government?
4. What are the relative costs of head-works paid by private persons and by the Government?
5. Are the costly appliances at the Government tanks more effective than simpler methods of raising water? State which are most liable to get out of repair, and present greater difficulties in restoring them to order.
6. Are there any substantial reasons why the Government works should not be constructed at the same relative prices as those given for work undertaken by private enterprise? If so, state them.
7. State the most serious errors in construction you have noticed of public tanks and wells.

I have, &c.,

HARRY GILLIAT,

Inspectors of P.W. Places.

Chief Inspector, Public Watering Places.

P.W.P.,  
87-6,290.

Sir, Department of Mines, Public Watering Places, Sydney, 2 December, 1887.  
I have the honor to inform you that a Commission is being appointed to inquire into the manner in which the Government tanks and wells have been constructed. The Hon. the Minister for Mines directs that any information you may desire to furnish should be sent through this office.

It is desirable that you should be prepared to give evidence if called upon by the Commission.

I have, &c.,

HARRY GILLIAT,

Overseers of P.W. Places.

Chief Inspector of P.W. Places.

#### IV

### MINUTE by The Minister for Mines for Cabinet—Minutes, Appendices, *précis* of cases and copies of extracts.

Minute by The Secretary for Mines.

Department of Mines, 21 March, 1887.

P.W.P.,  
87-1,360.

THE administration of the Public Watering Places Act, 48 Vic., No. 16, which gives statutory authority for the construction, control, and maintenance of works for storing or providing water, adjacent to any public road, is charged to the Department of Mines.

The administrative arrangements of 1880, which are still in force, also allot to that Department the charge of works for the storage of water in the pastoral districts. In addition to the control, maintenance, and leasing, the survey of the watering places, and the construction of huts have more recently been undertaken, and it is now found necessary to assume the charge of fencing, and provision has been asked for that purpose on this year's estimates.

The construction and repairs still remain with the Department of Public Works, but this division of authority is accompanied by drawbacks, such as much unnecessary correspondence, great loss of time, and a resulting want of economy, which it is thought will be obviated if the service is placed under one Department.

The Secretary for Public Works will perhaps agree with me that under the circumstances it might be desirable in the public interest that the whole of the business connected with these works, including construction and repairs be handed over to this Department.

FRANCIS ABIGAIL.

Alternative proposal in case the Cabinet should decide that Works Department retain construction of tanks, leaving all head works and subsequent control to Mines Department.

If the Cabinet decide to retain the construction of tanks and wells with the Works Department, it may in the interests of economy be desirable that the Works should be confined to the bare construction. Hutting, fencing, erection of machinery, and troughing to be dealt with by this Department, as well as subsequent repairs.

In short, that, after the tank or well has been transferred from the Works Department, all control or interference on the part of that Department ceases.

Memorandum which was covered by the Minister's minute, and which was attached for the information of the Minister was handed to him uncopied and unsigned.

The Memo. in question, it is supposed was handed to the Premier, and all trace of it has been lost.  
J.W.B.

Minute

Minute by the Chief Inspector of Public Watering Places.

*Subject* :—Administration of Public Watering Places.

Department of Mines, Public Watering Places, Sydney, 13 May, 1887.

It appears, to put it briefly, from Mr. Bennett's minute, that the difficulties connected with the maintenance and construction of public watering places are chiefly the fault of the officers of the Mines Department. There are no doubt faults in this as in other Departments, but I submit that this is not a reply to the ministerial minute, or my memorandum prepared for the Secretary for Mines, and which I regret to see was forwarded to the Works Department unsigned, but which I desire to acknowledge and affirm as an impartial statement.

P.W.P.  
87-2,536.

See papers *re* tone of minutes.

See paper comparative cost of hutting, with hutting papers.

See Muriel Tank case,  
Seaville's Tank case,  
Cobham Lake Tank case.  
See Peri Springs Tank case,  
Yentabangee     "  
Warramurtie     "

The papers now annexed are a few of the cases referred to by the Commissioner for Roads; they are not selected, but are some of the more recent ones, and do not, I respectfully submit, bear out the contention of Mr. Bennett; the character of the minutes written by the Mines and Works officers will speak for themselves.

With reference to economy in construction I must refer to the cost of hutting as quoted by the Works Department, and the rates now being paid by this Department. With respect to the fencing I must refer to the Ivanhoe case.

With respect to the construction of tanks, reference may perhaps be allowed to the Dry Lake, Seaville's, Cobham Lake, and Copago Tanks. The first three new tanks, the latter an old one, but all four under water for the last fifteen months; to the Paroo Tanks, three of which are sunk within easy distance of water more permanent than they afford.

More professional training in construction of tanks is hardly, I contend, so much required as practical experience and absolute economy. Pastoral tenants construct scores of tanks for one by the Government, comparing favourably in most respects, at cheaper rates per cubic yard, and I fail to see why Government work should be paid so much in excess of private, and I venture to submit the opinion that contractors would not ask it if they were properly supervised and promptly paid.

It will be neither necessary nor desirable in my opinion to maintain such a staff as employed by the Commissioner for Roads; half a dozen active practical men, similar to Mr. Inspector Boulbee, with ample bush experience, who can use a level, will readily do all the work required, ensuring, I have every reason to believe, a marked reduction in prime outlay without interfering with efficiency (the result as shown with the hutting is in favour of this view).

The reflections upon the officers of this Department have been, I think, uncalled for and unjust.

The Under Secretary for Mines.

HARRY GILLIAT,  
Chief Inspector of Public Watering Places.

#### APPENDIX A.

Extract from Mr. Overseer Tully's letter, Wilcannia, *re* fencing in his district.

See P.W.P., 87-1,314, with papers *re* fencing.

19 March, 1887.  
Wire delivered anywhere within 100 miles of Wilcannia, £20 per ton. If a supply of the wire required was purchased privately it could be delivered here under £14 per ton; at least the stores offer to supply it at that price, and carriage is very low at present.

M. J. C. TULLY.

See P.W.P., 87-2,048, with papers *re* fencing.

Ferguson, Wilcannia, quotes by wire on 11th inst.:—Best brands, No. 8 steel wire, £13 5s. a ton in bond.

#### APPENDIX B.

Extract from Mr. Overseer Yeo's letter of 5th May, 1887, covering estimates for huts.

Their (the contractors') tenders would be ridiculous, as they inform me the huts would cost from £90 to £120 each; in fact they are very reluctant in giving any information to assist me, as they are afraid if they do it will be the means of cutting down the very high prices received for Government works.

J. YEO, Ivanhoe.

## APPENDIX C.

COMPARATIVE statement, showing prices of tenders recommended for acceptance by the Works Department, and the prices at which this Department is doing the work.

*Erection of Cottages.*

District.	Works Tender.			Mines Prices.		
	£	s.	d.	£	s.	d.
Bourke ...	93	7	8	60	0	0
Cobar (a) ...	82	6	0	50	0	0
Corowa (b) ...	68	0	0	40	7	0
Silverton (c) ...	.....			50	0	0
Wilcannia (d) ...	.....			Iron	52	0
				Wood	69	0
Deniliquin (e) ...	69	10	0	44	3	6
Condobolin ...	79	19	9	47	2	0
Coonabarabran ...	.....			54	3	0
				Reduced to ...	48	1
*Narrandera (f) ...	87	10	8	50	0	0
Balranald ...	.....			59	17	2
				Reduced to ...	42	10
Albury ...	68	0	0	Iron	48	12
				Wood	54	10
Ivanhoe ...	114	7	1	Iron	56	13
				Wood	58	4
Forbes (g) ...	.....			26	1	6
				Actual cost ...	30	11

Estimate reduced to £48 10s., at which price it was let.

\*This estimate is now reduced to £38, and erection authorized and completed.

Some of these are let and completed by the Mines officers.

(a) 16 completed. (b) 3 completed. (c) 5 complete. (d) 1 complete for £47 10s. (e) 1 completed. (f) 3 completed for £38 10s.; 1 completed for £35 10s. (g) 1 completed.—12/12/87.

A list prepared up to date is with papers *re* cost of works.—J.W.B., 31/12/87.

## APPENDIX D.

*Fencing.*

OVERSEERS have only been lately asked to furnish specifications and estimates for fencing in their districts, and replies have not yet been received from all.

The following have replied, and the price quoted is per mile complete:—

	£	s.	d.		
* Including gates; £54 without.					
Narrandera ...	59	11	0*		
Silverton ...	75	0	0		
Cobar ...	£38 to	45	0		
	according to distance from Cobar.				
Deniliquin ...	69	0	0		
Condobolin ...	39	19	0		
Wilcannia ...	{	52	0		
		40	0		
Information received since original was written.	{	Coonamble ...	47	10	0
		Ivanhoe ...	54	5	0
		Narrabri ...	61	14	0
		Coonabarabran ...	48	1	0

See also later list with papers *re* "cost" of works.

*Faulty construction.—Horse-walk at Muriel Tank.*

See papers *re* Muriel Tank.

For some reason inexplicable the Department of Works decided to erect the horse-walk and works on the upper side of the embankment.

The bottom of embankment is, so near as I remember, about 30 feet from edge of tank.

To raise the horse-walk a sufficient height it became necessary that a portion of it should extend into the tank, and load after load of spoil was tipped in until the tank was almost filled in (after being just excavated) without bringing the walk to the desired height. The tank was full of water when this work was done, and every load of spoil tipped in, melted like sugar, till the tank was half full or more of silt. 3,000\* loads of earth were used to build up this horse-walk.

J.W.B.

\*Approximate.—The tank is in this condition now. The horse-walk after last flood subsided, and there was considerable amount of work in repairs.—J.W.B

*Précis*

*Comparative cost of Fencing.*

With papers *re* sub-letting contracts. Mr. Yeo's letters, 87-1,583 and 87-5,971. Mr. Low's letters, 87-6,083 and 87-4,999. Mr. Boulbee's letter, 86-5,782, with papers *re* fencing.

Mr. Yeo's letter, 87-5,788, with papers *re* fencing. Mr. Yeo's letter, 87-2,154. Mr. Low's report, 87-5,047, with papers *re* fluming. Mr. Boulbee's report, 86-5,442, with papers *re* One Tree Tank. Mr. Boulbee's report, 86-5,441, with papers *re* fencing.

See 87-34 and minutes with papers *re* troughing rails.

See 87-30 with papers *re* troughing rails, Boonoonoon.

Mr. A. P. Wood's minute, 87-2,321, with papers *re* Willandra Well. Mr. Boulbee's report, 86-5,781, also, with case *re* Willandra Well.

Mr. Boulbee's report, 86-5,687, with Ivanhoe Tank papers. Mr. Low's report, 87-4,960, with Ivanhoe Tank papers.

Mr. Keighran's report, 86-4,015, with papers *re* "Drains."

See Wooloondool Well papers.

See Cobham Lake Tank papers. See Scavil's Tank papers. See Tarella Tank papers.

See Peri Springs Tank papers. See Warramurtee Tank papers. See Yentabungee Tank papers.

See 86-2,849, 86-5,927, with above papers.

See 87-667, with papers *re* tarring inside of Service tank and troughs.

See 86-5,927, with papers *re* interference with officers.

See 87-1,228, with papers *re* fencing. Mr. Yeo's letter, 87-1,583, also Mr. Low's, 87-6,583, 6,586, 6,311, and 6,588, with papers *re* sub-letting contracts. See also fencing papers.

The papers (which are now with the Minister) show that at the Ivanhoe Tank the fencing was let in first instance to Bevan at £112 per mile. He sub-let to Elliot at a price not ascertained; Elliot sub-let again to Anderson at a price equal to about £52 per mile; he sublet again (the wiring of the fence) presumably; each of the four contractors expected to realise a profit out of the fencing.

The price of £112 per mile is about £60 per mile over station rates.

Fencing along the Booligal and Ivanhoe Road erected by the Works Department was in very many cases erected without straining posts, the wires being simply attached to the posts in strains extending to 160 yards, *i.e.*, for No. 4, and to tighten that length properly is impossible.

At Wooloondool the fence consists of six strains of barbed wire, an apparently very unnecessary expense; it is not well constructed, and cost, though not accurately ascertained, must be high.

*Faulty construction.*

The dwarf railing at Ivanhoe, Mt. Manara, Boonoonoon troughing, and in many other cases is too high to admit of small stock (*i.e.*, calves, &c.) drinking over or under it, and did not prevent sheep from getting into trough, and polluting the water.

Alterations were directed by the Hon. the Secretary for Mines, and the Commissioner for Roads asked in a minute if these alterations at the caprice of an overseer should not be prevented. Mr. Stillwell expressed a doubt as to whether there were any *bona fide* complaints. (See decision of Mossiel Bench of Magistrates.)

Willandra Well.—Mr. A. P. Wood's minute on 87-2,321 and Mr. Boulbee's report on same submitted for comparison.

Ulong and Ivanhoe Tanks Drains, see 86-5,855.

Tom's Lake Drains, see 86-5,491.

At Wooloondool and Dry Lake Wells no pipe has been placed in bore-hole, which is continually filling in and choking, necessitating constant baling to keep them clear—a source of continual trouble to the Department.

Cobham Lake, Dry Lake, Copago, and Scaville's Tanks. These have been under water for nearly two years.

Of four tanks on the Paroo River three are in neighbourhood of water more permanent than their own.

Private individuals are able to get work done at prices from 75 to 100 per cent. less than Government pays. See Mr. Tully's and Mr. Yeo's letters, now with Minister.

*Interference with Officers.*

Pulletop Tank papers, 87-1,128. Ch. Inspector's minute. Ulong tank (same papers).

*General.*

Troughing at Ivanhoe, Boonoonoon, Mount Manara coated with composition of tar, tallow, and pitch, which was most objectionable, and rendered water undrinkable by stock and human beings. (See Chief Inspector's minute.)

A skilled mechanic paid at rate of £6 per week for this work, which is part of caretaker's duty.

Tops of embankments lately dished by direction of this Department to prevent scour of embankments. Storm water is carried off in shoots at the four angles, and they are 1 foot in the chord and they are barely adequate. Mr. Stillwell, as an innovation, desired caretakers not to fix the shoots in position, but provided 2½-inch diameter india-rubber hose to act as syphon and carry off what four 1-foot shoots would hardly do.

Fencing upon Booligal Road has cost, so far as is ascertainable, £94, £105, £112 per mile.

Average fencing throughout the Colony should not exceed £50 per mile.

*Erection*

*Erection of Cottages.*

See list with papers *re* erection of cottages.

The tenders received by the Department of Works for erection of cottages averaged about £87 for each cottage throughout the Colony, the maximum price being £114.

The tenders were submitted to the Department of Mines for concurrence before committing the country to such an expenditure, and it was considered that by utilizing the caretakers' labour the cottages could be erected at a far less cost, and £50 was the amount named by the Chief Inspector as an average. This sum has not been exceeded by this Department.

In Ivanhoe District the Works tenders recommended for acceptance were £114 per cottage. This Department is prepared to erect in this same district at £53 each. (Papers with Minister.)

*Engine Sheds.*

See 87-4,712, 87-2,286, with papers *re* cost of works.

Several have been erected on the Booligal and Wilcannia Roads at £50 each, and later on at £30.

The shed about to be erected by this Department at Broilgan Creek tank will cost £9 7s.

In the Condobolin District Mr. Jones has offered to have them erected for £10 each.

Cottages are being erected by this Department in Silverton District at £50 each.

Extract from Telegram from Mr. Overseer Tully, 27 May, 1887.

87-2,286. Original, with papers referring to cost of works.

\* \* \* \* \*  
Fencing on Booligal Road, £94 per mile. Beefwood now going up, down to £52 per mile.  
\* \* \* \* \*

M. J. C. TULLY.

Attention is also called to the price quoted for fencing on the Booligal Road, which is nearly double the estimate considered ample by this Department.  
H. GILLIAT.

The Under Secretary. Submitted for the information of the Minister.—H. W., 30/5/87. Secn.—F.A., 30/5/87.

Copies of extracts from Mr. Inspector Low's reports on,—

87-6,583. Original with fencing papers.

48-Mile Tank, 27 Nov., 1887.  
Fencing not yet completed; this of split balar, none of it being carted more than 5 miles. Contractor would not tell price, but told me it was between £90 and £100 per mile.  
J. LOW.

87-6,586. Original with fencing papers.

Mount Manara Tank, 24 Nov., 1887.  
Fencing in good order, not yet transferred. This has lately been erected by Works Department at £120 per mile; is of pine about half split, and the balance young round pine with no straining posts. The round pine will last only a few years. None of the timber had to be carted 5 miles.  
J. LOW.

Extract from Mr. Inspector Low's report on Boonoona Tank,—

87-6,311. Original with fencing papers.

14 November, 1887.  
Fencing in fair order, not yet transferred, lately erected by Works Department at £120 per mile.  
Gates in good order, lately erected by Works Department at £15 per gate, not yet transferred.  
J. LOW.

87-6,588. Original with fencing papers.

35-Mile Tank.  
Fencing in good order, not yet transferred. This has been erected at £95 per mile; none of the timber was carted over 4 miles.  
\* \* \* \* \*  
Engine-shed was erected by Works Department, and cost £50.  
J. LOW.

87-2,535. Original with papers *re* subletting contracts.

See also papers *re* sub-letting fencing at Ivanhoe. Fence cost £112 per mile.  
J.W.B.

P.W.P.,  
87-2,535.

Minute by Chief Inspector.

11 May, 1887.

*Re Fencing at Public Watering Places.*

Copy attached, original with papers *re* sub-letting contract.

\* \* \* \* \*  
This letter from Mr. Overseer Yeo shows the prices alleged to have been given by Mr. Stillwell for the erection of fencing at the Ivanhoe Tank.

First and original contract to Bevan, £112 per mile; Bevan sublet to R. Elliott, price not ascertained. Elliott sub-let again to Anderson; 30s. per 100 for getting posts, £18 per mile for erecting same; £5 per hundred for carting posts from Kajulijah to Ivanhoe, equal to about £52 per mile, to which may be added cost and carriage of wire from Hay, showing that from £35 to £40 per mile has been paid in the excessive prices given over and above a fair estimate, and about £60 per mile above the current station rates, which should not, I submit, be exceeded by this department.

NOTE—Anderson sublet the wiring of this fence at £9 per mile.

In

In submitting these particulars, I may state that from what I understand, the prices paid for fencing upon this road, and indeed at most of the P.W. places fenced by the Roads and Bridges Branch are greatly in excess of ordinary rates, but this is the only instance in which I have directed the overseer to endeavour to verify the statement.

I have, however, reports from Mr. Inspector Boulton and Mr. Overseer Keighran, and a declaration made by the late caretaker of the One Tree Tank, of a very undesirable and, I may say, unfortunate concession to some fencing contractors by allowing them to dispense with straining posts. I append extracts that bear very forcibly upon the existing state of things, and show the necessity of the Government making a stand against the exorbitant prices that the careless manner of accepting contracts have induced contractors now to stand out for.

See Mr. Low's report 87-4,909, with papers re subletting contracts. See Mr. Yeo's letter re cottages.

HARRY GILLIAT,  
Chief Inspector, Public Watering Places.

Sir,

Stock Office, Ivanhoe, 1 April, 1887.

87-1,583.

I beg to submit for your information the cost of fencing at the Ivanhoe Tank, which seems to me to be an extravagant price, taking into consideration the price station-owners get their fencing done for; of course I make allowance for the extra-sized posts, &c, required for Government fences. Mr. Bevan, the contractor for the fencing at the Ivanhoe Tank, told me that he was getting £112 per mile; he also told me that he had sublet the contract to Mr. R. Elliot, but to find wire himself (Bevan). Elliot afterwards sublet the work to a man called Anderson at 30s. per 100 for cutting and splitting posts, £18 per mile for putting up posts and wiring same, £5 per 100 for carting the posts from Kajulijah to Ivanhoe. Anderson's sub-contract should cost about £52 per mile. The cost of wire delivered at Ivanhoe should not exceed £30 per mile. I consider this will show that £30 per mile is being paid in excess of what it could be done for.

Original, with papers, re subletting contracts.

I have not been able to ascertain the price that Elliot was to receive from Bevan. Anderson told me himself the price he was to get for his sub-contract, which I have already stated.

In forwarding this information I trust I am not exceeding my duty, as I considered you would wish to know.

I omitted to mention that Anderson sublet a portion of the wiring to a man at 60s. per mile.

JAS. YEO.

Harry Gilliat, Esq., Chief Inspector, P.W.P., Sydney.

Extract from report on Wooloondool Well, by Inspector Boulton.

16 November, 1886.

P.W.P.,

The T.L. is newly fenced with split pine posts and six wires of barbed wire, in my opinion a most useless expenditure, the plain wire being ample for all requirements. The wire is of a poor description, named, I think, the "Fish Barbed Wire"; it is impossible to make a really satisfactory splice in this kind; it is fastened to the posts by staples, and in most cases the post is split an inch up from each staple, in some cases the staple is bent over and broken, and there is a very poor strain on the wire. The wire is flat iron galvanized, with a small core, and barbs cut.

86-5,441. Original with fencing papers.

J. W. BOULTBEE.

Sir,

Stock Office, Ivanhoe, 16 May, 1887.

P.W.P.,

I herewith beg to apply to you for instructions re taking delivery of fencing at P.W. Places from Department of Works, whether I must object to take delivery of a fence which has no straining post provided, as in the case of the fence in course of construction at Ivanhoe, where the wires are run out to its full length, and strained to the post to which it might reach.

87-2,154. Original with fencing papers.

I am of opinion that this is not a good way to strain wires in a fence, consequently I don't care to take delivery of a fence erected in this way unless instructed to do so.

JAMES YEO.

Mr. Boulton,—Have you ever seen a fence constructed on this principle, except in Mr. Road-Superintendent Stillwell's experiment at the One Tree?—H.G., 23/5/87.

I have never seen fences erected in this manner outside of Mr. Stillwell's district, and I beg in the most unqualified terms to condemn it, since I cannot see how it is possible to strain the wire properly without straining posts. The fence at One Tree is a strong case in point. It was finished by contractors, and, I presume, passed by Mr. Stillwell, for within a few weeks after its completion the caretaker was reported by Mr. Stillwell for having the wires all slack, and some very harsh comments made upon the Mines officers.—J. W. BOULTBEE.

See 86-5,802, with papers re One Tree Tank.

As the future direction of these works is at present under consideration, Mr. Yeo may perhaps be instructed to take over the fencing at Ivanhoe, stating in his receipt the objections he takes to the character of the fence.—HARRY GILLIAT. The Under Secretary.

Submitted.—H.W., 26/5/87. Approved.—F.A., 27/5/87. Mr. Yeo.—H.G., B.C., 28/5/87.

Contents noted.—J. YEO, 4/6/87. Mr. Inspector Low.—H.G., B.C., 22/8/87.

I have inspected this fence, and can strongly bear out Mr. Inspector Boulton's condemnation of this style of fencing. I have seen no instance where such a style of fencing was done by a practical man, neither do I expect to; it is simply absurd to attempt to strain a wire fence in the manner tried here; some of the posts are already splitting from wires being strained to them, being split pine, and many are much pulled over.—J. Low, 30/8/87.

Extract

## Extract from Mr. Low's report on Ivanhoe Tank.

27 September, 1887.

P.W.P.,  
87-5,047.  
Original with  
fencing papers.

The cause of the posts splitting is that they are split pine posts, which, unless much stronger, and at least 4½-in., are liable to commence splitting by the insertion of pin to hold wire while fastening it. When one wire is strained on them—*i.e.*, one wire round one half of post—other wire round other half causes a strain which in some instances here the posts have been unequal to, and are splitting.

JOHN LOW.

Sir,

Stock Office, Moss Vale, 1 November, 1887.

P.W.P.,  
87-5,788.  
Original and  
sketch with  
fencing papers.

Before leaving Ivanhoe I omitted to point out what I considered a defect in the fence erected round the T.L. at the Ivanhoe Government Tank, *viz.*, the way in which the wire is strained to the post; the greater quantity of the posts are split pine posts 8 x 4, with no straining posts, except at corners and angles in fence. The wire is run out to its full length, then strained to any post which it may reach; but instead of the wire going round the whole of the post it only goes round half, and the next wire goes round the other half, consequently, when the wire is strained from both sides it in many cases splits the posts in half. I beg to enclose a rough sketch which may possibly explain more fully what I mean.

J. YEO.

## Minute by Mr. A. P. Wood.

Reply to a letter asking when the Willandra Well will be ready for transfer to this Depôt.

\* \* \* \* \*

P.W.P.,  
87-2,321.  
Original with  
Willandra Well  
papers.

We are not in a position to give the required information at present. The deepening of this well in loose running drift has been a most difficult undertaking, and the contractor has had further difficulties, causing great delay in obtaining and keeping good men. The work is now being pushed on, and should be finished without any unnecessary delay.

A. P. WOOD, 28/5/87.

## Extract from Mr. Inspector Boulton's report upon Willandra Well for 10th December, 1886.

P.W.P.,  
86-5,781.  
Original with  
Willandra Well  
papers.  
As to cost -  
£1,087 6s. 8d.  
Papers, 87-5,636.

I went below and inspected the shaft and workings, and I would strongly recommend that this shaft should be abandoned, and a new one sunk alongside. The state of the shaft below, even if temporarily put right, cannot ever admit of a permanent or satisfactory job being made. The shaft for about 75 ft. is plumb and true; below this the plumb line is gradually left, and at 102 ft. (the bottom) the shaft is over 6 in. out. A bore has been put down, and the pipe is immediately under the plumb line. There is about 20 ft. of drift, an iron box is in, and this and the pipe and 25 ft. of timber will have to be removed to bring the shaft plumb. An immense amount of drift has come in, and there must be a large cavity. The man in charge has made a chamber below to enable them to raise pipe and box. The box he may raise, but he has no appliances for raising the pipe out of wet drift. If he succeeds in raising these and straightens the shaft, I am afraid, from the amount of drift that comes in, of the cavity behind the slabs; and that it will only be, at the best, a patched-up job, and very liable to go wrong and set out of plumb again.

I did not like the look of the shaft at all. He has some very strong stout box-beams that bend and split in all directions. I never saw any good done by trying to patch or straighten a drift-well if the (box) shaft got out of plumb. A new shaft would be cheaper in the long run.

\* \* \* \* \*

J. W. BOULTBEE, 10/12/86.

## Extract from report on Ivanhoe Tank, J. W. Boulton, 22 November, 1886.

\* \* \* \* \*

P.W.P.,  
86/5,587.  
Original with  
Ivanhoe Tank  
papers.  
See also Mr.  
Low's report,  
86/4,900, also  
with Ivanhoe  
Tank papers.

There is one drain that for a considerable distance runs up hill, and a cutting 3 feet deep is required to run the water down. Mr. Stillwell had a man at this, but it is now left for our caretaker to do. I instructed him not to touch it until he has everything else in good order. The place is fully half-mile from the tank, and working there he can have no check upon travellers.

J. W. BOULTBEE.

Sir,

Whitton, 23 December, 1886.

P.W.P.,  
86/5,964.  
Original and  
sketch with  
draining papers.

Referring to the enclosed papers relative to the drainage at Hulong Tank and the complaints of Mr. Road-Superintendent Stillwell against the caretaker that he is not giving the drains proper attention, I now have the honor to submit a rough plan of drains which I inspected, and from my own observation, and from the statements of both Mr. Elworthy and the caretaker, who have seen the drains full of water, I have no hesitation in saying they have been very badly and carelessly laid out, and that our caretaker, who has I think honestly done his best to remedy the very glaring defects, is being blamed for neglecting other portions of his work to do what he never should have been called upon to do, namely, grade and level the drains. The inlet flume was lowered 9 inches before the water would run into the tank at all. The main and side drains have been lowered a long distance up, and two of the drains are I submit quite useless. The drains at Hulong are not an isolated case. At the Ivanhoe tank the levels are imperfect, and water expected to run up hill.

J. W. BOULTBEE.

## Extract from Mr. Keighran's report on Tom's Lake Tank, 12 August, 1886.

\* \* \* \* \*

P.W.P.,  
86/4,015.  
Original with  
draining papers.

The main drain, which is over 1 mile in length, was in my opinion badly laid out at first, the levels not properly taken, as at its head there is a swamp where an embankment of earth had to be formed to force the water from there into the drain, which embankment has given way; the consequence is that the drains render no assistance in conveying water from the plain into the tanks. Besides this, the drain is on the

the main route, where travelling stock has to pass along, and is constantly getting damaged by being trampled in, and again at its junction near the tank teams, coaches, &c., have to cross over, and get bogged.

At the time of my inspection it was a perfect quagmire and a hindrance to the travelling public. Two culverts are required, otherwise the drains are useless.

J. A. KEIGHRAN.

Extract from Mr. A. W. Stillwell's report on Ivanhoe Tank, dated 22/12/87.

The caretaker was lowering the dwarf fence rail of the troughing to 7 inches from bearer. This will prevent sheep watering on that side, practically curtailing the length of troughing one half for sheep. He said it was by the Mines overseer's instructions, and to facilitate watering of cattle, the rail having been found too high for them. It is of the same height as at the troughing in the district, and the raising of ground level along that side would have answered the purpose if there were any bona fide complaints, which I doubt.

P.W.P., 87-34. Original, with troughing rail papers. See also 87-30, with troughing rail papers. Boonona case.—Pub. Works, 86-11,803 (30-12).

Mr. Wood,—Should not alteration of this sort, at the caprice of the overseer, be prevented.—W.C.B., 24/12/86. Yes; I do not think, as we are responsible for these works, that this should have been done. The same levels suit in other cases, and should do in this case.—A.P.W., 24/12/86. The Under-Secretary for Mines.—J.R., B.C., 31/12/86.

The action was taken under the authority of the Secretary for Mines and by statutory power conferred by the Public Watering Places Act—the only statute empowering construction, the administration of which is vested in him.—H.G.

Minute by Chief Inspector re alleged interference with Mr. Overseer Elworthy's instructions to the tenant at Pulletop Tank.

In this case the alleged interference by Mr. Stillwell is denied by the Department of Public Works, and here, in the ordinary course of business, the question would have dropped. But the minute of Mr. A. P. Wood, concurred in by the Commissioner and Engineer for Roads and Bridges, contains what I venture to think such an entirely unauthorized criticism upon the administration of the Public Watering Places, as unjust as it is incorrect, that I consider myself justified in asking that the attention of the Hon. the Secretary for Mines may be specially drawn to all the papers. I am in entire agreement with the officers of the Department of Public Works with respect to the serious disadvantages of a divided control, and reference to our records will show that the attention of the heads of both Departments have been directed by me on several occasions to its unfortunate results.

P.W.P., 87-2,849. Original, with papers, re interference with officers, papers 86-5,852, 5,707, 5,027; 87-137, 417, 741, 1,123.

The administration of the Public Watering Places Act, which is the only Act that I am aware of, gives legal powers for the construction of works of this nature, is vested in the Hon. the Secretary for Mines, and I may perhaps respectfully submit for his consideration that some permanent arrangement of the duties of the two Departments is probably desirable.

The statements of Mr. Wood can be readily refuted, were he entitled to a reply; but, in the interests of the Public Service and of the special duties allotted to me, I consider any reply from me unnecessary—unless specially directed to do so.

HARRY GILLIAT,  
Chief Inspector of Public Watering Places.

The Under Secretary for Mines.

Minute of the Chief Inspector.

12 February, 1887.

Tarring inside of Troughing.

On Mr. Inspector Boulton's return from his last inspection, he reported an objectionable composition of pitch, tar, and tallow, was being used for coating a portion of the inside of service tank and troughing at some of the watering places, by a man in the service of the Works Department, acting under instructions from the Local Road Superintendent. Repairs of this nature are carried out by our own caretakers, who are paid for the service, and the employment of a skilled mechanic for the purpose appears unnecessary.

P.W.P., 87-667. Original, with papers re tarring inside of troughs, &c., Ivanhoe Tank.

Objection has been taken to the use of the composition referred to (vide Mr. Boulton's memo.), and I need hardly point out that it is apparently even more unsuitable when the water may, at any time, be required in considerable quantities for domestic purposes as at the Ivanhoe Tank.

Our own officers are instructed to use boiled coal-tar and pitch for coating service tank and joints of troughing, when required. This forms a hard glaze, and has, so far, been found suitable.

With above papers.

I am in doubt whether Mr. Wood is correct in assuming that the Department of Public Works is responsible for repairs until they are authorized by the Hon. the Secretary for Mines; and I am equally in doubt whether it is desirable for that Department to take such steps as it may deem necessary to protect or render the works more efficient without reference to the Department responsible for their maintenance and control, under the Act. The effect of a divided control can only tend to confusion and lowering the standard of efficiency, as well as cause friction between the Departments; and any steps taken, I would respectfully suggest for the consideration of the Hon. the Secretary for Mines, would preferably be in the direction of relieving the Works Department entirely of all repairs in future.

H. GILLIAT.

Mr. Inspector Boulton states:—A composition of tar, tallow, and pitch, and the water was, after standing a short time, most objectionable and undrinkable, bearing a greasy prismatic scum on top.

Mr. Overseer Yeo states:—It melts and forms a scum on top of the water which prevents stock from drinking. Boonoma and Mount Manara troughing had already been done. There have been several complaints about it.

If the use of the composition renders the water unfit for the purpose for which it is conserved, it is not clear how the use of it can be said to render the works more efficient. It is very desirable, in the public interest, that when the works have been taken over by this Department they should not be interfered with by the officers of another Department; and it is to be hoped the question of construction, control, &c., will be dealt with at an early date.—H.W., 16/2/87.

Submitted. Approved.—F.A., 21/2/87.

Extract from Mr. Overseer Yeo's letter of 13 September, 1887.

*Re* Cost of Engine-sheds.

\* \* \* \* \*

87-4,712.  
Original, with  
papers re cost of  
works.

But I am informed, through the caretaker at the Merri Merriwa tank, that the shelter-sheds along the Cobar and Hillston Roads cost £27 each. J. YEO.

Copy of wire from Overseer Tully on same subject.

87-2,286.  
Original, with  
papers re cost of  
works.

SHEDS on Ivanhoe Road cost £50; some erected since by Mr. Hanna, in other parts, down to £30.

M. J. C. TULLY,

Size of shed 12 × 12. The same shed is about to be erected in Forbes district for £9. In Condobolin district offers are made to erect shed for £10. \* \* \* \*

H. GILLIAT, 30/5/87. The Under Secretary.

Submitted for the information of Minister.—H.W., 30/5/87. Seen.—F.A., 30/5/87.

Extract.

Sir,

Whitton, 21 December, 1886.

86-5,927.  
Original, with  
papers relative  
to interference  
by Works Officer  
at Pulletop.

Referring to my instructions to visit Hulong Tank, I now have the honor to inform you that I did so, and found that Mr. Road-Superintendent Stillwell, after Mr. Overseer Elworthy had instructed the caretaker to coat the boiler, &c., in accordance with your circular, 3rd September last, had issued fresh orders to the caretaker to paint it red, and to apply to Mr. Elworthy for paint.

Mr. Elworthy instructed the caretaker to prepare the newly dished top of embankments for the reception of a shoot for carrying off the storm-water, material for which Mr. Elworthy was supplying. These instructions were also countermanded; and a length of India-rubber hose, 2½ inches in diameter, was supplied by Mr. Stillwell to carry off all the storm-water from the four embankments. I need hardly say how totally inadequate this is, and must, at the same time, protest against such a useless waste of money, and such a childish innovation, that in the eyes of the travelling public so reflects upon the Public Watering Places officers. I wish to bring this immediately and urgently before you, as I understand Mr. Stillwell is about supplying other tanks with the same. A shoot of less than 1 foot across is perfectly useless, and is required in each angle. Actual experience, both at Hulong and Pulletop, have proved the folly of the 2½-inch hose, and caretakers have now definite instructions to proceed with the shoots so soon as material arrives.

\* \* \* \* \*

J. W. BOULTBEE.

## V.

### MINUTE of Minister for Mines, and Extract from Bourke paper, *re* Centralistic Bureaucracy.

With P.W.P., 86-5,102 Mr. Quin, late member for Wentworth, told me to day of a case where a small piece of fencing at a tank requiring renewal at a cost of £3 cost £50 to have it inspected by the district officers of the works, to see if the local officers had not made a mistake

The report stated yes, the fences must be removed as recommended.

F.A., 1/6/87.

Extract from *Central Australian*, Bourke, Saturday, 23 October, 1886.

Centralistic Bureaucracy.

P.W.P.,  
86-5,102

To show the evils of centralizing all authority in Sydney, we quote a couple of glaring instances that have recently come to our knowledge. Some time ago the lessees of country adjoining a Government tank

tank submitted to the Public Watering Places Branch of the Mines Department a plan for the modification of one of the fences. The proposed alteration would have cost exactly £3, for which sum the caretaker was fully prepared to undertake the work. Red-tape routine, however, and Sydney bureaucracy demanded an official inspection by an inspector; even one inspection was not sufficient and two had to be made.

The travelling expenses of this inspector amounted to over £30, so what it really cost to supervise the outlay of this £3 is almost beyond calculation.

As the above appeared in a Bourke paper, will Mr. Mallon be good enough to report to what it refers.—H.G., B.C., 28 Oct., 1886. Mr. Overseer Mallon, Bourke. I am not aware to what the paragraph refers.—JAS. MALLON, Bourke, 2/11/86.

Memorandum from *Central Australian*, Bourke, 30 Oct., 1886. to Jas. Mallon, Esq., Bourke. Dear Sir,—*Re* article in *Central Australian* headed "Centralistic Bureaucracy," the statements made therein I believe to be perfectly correct, and refer to this Colony. Beyond this I do not feel inclined to go at present.—J. L. PARSONS, Editor.

I have ascertained that no such action has occurred in this Department, and am informed it refers to a tank at Silverton and the officer belonged to the Department of Public Works.—H.G., 10 Nov., 1886. The Under Secretary for Mines. Seen.—H.W., 24/11/86.

It has since been ascertained from Mr. Quin, who furnished the information to the Minister, that this refers to the Warramurtee Tank. The recommendation of an alteration to some fencing at a cost of £3, made by Mr. Tully. This was referred to Works Department for action, and the expense referred to was presumably incurred in effecting and supervising the alteration.—J.W.B., 20/12/87.

## VI.

### LETTER from Mr. Earngy.

Envelope addressed H. Gilliat, Esq., Inspector of Public Watering Places, Mines Department, Sydney.

Dear Sir,

Mangrove Creek, 13 November, 1887.

Concerning the Roads Department's management of tanks and wells, I could show that in Copy of the Albert District the most criminal management existed, and the embezzlements by the officers in P.W.P., charge there up to 1883 were more daring and formidable than ever happened to any public department 87-6,084. in the history of the Colony. The officer, who was a particular favorite of Mr. Bennett, never explored for best sites; the publican or the coachman invariably picked out the well and tank sites, consequently each picked to suit individual interest, and seldom or ever were the measurements according to specification. The tank, say, was to be 18 feet deep; well, since there were no sections of the work, the contractors heaped the material all over the surface previous to forming embankments; consequently, by only going 15 feet deep the tank was well made to appear 18 feet deep. But the worst features are the atrocious sites, endorsed too by inspecting officers, who do not leave the coach, and remain satisfied that coachy knows more about it than they, and coachy's opinion is endorsed by the publican, who joins in chorus with coachman, singing, splendid site, beautiful catchment; some of their beautiful catchments have been on the summit of high ground. The officer whom I allude to, in 1882, out of 100 engagements there were sixty-five embezzlements; and in 1883, out of twenty-two engagements there were nineteen embezzlements. The officer had trial shafts 18 feet deep at 5s. per foot, according to vouchers, sunk all over the country, and was accordingly looked upon as a very energetic and painstaking officer; one shaft in perhaps twenty was sunk, but not more; he pocketed those items to pay hotel expenses. This officer, although he had a fidelity guarantee for £1,000 in the Victoria Life Assurance Society, the Commissioner for Roads dared not close on it, knowing that the Company would prosecute, and the Roads Department consequently would be exposed.

There have been dozens of officers guilty of fraud, and not one (with the exception of one only) has been prosecuted. Mr. Bennett cannot entertain the veriest reflection upon his Department; accordingly everything is hushed up. The non-passing of the Local Government Bill is terribly annoying him, as this hushing up business is multiplying, and he is impotent to stop irregularities; he looks to the Bill to do so.

I can give you any amount of such management if you wish.

Yours, &c.,  
GEORGE EARNGEY.

This letter was received by me to-day. I am not acquainted with the writer, who addresses me, I assume from the envelope, officially.—H.G., 15/11/87. The Under Secretary. Submitted as to whether any action should be taken upon it.—H.W., 16/11/87. The writer should be called upon by the Commission appointed to make inquiry into such matters to give evidence, and this letter should be placed before the Commission as soon as they are ready to commence the work of inquiry.—F.A., 17/11/87. Should the letter be acknowledged and the writer informed as to what action has been taken on it?—J.R., 17/11/87. In ordinary courtesy, this course might be taken.—H.G., 17/11/87. The Under Secretary. Approved.—H.W., 18/11/87. Mr. Earngy informed, 21/11/87.

## VII.

*Re sub-letting Contracts ; refers also to faulty construction of fencing.*

P.W.P.,  
87-6,585.  
Original with  
papers re fencing

Extract from Mr. Low's report on 26-mile Tank, 26th November, 1887.  
The drains here in first instance were let at 4s. 6d. per chain, and afterwards sub-let at 3s. 6d. per chain to man who did the work. These are quite equal to drains at Ivanhoe Tank.

J. LOW.

NOTE:—See Mr. Boulbec's report Ivanhoe Tank, 86-5,587, with Ivanhoe Tank papers recast of drains.

P.W.P.,  
87-6,586.  
Original with  
papers re fencing

Extract from Mr. Inspector Low's report on Mount Manara Tank, 24th November, 1887.  
Mr. Hay, Mount Manara Station, contracted to excavate tank at 1s. 4½d. He sub-let to Fred. Hardie, who did the work at 1s. per cubic yard.

J. LOW.

Sir,

Stock Office, Ivanhoe, 1st April, 1887.

P.W.P.,  
87-1,583.

I beg to submit for your information the cost of fencing at the Ivanhoe Tank, which seems to me to be an extravagant price, taking into consideration the price station owners get their fencing done for. Of course, I make an allowance for the extra size posts, &c., required for Government fences. Mr. Bevan, the contractor for the fencing at the Ivanhoe Tank, told me that he was getting £112 per mile, he also told me that he had sub-let the contract to Mr. R. Elliott but to find wire himself (Bevan). Elliott afterwards sub-let the work to a man called Anderson at 30s. per 100 for cutting and splitting posts, £18 per mile for putting up posts and wiring same, £5 per 100 for carting the posts from Kagulijah to Ivanhoe. Anderson's sub-contract should cost about £52.

The cost of the wire delivered at Ivanhoe should not exceed £30 per mile. I consider this will show that £30 per mile is being paid in excess to what it could be done for.

I have not been able to ascertain the price that Elliott was to receive from Bevan.

Anderson told me himself the price he was to get for his sub-contract, which I have already stated.

In forwarding this information I trust I am not exceeding my duty, as I considered you would wish to know.

I omitted to mention that Anderson sub-let a portion of the wiring to a man at 60s. per mile.

I have, &c.,

JAMES YEO,

Overseer, Public Watering Places.

Harry Gilliat, Esq., Chief Inspector, Public Watering Places, Sydney.

Stock Inspector Yeo, late overseer at Ivanhoe, statement re sub-letting of fencing at Ivanhoe Tank and bad quality of said fence.—S.B., 87-29.

Sir,

Stock Office, Moss Vale, 11 November, 1887.

P.W.P.,  
87-5,971.

Referring to your letter dated 2nd inst., re fencing at the Ivanhoe Tank for report, I herewith beg to submit the required information which I obtained personally while in charge of the Ivanhoe District. In the first instance I might mention that the contractor, Mr. Bevan, informed me that he did not tender for this work, but as he had done other fences along the Booligal and Wilcannia Road, Mr. Stillwell let him this fence at £112 per mile. Mr. Bevan then sub-let the fencing to R. Elliott (but I was unable to ascertain the price), but to find wire himself (Bevan). Elliott then sub-let it to a man called Charles Anderson at 30s. per 100 for cutting and splitting posts, £5 per 100 for carting posts from Kagulijah to Ivanhoe (a distance of 36 miles), £18 per mile for putting up posts and wiring same. I consider Anderson's sub-contract should not cost more than £52. The cost of the wire delivered at Ivanhoe should not be more than £20 per mile, consequently the fence at the above-named prices would cost £72 per mile, which shows that the original contractor (Bevan) obtained £40 per mile for doing nothing; and notwithstanding this very high price paid I consider, from my own experience as well as other practical men in the Ivanhoe District, that this fence is not erected in a practicable manner, there being no straining posts only at the corners and angles in fence, the posts are pine, and a great portion of them are split 8 × 4. The wire is drawn out at its full length, and in a great many instances it reaches a split post and the consequence is that when the wire is strained to those posts it simply splits them through the centre where they have been bored as stated in my letter of the 1st instant.

I might mention that I have not seen the specifications, but of course presume the work has been done according to specifications supplied by Mr. Assistant-Engineer Stillwell.

I have, &c.,

JAMES YEO,

Ex-Overseer, Public Watering Places,

Ivanhoe District.

Sir,

Department of Mines, Public Watering Places, Ivanhoe, 11 November, 1887.

P.W.P.,  
87 6,08 .

In answer to your telegram of 10th inst. re sub-letting of Government work or contracts, I have the honor to report that the only case upon which I can as yet get any definite information is the erection of fence on Public Watering Place, Ivanhoe, which in first instance was let to one Bevan at either £116 or £120 per mile; this was sub-let to Elliott who afterwards sub-let to one Anderson at the following rates:—30s. per 100 splitting, 100s. per 100 carting, and £18 per mile erecting; the panels are 10 feet, which would allow the following per mile:—

	£	s.	d.
Splitting posts, 530 at 30s. ... ..	7	19	0
Carting „ 530 at 100s. ... ..	26	10	0
Erecting per mile ... ..	18	0	0
Wire per mile ... ..	30	0	0

£82 9 0

The allowance for wire is amply sufficient for any season, which would allow of a net profit of at least £33 11s. per mile from first contract.

I shall endeavour to find out if any others have occurred, but I can place little reliance on outside information. The contractors under the Works Department evince the strongest dislike to giving any information as to prices and specifications.

I am writing Mr. Webb, of Kilfera, who I hear is in Melbourne, to see if he can give any information re Willandra Well, and shall forward same to you as well as any further information I can glean.

I have, &c.,

JOHN LOW,  
Inspector of Public Watering Places.

Sir, Department of Mines, Public Watering Places, Ivanhoe, 23 September, 1887.

I have the honor to acknowledge receipt of yours of 15th instant, re furnishing estimate of cost in items when submitting recommendations for work to be done at public watering places, which shall have my attention.

P.W.P.,  
87-4,999.

I may here add that the value of work by me are much lower, and leave a great margin to the rates I can get parties willing to perform any work for, and when they are spoken to by me on the subject simply refer to the previous rates paid for Government work, and are unwilling on their part to tender at lower rates in case they should be blamed by others for reducing the former high rates. In support of this, instances have come under my notice where a Government contract has been sub-let as often as three times ere it got to the party that actually did the work.

I have, &c.,

JOHN LOW,

The Chief Inspector, Public Watering Places, Sydney.

Inspector, Public Watering Places.

Submitted for the information of the Honorable the Secretary for Mines as an illustration of the evils I have called attention to.—H.G., 30/9/87. The Under Secretary. Submitted.—H.W., 5/10/87. Seen.—F.A., 12/10/87. Request Mr. Inspector Low to report all the cases of which he is aware Government work being sub-let, giving the fullest particulars at his command. Urgent.—H.G., 8/11/87. Wire sent, 10/11/87.

Extract from 87/5,614—Report A1 for 3rd October, 1887, by Mr. Inspector Boulton, on the Hulong Tank.

Narrandera District, 24 October, 1887.

The fence was let, so I understand, to a man named Hackett for £52 per mile; he has sub-let, but at what price I was unable to ascertain.

P.W.P.,  
87-6,065.

J. W. BOULTBEE.

See following paper, 87-3,261, sub-contract.

Extract from Mr. Inspector Low's report on Hulong Tank, 9th July, 1887.

The price of £700 for fencing, Mount Elliot, Pulletop, and this appears also very high, as a sub-contract, which I saw, has been let for splitting, erecting, boring, and wiring at £16 10s. per mile. This does not include large posts, rails, and gates.

P.W.P.,  
87-3,261.  
Original, with  
papers re  
fencing.

J. LOW.

Sir, Department of Mines, Public Watering Places, Ivanhoe, 12 November, 1887.

I have the honor to report that Mr. G. Williamson, Ivanhoe, informs me that contract for excavating 12-mile tank was, by Works Department, let to Burton Brothers, Balranald, at 2s. 6d. per cubic yard, who afterwards sub-let to Ford Brothers, tank-sinkers in this district, at 1s. 3d. per yard, who performed contract and made money at it.

P.W.P.,  
87-6,099.

I have, &c.,

JOHN LOW,

The Chief Inspector, Public Watering Places, Sydney.

Inspector, Public Watering Places.

Memorandum.—Mr. G. W. Townsend, C.E., informs me that he was present on the 70-mile track, Booligal to Wilcannia, at the time when Burton Brothers obtained the contract for the construction of certain tanks upon that road at the rate of 2s. 6d. per cubic yard; they immediately sub-let it to Ford Brothers at about 1s. or 1s. 2d. per cubic yard.

P.W.P.,  
87-6,068.

Mr. Townsend authorized me, in the presence of Mr. H. G. McKinney, C.E., to call upon him, if necessary, to verify this statement.—H.G., 11 Nov., 1887.

## VIII.

### Wooloondool Well.

Telegram from Mr. Overseer Keghran to The Chief Inspector of Public Watering Places.

Hay, 31 March, 1886.

WOOLOONDOL well giving out; can be baled dry in one hour; requires deepening; 40,000 sheep approaching.

P.W.P.,  
86-1,521.

J. A. KEIGHRAN.

This may perhaps be forwarded at once to the Commissioner and Engineer for Roads and Bridges.—H.G., 1/4/86. The Under Secretary for Mines. The Under Secretary for Public Works.—H.W., B.C., 1/4/86. Roads.—J.R., B.C., 3/4/86. Mr. Wood.—W.C.B., 7/4/86. Telegram sent to have well deepened at once, and full report sent. I doubt the statement.—A.P.W., 9/4/86.

Telegram from Mr. Road-Superintendent Stillwell to The Commissioner for Roads.

Hay, 10 April, 1886.

In reply to Mr. Wood, Wooloondool well, supply strong as ever; inexhaustible; reported by post yesterday.

A. W. STILLWELL.  
Telegram

Telegram from Mr. Overseer Keighran to The Chief Inspector of Public Watering Places.

Hay, 2 April, 1887.

P.W.P.,  
86-1,539.

WOOLLOONDOL Well now all right; particulars post.

JOHN A. KEIGHRAN.

In view of the former telegram sent to the Works Department this may perhaps be forwarded to the Commissioner and Engineer for Roads and Bridges.—H.G., 5/4/86. The Under Secretary for Mines. The Under Secretary for Public Works.—G.E.H. (for U.S.), B.C., 7/4/86. Roads.—J.R., B.C., 10/4/86. Mr. Wood.—W.C.B., 12/4/86. Mr. Keighran telegraphs this well "now" all right. It has never been wrong; there has been no occasion for any alarm, not even on account of the 40,000 approaching sheep.—A.P.W., 12/4/86. Papers herewith.—W.B.

Sir,

Hay, 3 April, 1886.

P.W.B.,  
86-1,593.

Referring to your telegram of 1st April *re* Woolloondool Well, I have the honor to report that the well has been regularly baled in accordance with your instructions. The chief cause of the well giving out was that when bored for to get the supply of water there was no pipe left in the bore, consequently, with the constant baling, the bore gets choked up by the fine drift sand which is drawn up by the suction of the buckets.

I reported the matter to Mr. Road-Superintendent Stillwell, and he at once sent his man out, who went down and probed the bore with an iron rod, so that the well is now in working order. What is required is that the bottom of the shaft be cleaned out, fresh bored, and a pipe left in the bore, otherwise she will be constantly getting choked up with sand.

I have, &c,

JOHN A. KEIGHRAN,

Overseer of Tanks and Wells.

The Chief Inspector of Public Watering Places.

This may perhaps be forwarded for the consideration of the Commissioner and Engineer for Roads.—H.G., 13/4/86. The Under Secretary for Mines. Approved.—H.W., 14/4/86. The Under Secretary for Public Works.—H.W., B.C., 15/4/86. Roads.—J.R., B.C., 16/4/86. Mr. Wood.—W.B., 17/4/86. Mr. Stillwell reports that the supply was never stopped.—A.P.W., 22/4/86. This is another case in which a groundless complaint is made; so far from the supply being stopped as reported, there was very great difficulty in bailing it down to get at bore.—W.C.B., 22/4/86. Under Secretary.—P.W.O., B.C., 27/4/86. Under Secretary for Mines.—J.R., B.C., 27/4/86. Mr. Keighran will be good enough to furnish an explanation without delay.—H.G., B.C., 29/4/86.

I don't know what Mr. Road-Superintendent Stillwell means by a groundless report. All I can say is this, that I was present when the man was baling, and before he had worked one hour the buckets were coming up half-empty—then of course with iron buckets there would be a difficulty in baling it down for a man to get at the bore. But how would that answer with 40,000 sheep approaching that required water? It would never do to depend upon quarter or half-buckets water filling the service tank—why a body of sheep would drink it faster than it could be hauled up—therefore I considered it my duty to report the matter. Mr. Stillwell being a trained engineer his opinion must be taken before mine, consequently it will be better for me not to make any reports on these unfinished works.—J.A.K., 3/5/86. The Chief Inspector, P.W. Places, Sydney.

Woolloondool or 13-mile Well.

Sir,

Hay, 9 April, 1886.

P.W.P.,  
86-1,873.

On 31st ultimo Mr. Keighran, the local Mines officer, reported that the supply at this well had failed, but it took three hours hard baling to lower water sufficiently to free the bore, which only took a few minutes, running an iron rod down, when the normal flow was at once restored, maintaining 17 feet of water in the well against the fastest baling.

The fencing in of T.L. here has been let to W. Richmond, but the work is suspended until a decision respecting the alteration of the surveyed area is come to by Mines Department. (See paper 86-448.)

I have, &c,

A. W. STILLWELL.

The Commissioner and Engineer for Roads.

Mr. Wood.—W.C.B., 12/4/86.

Mr. Keighran's telegram of the 31st ultimo stated that the well was giving out; that it could be baled dry in one hour; that it required deepening; and that 40,000 sheep were approaching. It is interesting to compare this telegram with Mr. Stillwell's report on the facts of the case, which proves that there was not the slightest ground for the sensational statements conveyed by the telegram. This is not the first incorrect report we have received on our works, and I think it would be very much better in the interests of both Departments if the complaints made in reference to these works were only sent on to this office when there were some grounds to base them on. There would then be very few received.—A.P.W., 12/4/86.

I recommend that this paper be sent on to Mines. Mr. Keighran's telegram received this morning herewith.—W.C.B., 12/4/86. Under Secretary, B.C. The Under Secretary for Mines.—J.R., B.C., 14/4/86. Mr. Overseer Keighran for report.—H.G., B.C., 21/4/86.

P.W.P.,  
86-2,103.

Extract from Report of Mr. Overseer J. A. Keighran of 5th April, 1886, on Woolloondool Well.

I would beg leave to recommend that the shaft of this well be deepened until a good or sufficient supply of water was obtained, the bottom of shaft to be well secured, and, if bored, a pipe left in, then there would be no fear of her giving out, as I am confident a large supply of water could be obtained by sinking the shaft a few feet deeper.

J. A. KEIGHRAN,

Overseer.

P.W.P.,  
86-2,360.

As Mr. Overseer Keighran is a very old resident, I think his suggestion may be forwarded for the consideration of the Commissioner and Engineer for Roads.—H.G., 27/4/86. The Under Secretary for Mines.

Approved.—H.W., 30/4/86. The Under Secretary for Public Works.—H.W., B.C., 30/4/86. Roads.—J.R., B.C., 4/5/86. Mr. Wood, see me *re* this.—W.C.B., 4/5/86.

Mr.

Mr. Stillwell, in paper 86-536, forwarded to Mines on the 12th ultimo, states that 17 feet of water was maintained in well against fastest baling. What more can be required?—it is practically an unlimited supply. I shall be in the Hay district in a few days hence, and will report on this case; in the meantime, in the face of Mr. Stillwell's report, I cannot recommend any deepening of shaft.—A.P.W., 4/5/86.

Paper might now be sent on to Mines.—W.C.B., 5/5/86. Under Secretary, B.C. The Under Secretary for Mines.—J.R., B.C., 10/5/86.

Minute by the Chief Inspector of Public Watering Places.

Department of Mines, Public Watering Places Branch, Sydney, 13 May, 1886.

I beg to submit the annexed papers as one out of many instances of the unfortunate results of the control of the Public Watering Places resting between two Departments. In this case reports that flatly contradict are received from two local officers resident within 13 miles of the spot. From my personal knowledge of the character of the well at the time I took it over from the Public Works Department, I consider the evidence in favour of Mr. Keighran's statement; but I must take leave to point out that more interest appears to be taken in detecting the errors committed by either Department than in maintaining the works or promoting the best interests of the service. As it has been decided that all repairs should be effected by the Works Department, it is my duty to report any defects that are apparent to my local officers.

P.W.P.,  
86-2,360.

The attached correspondence shows what is unfortunately too frequently the result. I would suggest that these papers may be brought to the notice of the Hon. the Secretary for Mines.

HARRY GILLIAT,

Chief Inspector, Public Watering Places.

This should await settlement of Mr. Keighran's case.—H.G.

## IX.

### Dry Lake Well.

Dry Lake Well.—Carrathool to Hillston Road.

Sir,

Hay, 25 July, 1885.

On the 21st instant I found all in fair working order here, but the service tank was only half full. The work is now in charge of the Mines, and their caretaker promised to fill the tank without delay; but it is evident there had been negligence.

Tanks &  
Wells,  
85-2,008.

If the well is not kept baled frequently the bore will choke again, as it did recently, entailing expense to free it.

There is surface water along the road now, so that there is no demand for the well water.

The joints of the lining of the tank require tightening up near the top, and I will send the repairer out to do it shortly.

I have, &c.,

The Commissioner for Roads and Bridges.

A. W. STILLWELL.

I recommend that this paper be transmitted to Department of Mines. The Under Secretary.—W.C.B., B.C., 28/7/85. Forward to Mines.—F.A.W., 29/7/85. The Under Secretary for Mines.—J.R., B.C., 29/7/85. Mr. Gilliat.—A.B., B.C., 31/7/85.

Mr. Keighran's attention should be called to the neglect here attributed to the caretaker, the orders are strict that the tank shall always be kept full, and with this and the other bored wells frequent baling is needed.—H. GILLIAT, 11/9/85.

Sir,

Department of Mines, Stock Branch, Sydney, 15 September, 1885.

I beg to draw your attention to the fact that it has been reported that the caretaker at Dry Lake Well has shown negligence in not keeping the supply tank full. The orders are strict that the tank shall be always kept full, and with this and the other bored wells frequent baling is needed. Be good enough to see that these matters are strictly attended to.

I have, &c.,

ALEX. BRUCE,

Chief Inspector of Stock.

Mr. Overseer Keighran, Hay.

It would, I think, be well to frame additional instructions to caretakers in charge of wells in regard to the care of the lifting appliances, and keeping the service tank full, and where, as in the present case, there was any doubt as to the quality of the water, the necessity for frequent baling. Please submit draft.—A.B., 14/9/85. Mr. Gilliat.—Instructions framed, 1st December, 1885.

Sir,

Dry Lake Well, Hay, 29 December, 1885.

P.W.P.,  
86-88.

The service tank jointing has been repaired by Jones, the travelling mechanic, and is now tight; one of the well runners, which had become loose, has also been fixed, and the bore, which had become choked by negligence in baling by the Mines caretaker, again freed; the supply now being as strong as ever. All was left in perfect order by him on the 10th instant, and two or three days afterwards the caretaker let a bucket go down. He says the rope—a new one and quite sound—broke at the bucket shackle. If so, it must have been from overwinding or other negligence. The bucket was full and was of course much damaged. I have had an old damaged one lying in store here repaired and have sent it out to replace it. It will be sent in and, if possible, repaired.

The fencing in of lease area is proceeding, and should be finished in three weeks.

I have, &c.,

The Commissioner and Engineer for Roads and Bridges.

A. W. STILLWELL.

I

I recommend that this copy of report be sent to Mines. The Under Secretary.—W.C.B., B.C., 6/1/85. The Under Secretary for Mines.—J.R., B.C., 8/1/86. Mr. Stillwell's report implies negligence or incompetence on the part of the caretaker. Mr. Overseer Keighran for report.—H.G., B.C., 11/1/86.

I agree with Mr. Road-Superintendent Stillwell that this work was in good order on the 16th December, but cannot see how or why he (Mr. Stillwell) can say that the damage to the bucket by rope breaking was caused by negligence of caretaker. I came to the well some two hours after the accident occurred, and I reported it to Mr. Stillwell.—J.A.K., Overseer, 10/2/86. The Chief Inspector of Public Watering Places.

Is the caretaker in your opinion an attentive and reliable man, or has Mr. Stillwell any grounds, as far as you can judge, for considering him negligent? Even a Roads and Bridges caretaker may meet with an accident; but I wish to be kept informed by the local officers whether they are satisfied with the manner in which the caretakers perform their duty.—H.G., B.C., 11/2/86. Mr. Keighran:

P.W.P.,  
86-730.

Sir,

Hay, 17 February, 1886.

*Re Dry Lake Well.* The caretaker at this watering place, William Egan, appears to be an attentive and careful man, no complaints having been made of inattention to his duties, therefore I cannot understand Mr. Road-Superintendent Stillwell reporting negligence or incompetence on the part of the Mines caretaker when anything goes wrong at any of the works. If a well gives out,—blame is attached to the caretaker; again, when a rope breaks,—“negligence on the part of the caretaker caused it.” The fact of the wells giving out is that there is not one public well in my district thoroughly sunk. Instead of the contractors being compelled to sink until the supply of water was obtained, they were allowed to bore them with no pipe left in the bore. What is the consequence? In a few months the bore chokes up, and the works are at a standstill; whereas if the shaft was properly sunk, and the bottom secured by a box, there would be no danger of choking. Although not a trained engineer, I have had for many years practical training in well-sinking and dam-making. There is no accounting for wire ropes breaking; they may be new and strong, but liable to snap at any moment on a whim; steel wire rope stands best.

I have, &c.,

JOHN A. KEIGHRAN,

Overseer, Tanks and Wells.

The Chief Inspector of Public Watering Places, Sydney.

Dry Lake Well.—Carrathool to Hillston Road.

P.W.P.,  
86-5,417.

Sir,

Hay, 13 November, 1886.

I visited this well on the 11th instant; 9,000 sheep had just been watered, and the service tank was not half full. The caretaker's horse was not there, and consequently he could not bale. He said he should not have it in until the following day. I remained there two hours. No baling had been done for a fortnight, and the consequence will probably be that the bore will be found choked, which has on several occasions here been the result of neglect in baling.

The well is, I believe, leased to Cobb & Co., and their man was in charge.

All appurtenances were in good order so far as visible; the buckets I could not see.

I have, &c.,

A. W. STILLWELL.

The Commissioner and Engineer for Roads and Bridges.

Mr. Wood.—W.C.B., 15/11/86.

Copy should be sent to Mines.—A.P.W., 15/11/86.

Yes. Under Secretary for transmission to Mines.—W.C.B., 15/11/86.

The Under Secretary for Mines.—J.R., B.C., 17/11/86.

P.W.P.,  
87-563.

Dear Sir,

Hay, 2 February, 1887.

We respectfully beg to draw your attention to the fact that the supply of water in Dry Lake Well, on the road from Carrathool to Gunbar, has given out in consequence of the bore-hole, from which the tube or pipe had been extracted, becoming choked. This has happened on previous occasions, and a supply of water again obtained by forcing a pole down the bore; but this has now failed, and we ask you to kindly take such steps as will put the water supply in the well past the chances of being periodically stopped through the want of a pipe in the bore.

We are, &c.,

ROBERTSON, WAGNER & Co.

A copy of this may perhaps be forwarded to the Department of Works.—H.G., 7/3/87. The Under Secretary. Submitted.—H.W., 8/3/87. Approved.—F.A., 9/3/87. Forward, 10/3/87. Not to be sent to Works Department.

87-661.

Copy of Extract from Mr. Overseer Keighran's Report (87-548) on Dry Lake Well.

January, 1887.

I would beg leave to recommend that a pipe or tube be placed in the bore-hole at once, or as soon as possible, as on several occasions the bore has got choked, and the well may give out at a time when most required by the travelling public for watering their stock.

The lessees say they will not hold themselves responsible for the water failing.

J. A. KEIGHRAN.

Can you obtain pipe of proper diameter in Hay? If not, forward diameter and length required, and I will submit for approval that you may have it tamped in to bore.—H.G., B.C., 16/2/87. Mr. Keighran.

Pipe of proper size or diameter could be obtained at the Roads Office, Hay, by asking or getting authority from the Works Department, Sydney. The well having again given out, I am afraid it will be a troublesome and costly job to put right.—JOHN A. KEIGHRAN, Overseer, Hay, 3/3/87. The Chief Inspector, P.W. Places.

Urgent.

Urgent. Your first report recommends that a pipe be placed in the bore-hole. Your last states that you are afraid it will be a troublesome and costly job. What has occurred since you first wrote to make you think so? Be good enough to furnish a careful report on this matter without delay, replying to my question as to length and diameter of pipe that will be required, what difficulties you anticipate. The tenants, of course, would furnish you with all assistance you might require.—H.G., B.C., 7/3/87. Mr. Overseer Keighran.

My reason for stating in my last report that I was afraid that the placing of a pipe in the bore-hole would be a troublesome and costly job, was in consequence of information obtained from the man who went down the well, he said that the bore-hole from having been probed so often, had enlarged to such an extent, that a man could nearly get into it at the top, and that the hole had not been bored straight, but slantways, consequently it would require a fresh hole bored for a pipe, and if that was done, the suction of the buckets coming up, would draw with them the fine drift sand from the old bore-hole, and fill up the bottom of the shaft.—JOHN A. KEIGHRAN, Overseer, 22/4/87. The Chief Inspector, P. W. Places.

A copy of this may perhaps be forwarded for the information of the Commissioner for Roads.—H.G., 4/5/87. The Under Secretary. Submitted.—H.W., 5/5/87. Approved.—F.A., 6/5/87. Inform Works Department.—H.G., 6/5/87.

Sir,

Hay, 7 March, 1887.

P.W.P.,  
87-1,071.

*Re Dry Lake Well.* In consequence of the lessee's manager reporting that the well had given out a second time, within two months, I have the honor to make the following report:—Visited this watering place on the afternoon of the 4th instant, and found the service tank a little more than half full of water; asked the man in charge the reason of it not being kept filled, and he said the supply of water was not sufficient, and that he could bale the well dry in one hour. Mr. Road-Superintendent Stillwell arrived shortly afterwards, and I informed him of my business, viz., to test the supply of water. Then, in company with Mr. Stillwell, measured the depth of water in the shaft, and found that it was 20 ft. 6 in.; ordered the man to start baling, which he did, but it being late and the gear going wrong, only 13 buckets could be drawn. Upon measuring, found that the water had only reduced some 4 ft. 6 in., a very large quantity of fine sand came up in the buckets, which was with difficulty removed, and caused delay. The following morning at 7 o'clock commenced baling again, and continued for one hour, during which time 40 buckets were lifted, representing 1,000 gallons of water; we then measured the depth and found that the water had only been reduced 5 ft., leaving about 14 ft. 6 in. still in the shaft, which would take some considerable time to bale dry, as she appeared to be making water fast; the man wanting to make out that the bottom of the well must have blown up since his last baling. I have written a rather lengthy report on this matter to show that Messrs. Robertson and Wagner's manager's report was unfounded, and caused me a journey for nothing.

The man that the lessees have in charge of the well is not capable of fulfilling the work that is required of him (through old age), and I have given instructions to the manager that he must put a man on in his place at once.

NOTE.—This is not "Egan" previously referred to on 86-730.

I have, &c.,

The Chief Inspector of Public Watering Places.

JOHN A. KEIGHRAN,  
Overseer.

Telegram from The Chief Inspector of Public Watering Places to Messrs. Robertson and Wagner, Hay.  
9 March, 1887.

A COMPETENT man as caretaker must be sent at once to the Dry Lake Well. Mr. Keighran reports present one incapable.

HARRY GILLIAT,  
Chief Inspector, Public Watering Places.

Telegram from The Chief Inspector of Public Watering Places to Mr. Overseer Keighran, Hay.

9 March, 1887.

*Re Dry Lake Well.* Have wired Robertson and Wagner to send competent caretaker at once. If they delay doing so, report immediately.

HARRY GILLIAT,  
Chief Inspector, Public Watering Places.

Dry Lake Well.

Sir,

Hay, 7 March, 1887.

P.W.P.,  
87-1,246.

The Mines Overseer having reported to me that the supply of water had failed at this well, and that the lessee had endeavoured in vain to make it good. When out there to arrange as to the fence alteration, I tested the supply in presence of Mines officer, and found it practically unlimited. No practical amount of baling being able to lower the depth of water below 15 feet, and the yield above that depth being at rate of 1,500 gallons an hour. Two hours baling was done.

The well had most evidently been neglected by the lessee, who has an incapable old man in charge, who does not raise water at all if he can help it. The service tank was nearly empty. It was solely owing to want of the most ordinary attention in baling that the bore had become temporarily obstructed.

I have, &c.,

The Commissioner and Engineer for Roads.

A. W. STILLWELL.

I forward this report of Mr. Stillwell in further reference to the character of the complaints made by the Mines officers.—W.C.B., 11/3/87. Under Secretary, B.C. Forward to Mines. The Under Secretary for Mines.—J.R., B.C., 14/3/87.

Report by tenant at Dry Lake Well for week ending Saturday, March 5, 1887.—

P.W.P.,  
87-1,209.

Depth of water in tank, dam, or well—dry. Estimated rainfall for week—nil. Condition of feed on Reserve and neighbourhood—good.

Dated at Dry Lake Well, this 5th day of March, 1887.

JOSHUA PORTER,  
Caretaker.  
(*pro* ROBERTSON & WAGNER.)

This well again reported dry.—R.W.G., 14/3/87. Mr. Keighran's report, that this is not the case, is dated 7/3/87.—R.W.G., 14/3/87.

22 March, 1887.

MEMO.—I have the honor to acquaint you that the last weekly return G, dated 12th March, received from Dry Lake Well, again shows that watering place to be dry.

The same caretaker, Joshua Porter, signs this.

R. W. GEORGE,  
Record Clerk of Public Watering Places.

The Chief Inspector of Public Watering Places.

Urgent. Inform the overseer by wire, and request him to inform me by wire if the tenants have failed to carry out his instructions with respect to sending competent caretaker.—H.G., 22/3/87.

Telegram from The Chief Inspector of Public Watering Places to Mr. Overseer Keighran, Hay.

Sydney, 22 March, 1887.

CARETAKER PORTER, Dry Lake Well, signs weekly report, and states well to be dry. Be good enough to inform me by wire if tenants have failed to carry out your instructions with respect to sending a competent caretaker to Dry Lake Well.

HARRY GILLIAT,  
Chief Inspector of Public Watering Places.

Telegram from Messrs. Robertson, Wagner, & Co., Hay, to The Chief Inspector of Public Watering Places, Sydney.

P.W.P.,  
87-1,103.

Hay, 10 March, 1887.

CAPABLE man will be sent Dry Lake, Sunday.

ROBERTSON, WAGNER, & CO.

Resubmit with the overseer's reply.—H.G., 14/3/87.

Telegram from Overseer Keighran, Hay, to The Chief Inspector of Public Watering Places, Sydney.

P.W.P.,  
87-1,402.

Hay, 23 March, 1887.

ROBERTSON & WAGNER have placed competent caretaker, F. Langshaw, at Dry Lake Well; 20 ft. water now in well.

J. A. KEIGHRAN,  
Overseer.

P.W.P.,  
87-2,322.

Sir, I have the honor to forward herewith a copy of an extract from Mr. Overseer Keighran's report upon the Dry Lake Well, for your information.

I have, &c.,  
HARRIE WOOD,  
Under Secretary for Mines.

The Under Secretary for Public Works.

Roads.—J.R., B.C., 17/5/87. Mr. Wood.—W.C.B., 17/5/87. Mr. Stillwell will be in office on Friday. This paper can then be submitted to him.—A.P.W., 18/5/87.

In consequence of complaints as to failure of supply at this well, in company with Mr. Keighran I tested the yield some two months ago. It was then found to be inexhaustible, and that the suspension of flow through bore was owing to neglect in baling. Mr. Keighran's statements are not based upon his own knowledge, but upon hearsay; but if the bore is enlarged as he reports, this rather proves the strength of the inflow than otherwise, and goes to show that a fresh bore is unnecessary.—A.W.S., 20/5/87.

Should be forwarded to Mines.—A.P.W., 27/5/87. Under Secretary for Mines.—J.R., B.C., 28/5/87.

This matter may perhaps be permitted to stand over until the question of construction and repairs is finally settled. The baling is always insisted upon; but I need hardly point out that the construction must be very faulty when such a useless waste of water and labour is required to keep the bore free.—H.G., 1/6/87. The Under Secretary for Mines.

Submitted.—H.W., 1/6/87. Approved.—F.A., 2/6/87. Mr. Keighran directed to insist upon regular baling by the lessces, and to report failure to do so.—, 1/6/87.

P.W.P.,  
87-2,441.

Sir, Referring to paper S7-2,322 of the 1st June, I have the honor to report that my instructions to the lessces of the various wells under my inspectorate are that they are to be baled regularly; and I know for certain that either of the wells mentioned (Wooloondool and Dry Lake) can be baled dry in three hours' continuous baling.

J. A. KEIGHRAN.

The Chief Inspector, Public Watering Places.

Hay, 5 June, 1887.

## X.

## Willandra Well.

Extract from Mr. Inspector Gilliat's report upon the road from Balranald to Ivanhoe, 13th January, 1880.

On the road from Balranald to Ivanhoe the water supply is required chiefly for carriers and their teams, and the works do not need to be on so large a scale, or so close to each other, as upon roads more frequently used by travelling stock. I am of opinion that, if the proposed tank at Clare is completed, one other half-way from Clare to Ivanhoe will be sufficient. Remembering that the larger number of trial-shafts sunk for wells throughout the district have resulted in obtaining water either salt or brackish, I consider the works best adapted at present for the water supply to be tanks, and, judging by the numbers that have been constructed with private capital, my view appears to be confirmed by the pastoral tenant.

H. GILLIAT.

NOTE.—Two works have been constructed on this road between Clare and Ivanhoe—viz, Gunnarsmy and Willandra Wells—neither of which were recommended by this Department.—H.G., 1/12/87.

Sir,

Ivanhoe, 30 January, 1885.

I have the honor to transmit herewith the plan of a special lease around the Willandra Creek Government Well, containing 200 acres exclusive of reserved road situated in the parish of Whitumbah, county of Manara, and surveyed in compliance with instructions, No. 84-89, August 18, to Mr. Surveyor Conolly, and transferred to me on the 3rd September, 1884, numbered S. L. Well 84-2, upon reference to the plan it will be seen the works have been partially erected on the Kilfera Pastoral Company's portion No. 2, containing 125 acres, I presume it will now be necessary to resume a small area from that property and would suggest that the northern boundary of the special lease be continued easterly for 10 chains, then south 10 chains, and west 10 chains, to its eastern boundary, which would allow of sufficient access to the troughing.

P.W.P.,  
86-933.

I have, &c.,

G. B. CARTER,

Licensed Surveyor.

The Surveyor-General.

Received, 16 February, 1885. Forwarded to Mr. District-Surveyor, R. M'Donald.—F. W. CONOLLY, Surveyor, Wentworth, 17 February, 1885.

Forwarded to the Surveyor-General. The instructions direct the measurement of areas of Dolmoreve, North Clare, and Willandra tanks, but Mr. Carter has only measured the last-mentioned; the instructions have therefore been detained. With reference to the encroachment of improvements on portion No. 2, I think it would be more advisable to move the cistern and tank, there appears to be room. The connection charged for appears to be unnecessary.—ROBERT M'DONALD, District Surveyor, Hay, 3/3/85.

It is submitted that these papers be forwarded for the information of the Department of Mines with tracing enclosed, which shows the position of portion measured, and the reserves in which it is situated, and for amendment of survey if considered desirable.—LEWIS (for the Surveyor-General), 19 February, 1885. The Under Secretary for Lands.

The action suggested may be taken. The Under Secretary for Mines.—R.H.D.

Parish of Whitumbah, county of Manara.—Tracing.

(Vide Appendix A.)

Willandra Well.

Sydney, 14 March, 1886.

In this case it appears that a portion of the head works of the Willandra Well have been placed on improvement purchase No. 2, of the Kilfera Pastoral Company.

P.W.P.,  
86-981.

Mr. Licensed-Surveyor Carter recommends the resumption of a certain part of the improvement purchase, while Mr. District-Surveyor M'Donald considers it would be more advisable to remove the cistern, that is, service tank and troughing.

Mr. Carter's view appears to me the least expensive and most easily carried out, but I would suggest that the papers may be forwarded in the first instance, for the information and opinion of the Commissioner and Engineer for Roads and Bridges.

I may at the same time suggest a letter be forwarded to the Department of Lands stating the action taken and advising that as surveys are being made under arrangement with that Department of all the public watering places of the Colony no further action is required with respect to the special lease well 84-2, parish of Whitumbah, county of Manara.

The Under Secretary for Mines.

HARRY GILLIAT.

Approved.—H.W., 6/3/86. The Under Secretary for Works.—H.W., B.C., 10/3/86. Inform Lands Department. Lands informed, 9/3/86. Roads, B.C., 11/3/86. Mr. Wood.—W.C.B., 12/3/86. Should be sent on to Mr. Stillwell for a full report and recommendation. The cost of removing service tank and troughing would be very great. I think resumption would be preferable.—A.P.W., 13/3/86. Will Mr. Stillwell make an accurate plan on a larger scale showing troughing, &c., and best position to move it to. State cost, also show land required to be resumed and probable cost.—W.C.B., 13/3/86. Mr. Stillwell. Report and plan herewith.—A.W.S., 29/3/86.

Sir,

Department of Mines, Sydney, 9 March, 1886.

With reference to your blank cover communication of the 26th ultimo (Misc. 85-5,135) respecting measurement of lease area of 200 acres at Willandra Well, and Mr. Licensed-Surveyor Carter's and Mr. District-Surveyor M'Donald's views as to the resumption of certain land to include a portion of the head works, I have the honor to inform you that the matter has been referred to the Commissioner for Roads and Bridges for his opinion, and as surveys are being made, under arrangement with your Department, of all the public watering places of the Colony, no further action is required with respect to the special lease well, 84-2, parish Whitumbah, county of Manara.

P.W.P.,  
86-1,044.

I have, &c.,

HARRIE WOOD.

The Under Secretary for Lands.

Sir,

Sir,

Hay, 29 March, 1886.

P.W.P.,  
86-1,703.

In reply to your minute S6-392, attached herewith is submitted a plan at 4 chains to the inch, showing position of Willandra Well and appurtenances with reference to the Kilfera estate freehold on which portion of them have been placed.

The best position to which troughing, &c., could be removed would be to the opposite, or western side of well. As the service tank and whim would then also require removal, the cost would not be less than, say, £140.

On the plan is also shown portion (within red lines) of which it is suggested resumption should be made in order to obviate removal of any of the appurtenances. Eight acres is comprised for which Mr. Webb demands £60, as he says it would constitute a partial severance of their property. This is an excessive price, and I do not recommend payment of it. In order to reduce the severance, and thus remove Mr. Webb's chief objection to the resumption, I suggest a reduced area—to dotted pencil line on plan, of 6 acres. For this a payment of £30 should amply suffice.

I have, &c.,  
A. W. STILLWELL.

The Commissioner and Engineer for Roads.

I recommend that this paper go on to the Mines Department, which has power to deal with land resumptions; it should be ascertained that this really was alienated land at the time the troughing was put there. I think they might offer Mr. Webb £30, if there is no objection or other way of doing this under Act.—W.C.B., 31/3/86. The Under Secretary for transmission to Mines. The Under Secretary for Mines.—J.R., B.C., 2/4/86.

This may perhaps be forwarded to the Department of Lands with the view of having the resumption made; the plan suggested by Mr. Assistant-Engineer Stillwell will meet, I think, all the requirements of the case, and reduce the cost.—H.G., 12/4/86. The Under Secretary for Mines.

The power to resume land for such purposes is in the Minister for Public Works, but it is possible the area required could be purchased and thus save the trouble and delay attending resumption.—H.W., 14/4/86. The Under Secretary for Works, B.C., 15/4/86. Roads.—J.R., B.C., 16/4/86. Mr. Wood.—W.C.B., 17/4/86.

Mr. Stillwell might offer Mr. Webb the reduced sum named by him (£30), this should be accepted by him. This Department has in all cases done all it could to meet Mr. Webb's views in regard to these works, and the least he can now do is to accept a reasonable offer for this land.—A.P.W., 22/4/86.

Approved.—W.C.B., 22/4/86. Mr. Stillwell.

Mr. Webb, to whom, I have made this offer of £30 as instructed, says his company decline to part with the land at less than the price he first named, viz., £60 for the 8 acres, or the same price, viz., £7 10s. an acre for any less area. This, for the suggested reduced area of 6 acres, would amount to £45.—A.W.S., 8/5/86.

Mr. Wood.—W.C.B., 10/5/86. Presume we had better purchase and settle the matter.—A.P.W., 10/5/86. Inform Mr. Webb this will be notified to Lands as value of an acre of land here for their guidance.—W.C.B., 10/5/86. Mr. Stillwell, B.C.

Kilfera Pastoral Company.—Plan.  
(Vide Appendix B.)

Willandra Well.—As to purchase of land from Kilfera Pastoral Company, on which appurtenances are erected.

Sir,

Hay, 24 June, 1886.

P.W.P.,  
86-3,286.

Referring to S6-476, &c., herewith, after conferring on the spot with Mr. Wood respecting the area necessary to be purchased from the Kilfera I. P. holding to afford access to the troughing, &c., at Willandra Well, I submit attached tracing showing a modified area of about 4 acres, coloured pink, bounded by lines starting from the peg at northern boundary of the T. L. area marked T L 57, and running south-easterly  $7\frac{1}{2}$  chains to a peg 2 chains north-east from eastern end of the troughing; thence southerly 2 chains to a peg 2 chains south-east from end of the troughing; thence south-westerly  $7\frac{1}{2}$  chains to a peg on the western boundary of the Kilfera I. P.; and thence northerly 11 chains to the peg at the starting point.

I presume the next step is to have a legal conveyance prepared by the Crown Law officers, which can be forwarded to me for execution, and the purchase completed.

I also send, as you direct, a voucher in favour of the Kilfera Company for £30, being for the 4 acres at their price, viz., £7 10s. an acre.

I have, &c.,  
A. W. STILLWELL.

The Commissioner and Engineer for Roads.

Before paying the money, I think paper should be sent to Mines to advise that office, as it is just possible there may be some adjustment of boundaries, or exchanges by which this could be arranged without paying money.—W.C.B., 26/6/86. Under Secretary for transmission.

The Under Secretary for Mines—B.C., 30/6/86.

To effect an exchange would probably require reference to the Lands Department, and would certainly entail considerable delay. I am unable to state whether any readjustment of boundary would meet the views of the Kilfera Pastoral Company.—H.G., 6/7/86. The Under Secretary for Mines.

The papers may be forwarded to the Lands Department to ascertain whether the exchange suggested can be effected.—H.W., 13/7/86. The Under Secretary for Lands.—B.C., 13/7/86. Submitted.—R.H.D., 18/8/86. Is the I. P. a freehold?—S.F., 28/8/86. No. De Low, very urgent. The deeds of portions 1 and 2 of 125 acres each, in the parish of Whitumbah, were sent to the Registrar-General on 19/9/82 in favour of Messrs. J. MacDonald and J. Makson.—R.H.D., 2/9/86.

Dear

Dear Sir,

"Kilfera," Ivanhoe, 22 March, 1886.

In reply to yours of 18th instant, asking at what price per acre the Kilfera Pastoral Company would be willing to sell 8 acres at the Willandra Well, I think £60 (sixty pounds) for the 8 acres is a fair estimate. You will bear in mind that I do not by any means value the land itself at that price. It is that you would almost cut half-way across our portion, and as we have extensive and valuable water improvements on this portion, it would necessitate our going to some expense in removing some of our fencing. I may here state that until the Surveyor surveyed the well reserve, I was unaware that the Government improvements encroached on our portion. Otherwise, I should have drawn your attention to the matter earlier.

I remain, &c.,

R. CAPPER WEBB.

Proposed exchange of part of Willandra Tank Reserve for part of a Freehold granted to MacDonald and Matheson.

P.W.P.,  
87-2,329.

SUBMITTED as to whether the exchange is such as was contemplated by clause 105 of the Crown Lands Act of 1884, or whether this land to be exchanged under that section for reserved or dedicated areas is only Crown Land.

The clause, line No. 9, refers to the exchange of reserved land for other land, and the Governor is empowered—see last two lines of the section—"to issue such grants and execute" such exchanges, deeds, assurances, and "instruments as the circumstances of each case may require." The matter is urgent.

S.F., 4/9/86.

The section referred to was inserted in the original Bill to facilitate dealings with dedicated and reserved lands which were found to be unsuitable for the purpose for which they had been appropriated; and although it is not perfectly clear that it was intended that lands other than Crown Lands should be granted in exchange, it appears that there is no specific enactment to the contrary, and, therefore, the provisions of the section 105 may be applied to this case.—C.O., 6/9/86.

Approved.—H.C., 7/9/86. The District Surveyor at Hay for description.—Lands, B.C., September, 1886.

The legality of dealing with granted lands under section 105 having on another paper, S6-11,320 Ms., been considered, it was decided to seek the advice of the Crown Law Officers, and an adverse opinion was given. It is therefore submitted that the action proposed to be taken in this case must be abandoned.—C.O., 30/5/87.

Approved.—T.G., 30/5/87. Enter in Precedent Book and then send to Department of Mines.—W.D., 1/6/87. Mr. Stevens. Entered.—J.G.S., 1/6/87. The Under Secretary for Mines. Department of Lands, B.C., 1 June, 1887.—R.H.D., for the U.S.

Reporting on well recently constructed at Willandra Creek, Kilfera.—Road from Ivanhoe to Balranald.—Distance from and name of Post Town.—18 miles from Ivanhoe.—10 December, 1886.

P.W.P.,  
86-5,781.

- (1.) Name of road and length? Ivanhoe to Balranald, 160 miles.
- (2.) If near a town; give estimate of population that may be dependent on the watering place? 18 miles from Ivanhoe; none.
- (3.) Estimate traffic in stock and teams? ———.
- (4.) The traffic; by what roads; the destination? This road is an offshoot from the main track, and will largely relieve it. The Victorian railway is now open to Kerang, 30 miles from Swan Hill, and from Balranald to that place is not far; I expect considerable traffic this way.
- (5.) Its distance from nearest watering place, or permanent natural water on each side? Ivanhoe tank, 18 miles; Gunarramby tank, 16 miles.
- (6.) Depth of well; depth and quality of water? 102 feet; 26 feet of water; very brackish, but stock water.
- (7.) Full description of watering appliances, and delivery in gallons per hour? Whim and galvanized iron self-acting buckets.
- (8.) Supply tank; size, construction, capacity in gallons? Wood, iron lined, 30 x 15 x 5; 27,000 gallons.
- (9.) Troughing; length, width, depth, material, and position? 300 feet, galvanized iron, 2 feet 6 inches wide.
- (10.) Area enclosed; description, distance between posts, number and gauge of wires? None.
- (11.) Gates? None.
- (12.) Probabilities of obtaining tenant, and estimated rent? Would be leased when finished by Kilfera.
- (13.) Area, position, and quantity of land included or to be included in tenant's lease; area notified for public watering place? 640 acres, poor country.
- (14.) Caretaker's cottage and description? None yet.

The Chief Inspector of Public Watering Places.

J. W. BOULTBEE,

Acting Inspector, Public Watering Places.

#### General remarks.

THE appliances at this well, namely, whim, tank troughing, &c., are almost identical with others lately erected. I, however, in this one noticed a serious fault, and which I do not remember seeing anywhere except here and at Dolmoreve, and that is from the brace of the shaft to the spindle gudgeon is only 15 feet 9 inches, and the same distance from gudgeon to either king post. The horse is consequently walking on the extreme edge of horse-walk, and has barely room to turn, and if required to turn close to shaft or either king post he has not room, and has to be backed. 23 feet is the distance required from gudgeon to brace, and 18 feet 6 inches from gudgeons to king post. Horse and balance arms, 14 feet 6 inches each; span beam, 32 feet. I went below and inspected the shaft and workings, and I would strongly recommend that this shaft should be abandoned and a new one sunk alongside. The state of the shaft below, even if temporarily put right, cannot ever admit of a permanent or satisfactory job being made. The shaft for about 75 feet, is plumb and true; below this the plumb line is gradually loft, and at 102 feet, the bottom, the shaft is over 6 inches out. A bore has been put down, and the pipe is immediately under the plumb line. There is about 20 feet of drift; an iron box is in, and this, and the pipe, and 25 feet of timber will have to be removed to bring the shaft plumb; an immense amount of drift has come in, and there must be a large cavity. The man in charge has made a chamber below to enable them to raise pipe and

Extract for  
Works  
Department.

and box. The box he may raise, but he has no appliances for raising the pipe out of wet drift. If he succeeds in raising these and straightens the timber I am afraid, from the amount of drift that comes in, of the cavity behind the slabs, and that at the best it will only be a patched up job, and very liable to go wrong and set out of plumb again. I did not like the look of the shaft at all; he has some very stout box beams that are bent and split in all directions.

I never saw any good done by trying to patch or straighten a drift well if the shaft got out of plumb. A new shaft would be cheaper in the long run. The timber is all available. A new shaft could be put down to the drift, and boring could be started from this point, and fresher water possibly be obtained. The present supply is about 5,000 gallons.

JAMES W. BOULTBEE,  
Acting Inspector, Public Watering Places.

*Willandra Well.—Tracing.*

Appendix C.

(1.) No action need be taken on this report until the well is notified ready for transfer, when it must be resubmitted.

(2.) Mr. Inspector Boulton's general remarks upon the shaft should be copied into tank book.

(3.) Mr. Yeo may be asked if any work is being done in the old shaft, or if a new one is commenced.  
H.G., 16/2/87.

Mr. Yeo asked.—J.W.B., 17/2/87.

P.W.P.,  
86-5,781.

Sir, Department of Mines, Public Watering Places, Sydney, 17 February, 1887.  
I have the honor to request that you will be good enough to inform me whether any work is being done by the Department of Public Works in the old shaft at Willandra Well, or whether a new shaft has been commenced.

I have, &c.,

HARRY GILLIAT,  
Chief Inspector, Public Watering Places.

Mr. Overseer Yeo.

P.W.P.,  
87-913.

Sir, Ivanhoe, 23 February, 1887.  
I have the honor to inform you that no work is being done by the Department of Works in the old shaft at the Willandra Well.

The sub-contractor will not proceed with the work on account of his not being able to get an advance on his contract to pay his men, consequently all work is at a standstill, and has been for some time.

I have, &c.,

JAMES YEO,  
Overseer, Public Watering Places.

The Chief Inspector, Public Watering Places.

Mr. Inspector Boulton's general remarks have yet to be entered in tank book. See report and minute thereon.—7/3/87. Noted in action book.—S.A.M., 7/3/87. The Works Department may perhaps be asked whether it is intended to abandon the shaft, or to proceed with a new one.—HARRY GILLIAT, 16/5/87. The Under Secretary. Submitted.—H.W., 16/5/87. Approved.—F.A., 17/5/87. Asked, 25/5/87.

P.W.P.,  
87-2,321.

Sir, Public Watering Places, Department of Mines, 25 May, 1887.  
I have the honor to request that you will be good enough to inform me when the Willandra Well will be ready for transfer to this Department.

I have, &c.,

HARRIE WOOD,  
Under Secretary for Mines.

The Under Secretary for Public Works.

Roads.—B.C., 27/5/87. Mr. Wood.—W.C.B., 27/5/87.

We are not in a position to give the required information at present. The deepening of this well in loose running drift has been a most difficult undertaking; the contractor has had further difficulties, causing great delay, in obtaining and keeping good men. The work is now being pushed on, and should be finished without any unnecessary delay.—A.P.W., 28/5/87.

Under Secretary.—W.C.B., B.C., 28/5/87. The Under Secretary for Mines.—B.C., 30/5/87.

The annexed plan of shaft (*Vide* Appendix C) of this well gives a very different complexion to that of Mr. A. P. Wood's reply, but bears out very strongly the views I have had occasion so often to express as to the faulty construction and defective design, resulting in waste of money, dissatisfied contractors, and tends to explain the exorbitant prices now asked for Government work.—H.G., 1/6/87. The Under Secretary.

Submitted.—H.W., 1/6/87.

P.W.P.,  
87-2,435.

Sir, Ivanhoe, 4 June, 1887.  
I have the honor to report for your information that nothing is being done towards the completion of the Willandra Well, but I would beg to state that I have been informed by a good authority that the contractor, a Mr. Stanley, engaged with five men in Sydney to complete the well, and the men deposited £5 each with the contractor, which they would forfeit if the work was not completed. The men worked at it for some little time, and found they could do nothing with it; consequently, they have cleared out, and forfeited their deposits.

I am of an opinion that it is simply waste of time and money attempting to complete this well, as there has been four different parties to my knowledge who have given it up, and some of them have been successful well-sinkers in this district for some years past.

I have, &c.,

JAMES YEO,  
Overseer, Public Watering Places.

The Chief Inspector, Public Watering Places.

Submitted in connection with the papers relating to this well, now with the Minister for Mines.—HARRY GILLIAT, 10/6/87. The Under Secretary. Submitted.—H.W., 10/6/87.

Minute

Minute by the Chief Inspector, Public Watering Places to The Under Secretary for Mines.

Willandra Well.

Department of Mines, Public Watering Places, Sydney, 29 June, 1887. P.W.P., 87-2,817.  
 THE shaft is so defective that a new one will probably have to be put down, in which case the tenant's lease need not be disturbed. But until the final adjustment of works, to be completed by the Works Department, takes place no further action need be taken, as I am of opinion that if a new shaft is to be sunk it should be done by this Department.

HARRY GILLIAT,  
 Chief Inspector, Public Watering Places.

Submitted.—H.W., 1/7/87. Approved.—I would like to know how much has been spent on this work up to the present, and who is responsible for the apparent waste of public money.—F.A., 2/7/87. A letter may perhaps be addressed to the Works Department asking for the information desired by the Secretary for Mines.—H.G., 7/7/87. The Under Secretary. Approved.—H.W., 13/7/87. Works asked,—14/7/87. The Works may perhaps be reminded of the Minister's request.—H.G., 29/9/87. The Under Secretary. Approved.—H.W., 7/10/87. Letter to Under Secretary Works.—10/10/87.

Sir,

Public Watering Places, Mines Department, 14 July, 1887. P.W.P., 87-2,819.  
 The Honorable the Secretary for Mines is desirous of ascertaining how much the Willandra Well, now being sunk by your Department, has cost up to the present time, I have, therefore, the honor to request that you will be good enough to furnish the required information.

The Under Secretary for Public Works.

I have, &c.,  
 HARRIE WOOD.

Sir,

Department of Mines, Sydney, 10 October, 1887. P.W.P., 87-5,636.  
 I have the honor to invite your attention to my letter, 14th July last, informing you that the Honorable the Secretary for Mines is desirous of ascertaining certain information *re* Willandra Well, and beg to request the favour of an immediate reply.

The Under Secretary for Public Works.

I have, &c.,  
 HARRIE WOOD,  
 Under Secretary.

Roads, B.C., 17/10/87. Mr. Wood. Urgent.—W.C.B., 18/10/87. The information is attached.—A.P.W., 18/10/87. Accountant.—W.C.B., 21/10/87. The cost of the work up to the present date is £1,087 5s. 8d. Under Secretary for transmission to Mines.—W.C.B., 24/10/87. The Under Secretary for Mines, B.C., 26/10/87. The information asked for by the Secretary for Mines in his Minute, 2nd July, 1887, is given herewith, it may perhaps be read with Mr. Inspector Low's report marked red.—H.G., 4/11/87. Submitted.—G.E.H. (for U.S.) 7/11/87. Approved. Let a copy of this report be sent to Colonial Secretary.—F.A., 7/11/87. Copy of Report forwarded with letter.—22/11/87.

Reporting on well in course of construction at Willandra Creek.

Road from Balranald to Ivanhoe—Distance from and name of post town, 20 miles from Ivanhoe, nearest post town.—Reserve, No., and date—T.S.R. No. 428, 29 September, 1877, County of Manara. P.W.P., 87-5,092

1. Name of road and length? Balranald to Ivanhoe, 153 miles.
2. If near town, give estimate of population that may be dependent on the watering place? Not near any town.
3. Estimate of traffic in stock and teams? Mail coach, teams, about 14,000 sheep.
5. Its distance from nearest watering place or permanent natural water on each side? 20 miles from Ivanhoe Tank, 11 miles Gunarramby Tank.
8. Depth of well, depth and quality of water? 98 feet depth of shaft, 11 feet depth of water; shaft, 5 feet 3 inches x 2 feet 6 inches. Has stood too long without baling to give any definite opinion, but I should say at no time first class stock water. Certainly unfit for human consumption.
13. Full description of watering appliances and delivery in gallons per hour? Whim, to be worked by one horse, erected.
14. Supply tank, size, construction, capacity in gallons? Timber, lined with galvanized iron, 55 feet x 15 feet x 5 feet, 25,000 gallons, 4-inch service valve and wheel erected.
15. Troughing, length, width, depth, material, and position? Timber, lined with galvanized iron, 300 feet 30 inches x 12 inches, fenced, two rails and one rail erected.

General Remarks.

This well is, I should say, a most unsuitable means of supplying travelling stock and the public with water. The water is unfit for human use. Upon inspection I could find no means of getting down shaft, as there was only a wire rope there lying on the ground, and quite unfit for any one going down with, owing to its being rusty.

The shaft is reported by Mr. Overseer Yeo to have been given up by different contractors owing to drift, and it having caved in. Should such be the case it can never be made safe, as any one with any experience in sinking wells or shafts in drift can testify to.

Since my inspection a carrier came to Ivanhoe and asked me to go out to this well, and receive 20 tons of red gum timber he had brought from Balranald for this well. This I declined to do. Of course I don't know what it is intended to do with this timber, but if it is to be put down present shaft, I can unhesitatingly say it will be so much money wasted.

Close

Close to the present well there is a good site for a tank, and were a tank of 12,000 yards excavated, it would be ample for all the requirements of this track, and furnish travellers with water they could drink.

The Chief Inspector of Public Watering Places.

JOHN LOW, 17/9/87.

Sir,

Department of Mines, Sydney, 22 November, 1887.

I am directed by the Honorable the Minister for Mines to forward, for the information of the Honorable the Colonial Secretary, the enclosed copy of a report, dated 17th September, 1887., by Mr. Inspector Low, on the Willandra Well, now in course of construction by the Department of Works.

I have, &c.,

HARRIE WOOD,

Under Secretary for Mines.

The Principal Under Secretary.

## XI.

### Peri Springs Tank.

Dear Sir,

Wilcannia, 13 December, 1877.

Public Works,  
84-804.

As the Estimates are about being prepared, we take the liberty of putting before you the pressing wants of this portion of your electorate.

#### Tanks.

Tanks for the conservation of water on the Paroo Road are of the first necessity to enable stock and even teams to travel safely; at the present time there is not a drop of water in the road for the first 45 miles, for travelling stock and teams have to carry it themselves. We therefore trust you will use every effort to get a sufficient sum put on the Estimates so as to keep this important stock route open.

#### Booiligal Road.

The works are now left half completed at the Tallywalka, and all the money that has been spent will be simply thrown away, unless Government place a sufficient sum on the Estimates for their completion.

#### Hospital.

In this widely scattered district it is simply inhuman for a township of this importance to be without, and we trust you will get the Government grant for same.

Very faithfully yours,

Colin W. Simson, Esq.

CRAMSIE, BOWDEN, & CO.

Forwarded to Minister for Works. I have already preferred applications personally, and shall be glad to have an immediate reply for the information of my constituents, as the matters referred to are urgently required.—C.W.S. Roads, B.C., 4/1/78.

The works are still in progress, and there is no intention of stopping; the only delay is difficulty in obtaining timber.—W.C.B., 25/1/78.

I have recommended £1,000 to be put on Supplementary Estimates for dam at Copago on the Paroo Road. Mr. Simpson might be informed.—W.C.B., 30/1/78.

Sir,

21, Exchange, Sydney, 9 February, 1877.

Public Works,  
84-804.

We have been requested to call your attention to the necessity of having a sum of money placed on the Additional Estimates for sinking three or four tanks or wells on the Paroo Road, between Wilcannia, on the Darling, and Hungerford.

We would point out to you that the road is perfectly unavailable without these tanks, as there is not a drop of water on that line in dry seasons, also that considerable losses have been sustained by travelling stock during the last dry weather, in one instance not less than 4,000 sheep having perished in one night. As there is now very considerable traffic on this road it would be of inestimable value to the travelling public, as well as a benefit to the whole community, if these tanks were placed on the line, and we would therefore feel obliged by your giving this matter your earliest consideration.

We have, &c.,

The Secretary for Public Works.

H. H. BROWN & CO.

I am very doubtful of the propriety of sinking tanks in the wholesale way now proposed. A small expenditure is useless. To make a route available for stock in droughts will cost at least £150 a mile. We have not yet got one really good route. The difficulties as to reserves and station rights are greater than the mechanical difficulties of sinking the tanks or wells. That we can control ourselves, but the reserves, &c., require the intervention of the Lands Department, and that delay renders our work much more expensive.—W.C.B., 5/3/77.

H. H. Brown, Esq., informed, 18/3/77.

Sir,

Wilcannia, 26 January, 1878.

Public Works,  
84-804.

I have the honor to inform you that, at a public meeting held here last evening, the 25th instant, a copy of the proceedings of which accompanies this letter, it was resolved that you be written to and respectfully requested to take into your earnest consideration the desirability of at once constructing tanks on the main roads from this town to Hungerford (on the Queensland border), as the present state of things seriously interferes with trade, and completely stops all traffic in stock, and if the drought continues the mails will have extreme difficulty in getting through. I would also respectfully call your attention to the fact that many lives have been sacrificed in consequence of the absence of water at shorter intervals.

I have been asked to call your attention to the foregoing matters, as it is of vital importance to the interests of Wilcannia and surrounding district.

The Secretary for Public Works.

I have, &c.,  
EDWARD QUIN.

Mr. Quin might be informed that £1,000 will be placed on Supplementary Estimates (decision herewith) for dam at Copago, on this road, and that further inquiry will be made as to what other tanks are necessary.—W.C.B., 12/2/78. Mr. Quin informed.

Report by Mr. Road-Superintendent Henry Cambridge.

Sir, Tanks, Paroo Road, Hay, 30 June, 1879.

In accordance with your instructions, I visited the Paroo, respecting proposed tanks on that road. I found that the following would be about the stages from Wilcannia to—

1. Copago Dam, 27 miles.—Dam and tank here already made by Department.
2. Momba Dam, 50 miles.—Nothing required here.
3. Peri Sand Hills, 70 miles.—Tank required here.
4. Nipper's Creek, 83 miles, or Yentabangoo Lake, 89 miles.—Good sites for tank at either.
5. Warramurtie, 106 miles.—Tank.
6. Gumbalara, 131 miles.—Tank.

23  
20  
13 or 19  
23 or 11  
25

I think the £6,000 available will make four tanks, at £1,500 each; they need not be very large—say 12,000 cubic yards each. I should recommend that tanks be put down at Peri Sand Hills, Nipper's Creek, or Yentabangoo Lake, Warramurtie, and Gumbalara. At this last place the Paroo Channel becomes defined, and water is found in the water-holes. The places recommended are all cane grass swamps, and have good drainage area.

The sites recommended have been suggested by some of the oldest residents in the district, to whom I am indebted for a great deal of information respecting the road and sites suitable for tanks.

I should have mentioned that we already have a tank and dam at Copago. At Momba there's a good billabong, which is very seldom dry, and has at present a good supply of water, so that the tanks I suggest will cover the portion of the track at present unwatered.

My visit was very hurried, and consequently I had not such a good opportunity of thoroughly examining the country as I could have wished, especially as it rained the whole of the time I was away from Wilcannia; but I think that very little more can be said of these sites I propose than that they are suitable.

I should not think of recommending any tanks with pumping gear for this portion of the district, but similar ones to those that are being put down between Hay and Booligal.

The Commissioner for Roads.

I am, &c.,  
HENRY CAMBRIDGE.

I should suggest that these tanks be let as soon as possible, to enable contractor to take advantage of grass and water. This will save at least 20 per cent.

Copy of Minutes on Mr. Cambridge's Report, dated 30th June, 1879, and No. 79/4,616, on the Tanks, Paroo Road.

In order to take advantage of the grass and water here, I recommend that tenders be invited; plans to be deposited at Wilcannia, Bourke, and Hay. I also recommend that a copy of Mr. Cambridge's report be transmitted to the Chief Officer-in-charge, Crown Lands Occupation Office, for the report of the local Commissioner on the proposed sites.—W.C.B., 3/7/79.

Under Sec., B.C. Approved.—J.L., 9/7/79. U.S. Mines, with copy of report; C.W. Simpson, M.P., with copy of report, 12/7/79. Roads,—W.H., B.C., 14 7/79.

Will Mr. Cambridge confer with the Comm. Crown Lands for this district (Mr. Woore, I think), and invite tenders for these works, and forward same to Sydney, with C.L. Officer's report, and a report and recommendation from Mr. C. himself? It is not necessary he should visit.—W.C.B., 18/7/79.

Mr. Cambridge, B.C., 18 7/79. See C.C.L. Officer's reports.—H.C., 21/8/79. (Again understood).—W.C.B., 7/6/84.

Sir, Sydney, 12 July, 1879.

I am directed by the Secretary for Public Works to forward herewith copy of a report which has been received from the local Road Superintendent, respecting tanks on the road between Wilcannia and Paroo, and I am to request that you will have the goodness to obtain a report on the sites proposed from the local Commissioner for Crown Lands.

I have, &c.,  
GERALD HALLIGAN,  
Acting Under Secretary.

The Under Secretary for Mines.

The copy of report can be forwarded to Mr. Commissioner Woore, requesting his report upon the sites proposed.—T.W.H., 16/7/79. J. C. Woore, C.C.L., with copy to be returned, 17 July, 1879.

Sir, Crown Lands Office, Albert, 4 August, 1879.

With reference to your letter of the 17th ultimo, requesting me to report upon the sites for Tanks between Wilcannia and the Paroo, proposed by Mr. Road-Superintendent H. Cambridge in his report of the 30th June last, returned herewith, I have the honor to state that there are very suitable sites for Tanks at the places named by Mr. Cambridge.

I have, &c.,  
JOHN C. WOORE,  
Commissioner of Crown Lands, Albert.  
Forwarded

The Chief Officer, Occupation of Lands Office.

Forwarded for the information of the Commissioner for Roads.—T.W.H., Occupation Lands, 16 August, 1879, B.C. Acknowledge with thanks. Resubmit when Cambridge comes.—W.C.B., 16/8/79. T. W. Harriot, Esq., 16/8/79. Mr. Cambridge will give specifications and have tenders invited.—W.C.B., 21/8/79. Tenders invited, 22/8/79.

Wilcannia to Paroo.

Extract from Mr. H. Cambridge's report, dated 20th March, 1880, on the Tanks in progress, Wilcannia to Hungerford.

Peri Tank.—On the 22nd January I received the enclosed letter from the contractor, advising me that he had got on to a hard sandstone in the drinking tank, and asking for extra remuneration on that account. I wrote him the reply herewith, and on my visit found matters as described by the contractor. I found powder was being used to blast out the stone. I brought a sample with me, which I send by post. I think some slight allowance might be made. Will you kindly inform me if the stone, being in the tank and not having shown in any of the trial shafts, will nullify the contract; I have never had such a case before, and shall be glad to know for future guidance. The main tank and also the silt tank were completed. A good deal of gritty material came out of the main tank; the banks round the tank were well consolidated and were well trimmed. I laid out a series of drains, shown on accompanying plan; they follow the water courses, which at this tank are fairly plain and are well graded,—in fact the fall throughout is about 1 in 200 to 1 in 100. I laid out about 113 chains of drains, which will be quite sufficient here. The water at this tank will be good, as it all runs off sand hills and hard ground. I find a great deal of salt in all the ground about, but I do not think this will injure the water.

There are a good many clay-pans; these places are hollows that have been coated with clay from water lying in them; these will all be drained into the main drains.

Reduce the size of the tank; arrange it so that the cattle will stand on the stone as far as possible when drinking. I find that it is objected to that they bog in these tanks.—W.C.B.

One would think Mr. Cambridge's common sense would guide him here; of course the man must be paid extra, but I cannot conceive how Mr. Cambridge laid out a tank in a place where there was the slightest possibility of meeting rock; I hope such a thing will not occur again; if the printed specification was complied with it could not. Will the tank be water-tight?—W.C.B.

My dear Mr. Hogarth,

Ivanhoe, 18 January, 1883.

Tanks&Wells,  
83-319.

I wish to obtain an opinion from an independent observer with regard to the value of the Peri Sand Hill, the Yentabangee, and Warramutty Government Tanks on the Paroo, and whether they are or are not so close to other sources of water as to interfere with their being leased.

Any remarks you may have to make upon them will be sure of careful attention.

As I am preparing a paper on these works I shall be glad if you will let me hear from you as early as possible.

I am sorry to say that the tracing you lent me with the other papers connected with the wells of the Colony were destroyed in the fire at the Garden Palace.

I expect to be on the Paroo in four or five months' time, when I hope to have the pleasure of meeting you.

HARRY GILLIAT.

W. Hogarth, Esq., Manager, Momba Pastoral Company.

My dear Mr. Gilliat,

Momba, 27 January, 1883.

Tanks&Wells  
83-319.

Yours of the 18th to hand, *re* tanks in this district. Peri Sand-hill Tank I don't think you will ever be able to let, simply because it is within quarter of a mile of the Peri Springs, therefore I think putting the tank down in the present site a great waste of public money. Had the Government and station owners (M. P. Co.) combined and spent, say £300 on the Springs, they would have watered all the stock that ever came down the Paroo, and all station stock that the country would carry.

Yentabangee is almost similarly situated, being within about 3 miles of the Tongo Waterhole, which is almost permanent on the one side, and Olpoloko Waterhole on the other side, also about 3 miles distant from tank. In my opinion this tank should have been put down at the Olpoloko Waterhole, as it would have divided the distance between the Peri Springs to the Tongo Waterhole, making about 10 miles from the former and 6 or 6½ from the latter.

Warramutty Tank I don't know anything about, as I have never seen it. I note the tracing, &c., I sent you, got burnt; should it be of any further use to you I could get you another, and also showing another well where I was fortunate in getting good stock water at 148 feet. The supply is not great, but I believe by going down 5 or 6 feet there will be an abundant supply. Hoping to see you in the course of a few months.

I am, &c.,

W. HOGARTH.

Mr. H. Gilliat, Inspector of Tanks and Wells.

Sir,

Tongo, 10 February, 1883.

Tanks&Wells,  
83-308.

I have the honor to hand you my report on Peri Sand-hills Tank.

On visiting this tank I found that the caretaker had just finished repairing the fence around the main tank. For months past drovers and others have used the tank for a stockyard. Something like twenty-five rails are missing; these, I suppose, have been used as firewood. The tank is nearly full; the size of inlet-pipe is 12 inches; connecting-pipe, 4 inches, same as at the other tanks. This tank is useless where it is, for there is plenty of water all the year round at the several springs.

If,

If, instead of constructing this large tank, a small one, say 1,500 yards, had been made near one of the best springs it would have answered all purposes, and a large amount would have been saved, or expended some distance further down the road towards Wilcannia. The station people have constructed 150 feet of stone troughing at a spring about 500 yards away from the tank; only a portion of the water flows into the troughing, the balance goes to waste. This spring discharges something like 7,000 gallons in the twenty-four hours.

There are several other springs that would furnish large supplies. This tank will never be leased; if left unprotected it will be destroyed.

I have, &c.,

JOHN HANSEN,  
Overseer of Public Tanks and Wells.

The Inspector of Public Tanks and Wells.

MEMO.

Referring to Mr. Overseer Hansen's report on the Paroo Tanks, and others papers herewith, Tanks & We  
83-302. it appears that the Peri Sand Hill and Warramurtie Tank have permanent water close by, and that the Nipper's Creek or Yentabangee Tank has the Tongo Waterhole about 3 miles distant on one side, and the Opoloko Waterhole about the same distance on the other.

The Goomboolara Tank has water at 8 and 12 miles on either side.

I agree with Mr. Hansen that it is unlikely that the first three tanks will find tenants on this account; so far no tenders have, I believe, been received for the latter. A travelling caretaker visiting the tanks in turn has been tried and proved to be unsuccessful in protecting them from injury.

Overseer Hansen reports that certain repairs are required at the Nipper's Creek and Peri Sand Hill Tanks. A good resident caretaker if supplied with wire, wheelbarrow, and a few tools, would be able to do all that is required at any of the works.

I would recommend that caretakers be appointed at the Peri Sand Hills and Goomboolara Tanks, and that they, with the caretaker at the Nipper's Creek Tank be furnished with the requisite tools, and that the caretaker at the latter, under the overseer's supervision, clean as much as possible of the watering tank before rain falls. To call for tenders for this with the present scarcity of grass and water would be expensive, nor at present do I consider that or the fencing the mouth of the watering tank necessary. I would further recommend that all the caretakers are authorized to collect rates.

H.G., 21/2/83.

The Chief Inspector of Stock.

See abstract overseer's reports and separate memoranda on papers herewith.—A.B., 5/3/83. The Under Secretary for Mines.

Mr. Gilliat's report on Paroo Tanks for April, 1881, cannot be traced. It was presumably destroyed in the fire at the Garden Palace.

The Minister for Mines with reference to an extract from the *Sydney Morning Herald*.

Department of Mines, Sydney.

84-541.

In an article published in the *Sydney Morning Herald* on the 10th instant, I find the following:—"Tanks and wells have been repeatedly constructed where they were not wanted, and where no local authority would ever have placed them. For example, on Menamurtee Station a Government well has been sunk within a mile or two of permanent waterholes, both on the stock road. A Government tank has been constructed on Tarella Station, close to the Coonawatta dam, on the stock route. This dam has been used by travellers and drovers for long; and though a station work it is available for the general public, there being abundance of water. A Government tank has been made on the Paroo Road, close to the Peri springs, a natural reservoir on the Stock Reserve, sufficient for all the stock that ever can travel that way. Now for a case of another kind. On Mount Manara an expensive well has been sunk, securing abundance of water good for stock. The well has been abandoned, and no one is looking after it. It is said that some years ago one of the slabs with which the well is lined got loose; the bucket stuck, and could not be brought up. No attempt was made to put it right, and there it remains. As the well is sunk in hard rock, there is not the least risk of its giving way, and it is believed that it could be put in working order for a few pounds, but no official has any instructions to deal with it, and though the public suffer by the want nothing is done. This is certainly a burlesque of centralization and officialdom."

It is alleged that a Government tank has been sunk within one mile of two permanent waterholes, on a stock road on Menamurtee Station. I shall be glad if Mr. Gilliat will inform me whether this allegation—1st, Is true; 2nd, If true, why was the tank so constructed?  
10 May, 1884.

J. P. ABBOTT.

Mr. H. Gilliat, Inspector of Public Tanks and Wells, in reply to the memo. of The Minister for Mines. Tanks & Wells,  
84-583.  
The Peri Springs and Public Tank. 20 May, 1884.

In reply to the minute of the Hon. the Secretary for Mines, T. and W. 542, with reference to the statement in the *Sydney Morning Herald* of the 10th instant, that a public tank has been made close to the Peri Springs, I have to say it is correct.

Early in 1881 I was directed by the Secretary for Mines to take delivery and report upon the tanks on the Paroo, between Wilcannia and Hungerford. My report was submitted in April of that year, and pointed out that it was improbable that tenants would ever be obtained for the Peri, the Nipper's Creek, or the Warramurtie, on account of their neighbourhood to good water supply.

The Peri Springs are within 500 yards of the Peri Tank, and are practically inexhaustible.

The Nipper's Creek Tank has the Olepoloko W. H., 5 miles on one side, and the Tongo W. H., 3 miles on the other side.

The Warramurtie tank is about half-a-mile distant from the Warramurtie W. H., one of the finest in the Lower Paroo.

The attention of the Department has on various occasions been directed to these works. I may add that it is only within the past ten months that the Department of Mines has been admitted to have any voice in the selection of sites for works, and that I am not aware of any instance in which it has been consulted with regard to their construction.

HARRY GILLIAT.

Minute

Copy from Press-book; original with the U. S. Works, on 23/4/84. Asked to return, 17/11/87.

## Minute by The Commissioner and Engineer for Roads and Bridges.

Roads, Sydney, 8 August, 1884.

Tanks & Wells,  
84-1,026.Original, with  
Tarella Tank  
case.

In compliance with instructions to report on the strictures contained in a paragraph by letter from in the *Herald* of 10th May, on the operations of this Department in the dry country, I think it necessary to deal with the paragraph in its entirety.

It begins by pointing out the desirability of a Local Government Act. As I have long advocated such a course I append two paragraphs from reports of mine, dated 31st March, 1865, and 9th February, 1871, respectively.

It is generally represented that the Department is opposed to such a measure; the extracts appended show on the contrary that I have always advocated it, but from reasons different to those generally put forward as I cannot admit that the works would be better done as throughout the Colony where municipalities do exist, it will almost without exception be found that the best roads and bridges therein have been made under this Department either prior or subsequent to the formation of the municipality.

As to not giving consideration to the wishes of those on the spot, Mr. Cambridge reports that the sites were recommended by the oldest residents, and Mr. Quin's letter of approval was an evidence that Mr. Wood gave satisfaction.

The first specific accusation in the paragraphs is with reference to the Peri Tank. The Minister for Mines asks that the Minister for Works will ascertain who is responsible for this gross waste of public money, and the cost or amount so wasted.

The amount is £1,500. The tanks in this Paroo Route were demanded in very strong terms by the local press, by a petition forwarded and urged on by the then Member for the district, Mr. Colin Simpson, and by letter from Mr. W. Brown, of Wilcannia. Mr. Cambridge, Road Superintendent at Hay, was directed to report.

I attach copy of his report\* with parts underlined; but, not satisfied with Mr. Cambridge's examination, as he was then new to the locality, and liable to be misled by interested persons, I requested that the opinion of the gentleman whom I considered, and had a right to be, the best and most disinterested authority—Mr. Woore, the then Commissioner for Crown Lands—should be obtained, and asked Mr. Cambridge to confer with him. His letter is attached.†

The water-holes referred to by Mr. Gilliat either have been made since, or it was considered that they were private property, and not available for public purposes, as Mr. Brown distinctly states there was not a drop of water on the line in dry seasons, and that great losses of travelling stock had been sustained. I am not sufficiently informed on this point, but I will endeavour to ascertain.

It is no doubt extremely easy to find faults now that the country is known and of easy access, water conserved, and communication facilitated.

When the inquiry as to works was being made the course of post was at least six weeks, and there was no railway nearer than Junee.

It should not be forgotten that tenders were invited for the construction of these works in *Gazette* and local papers for some weeks. No one during that time objected, and excessive pressure was put on the Department to get the work executed during the season when it was alone possible.

If there has been a gross waste of public money, which, notwithstanding Mr. Gilliat's assertions, I doubt very much, I alone am responsible if it is considered I could have done more and laid the Department open to accusations of delay and accountable for loss of stock.

Mr. Wood had nothing whatever to do with these Paroo works; but that the springs were not overlooked is evident from the sketch plans sent by Mr. Cambridge.

I have not had time to get detailed information about the relative positions of other works, and respecting adjacent waters; but Mr. Woore's approval applies to all on this line.

I need not further dwell on accusations made after seven years, when the whole circumstances of the case have changed; but in the interests of the future, I think that Mr. Gilliat's recommendation as to further expenditure on these works should be considered in the light of Mr. Higman's recommendation of 26 November, 1878, as to the probability of this route being superseded when rail opens to Bourke. I will therefore not proceed with the alterations and additions suggested by Mr. Gilliat until further instructed. At most the Copago Tank or well there, which I believe would be most advisable; and at the Peri Mr. Hanna reports that the slopes are easy and the ground firm, and stock can be watered with safety and despatch, thus avoiding expense which the erecting of pumping gear would involve.

As regards Mount Brown Road and Mr. Abbott's memo. on Mr. Gilliat's paper, requesting that searching inquiry be made into the matter, I append Mr. Wood's paper.

There were a number of communications from the district urging on the construction of some sort of water supply about the commencement of 1881, and at the urgent and pressing request of those interested Mr. Wood was despatched to let such works and take such steps as seemed to him necessary for the permanent opening of route to a large gold-field which was then pronounced to have been proved. Mr. Wood's mission gave great satisfaction at the time, and I might say an unparalleled letter was written by Mr. Quinn, M.P., expressing approval of the action taken.

The Under Secretary for Public Works.

W. C. BENNETT.

Under Secretary, B.C. Printed paragraph herewith. Forward to Mines. The Under Secretary for Mines.—J.R., B.C., 11/8/87.

Extract from Commissioner for Roads' Report, dated 31st March, 1865.

*Future management.*

Having endeavored to set before the Honorable Secretary for Public Works a full statement of the past working of the Department, it is now my duty to submit my views as to future management of the roads of the Colony.

I am decidedly of opinion that the time has now arrived when, in the more settled parts of the Colony, either by extension of the Municipalities' Act, the consolidation of municipalities, or some new legislation analogous to the District Road Boards' Act of Victoria, the management and cost of local roads in the first instance, and ultimately of the main roads, should be transferred to local bodies. The

Recommending  
local manage-  
ment.

The anomaly existing in this Colony of the main trunk roads most used being in the most thinly settled portions of the Colony, will be obviated by the railway extensions to Mount Victoria and Berrima; beyond these points, within the settled districts, and in the county of Cumberland, with few exceptions, where roads are required, sufficient population exists to create a local interest in their construction and maintenance, and to initiate a system of local taxation for such purposes.

Provision might be made for the partial endowment of those bodies at first; but I would not recommend the transfer to their charge of the main thoroughfares to the interior until the system had got into working order on the roads of local importance, say for three years; and, when transferred, the efficient maintenance of the main roads should be made imperative.

The portions of the main roads within the railway termini should, however, be transferred to the charge of the local bodies in the first instance, and as soon as possible.

It would be beyond my province to point out how such an Act should be framed in detail; but I think the "District Road Act" in Victoria, and a modification of the "Irish Grand Jury Act," would be the best models for legislation.

It would be for the Parliament to determine whether such local taxation should comprise provision for gaols, court-houses, or other public works, as in Ireland; but there are two provisions in the Irish Act which, I think, should certainly be contained in any Act for this purpose in New South Wales.

One, for the compulsory repair by Government, and recovery of cost of same from local body, of any important postal road allowed to get out of order by them.

The other, that a properly qualified professional officer or surveyor should be appointed for each board or trust, who should have had a regular professional training, and have passed a professional examination before a board in Sydney, to be composed of civil engineers of standing, either in or out of the Government service. The district should be sufficiently large to admit of the adequate remuneration of such an officer, the engagement of whom I consider indispensable to the success of the measure.

With reference to the roads beyond the more settled districts, or roads of more than local importance, the "Main Roads Act" might be amended, as recommended by "Joint Report on Transfer of Minor Roads," so as to admit of the Government proclaiming any road a main road.

I more particularly refer to the roads to the frontier districts, communication with which should be facilitated as much as possible, to prevent trade gravitating to the other Colonies, viz. —

The road from Grafton to the Tableland.

" " South Coast to Tableland.

" " Murrurundi, via Breeza and Pocataroo, to the frontier of Queensland.

" " Molong or Wellington to Fort Bourke.

" " Wagga, via Deniliquin, Balranald, and Wentworth, to the South Australian frontier.

Main thoroughfares not to be transferred for a time.

Roads parallel to railways to be transferred at once.

Compulsory repair.

Qualified surveyor to be appointed.

Roads in thinly populated places.

Roads of colonial importance

Extract from Commissioner for Roads Report, dated 9th February, 1871.

In conclusion, I feel it my duty again to repeat my recommendation of 1865—that some local administration, similar to the Irish Grand Jury system, be at once adopted, with the modifications then recommended by me. Each day strengthens my conviction on this point, and I cannot too strongly urge its adoption, for every reason. The census about to be taken might be made a means of partially introducing this system, by refusing to expend money on such works in any district when the population exceeded a certain number per square mile, unless through the medium of a municipality.

Pending the introduction of such system, it is absolutely necessary that the Act amending the "Main Roads Act" should be made law.

Minute by Mr. A. P. Wood, Assistant Engineer for Roads and Bridges.

Roads, Sydney, 3 June, 1884.

Subject:—Wells and Tanks—Wilcannia to Mount Browne.—Reply to the statements made by the *Herald* correspondent.

I have to submit the following report on the statements made in the *Sydney Morning Herald* of Tanks & Wells, the 10th ult., regarding certain wells and tanks in the Wilcannia District. These statements include 84-1,026. four different works as under:—

1. Menamurtie Well.
2. Tarella Tank.
3. Peri Springs Tank.
4. Mount Manahra Well.

I will deal with these in the order in which they stand.

1. *Menamurtie Well*.—This work is stated to be within a few miles of two permanent waterholes—the inference being that the assumed permanent water is at the command of the travelling public, and the work being carried out by this Department a waste of public money. In reply to this, I may state that there are no permanent waterholes on the Brunker Creek; that, in a natural state, this creek would in an ordinary season be dry from end to end; that the water alluded to by the *Herald* correspondent has been artificially conserved by the lessee of the run; that, though on reserves, the improvements belong to the squatter, as the reservation is from sale only, not from lease; that though the present lessee may not object to the travelling public using his conserved water at the present time, there is no guarantee that in the event of there being a large stock traffic, the same tolerance would be shown; or that, in the event of the run changing hands, the new owners would permit stock to use the water, for it must be remembered that travelling stock watering at private improvements might, and often would, materially interfere with station stock.

2. *Tarella Tank*.—The above remarks apply to this case also, the conditions being the same.

3. *Peri Springs Tank*.—This work was constructed before I had any connection with this Branch, and I have never seen the site; but I know that it was approved by the Crown Lands Commissioner and by those who petitioned for the works on the Paroo Road.

4. *Mount Manahra Well*.—This was one of the first works constructed by me in this district, and the yield, though of good quality, was of limited quantity, the test only giving 400 gallons an hour. This deficiency was met by the construction of a chamber in the bottom of the shaft, and by an extra large service-

service tank on the surface. This work, with all others constructed by us, was handed over to the Mines, and, as was the case with several other similar works, was eventually condemned by that Department, after having been maintained and repaired by them for some years. The works were handed over in good order, and this Department is not responsible for the present state of the well. This question has not been dealt with in Mr. Gilliat's memo., but as it is mentioned by the *Herald's* correspondent I have pointed out the real facts of the case.

In regard to the Menamurtie Well and the Tarella Tank, for which this Department is blamed, I may state that if such blame has any lodgment it must be on my shoulders. I was sent up to that district with full power to select sites and let all necessary works. I went over the road in company with Mr. Barlow, the District Surveyor, and Mr. Cambridge, the Road Superintendent, and the action taken by me was supported by their opinions. I acted at the time in the interests of the public and the Department I represented, and notwithstanding the adverse opinions that have been expressed I have no reason to alter my views, and still think that the two works referred to and as yet unfinished, though within a few miles of station improvements, are necessary in the public interest.

I am well aware that my recommendations were not referred to the Mines for the approval of its officers; such a course would have entirely negatived the object of my special trip by causing endless delay in settling the question; nor was such a course necessary, as the powers given me were sanctioned by the then Minister for Works.

I may add that I gave Mr. Quin, M.L.A., a list of the works let during that visit, and that the people in that district, through that gentleman, expressed their satisfaction at the course adopted by me at the time.

The Commissioner for Roads.

ARTHUR P. WOOD.

The Overseer of Public Tanks and Wells to the Inspector of Public Tanks and Wells, reporting on Peri Tank.

Peri Springs and Tank.

Tanks & Wells, Road—Hungerford Road. Situation—75 miles from Wilcannia and Post Town, 25 miles from Momba, 85-852 (85). 15, Nipper's Creek. Reserve, Nature, and No.—C.R., No. 631, S.L. 1; Camping Reserve, 631; Special Lease, 1, inside the Reserve. This Reserve also numbered 37. Notified 11th March, '68. Parish—Lake. County—Killara.

WILLIAM FRASER,  
Overseer of Public Tanks and Wells.

April 7th, 1885.

Questions:—

1. Name of road, its commencement, termination, and length? Hungerford Road, Wilcannia and Hungerford, 250 miles.
- 1½. If in or near a town, give the number of inhabitants in the town and neighbourhood, and the number which would likely have to depend on watering place in dry weather? No town near.
2. Extent and description of annual traffic—(1) general, (2) stock—and probable increase or decrease? Only the travelling public. Permanent springs being close to it, very little traffic of late years of any description, but probably the traffic in stock will increase again after the general rain and break-up of the drought.
- 2½. Mr. Tully, report how many springs there are, and what area it would be necessary to fence to enclose all the springs so as to prevent stock being watered without payment of watering charges. If spring is to be used instead of tank, describe fully how the stock should be watered at it? There are about twenty springs of different sizes, comprised in an area of about  $\frac{1}{2}$  of a mile by  $\frac{1}{4}$  of a mile, but to enclose them by a fence it would be advisable to alter, or rather extend, the Special Lease so as to include them. (See sketch other side. See separate sheet. Vide Appendix D.)
3. The direction of the traffic—(1) where from; (2) by what roads; and (3) its destination? From Queensland, principally by the Hungerford Road; Melbourne and Adelaide principally; a few to Sydney, and from Wilcannia to Queensland, *via* Hungerford.
4. The site of proposed new watering place; its position, and how marked? None proposed, and none required at the Peri Springs. Would recommend Peri Springs be utilized; they are about 20 chains from this tank.
- 4½. How? Describe fully what would have to be done to enable stock to water without bogging or destroying springs? Would recommend making an embankment round some of the springs, and convey the water by means of pipes to large stone troughs. (See separate sheet. Vide Appendix E.)
5. The distance from nearest watering place, or permanent natural water on each side? Permanent springs close to existing tank.
6. The natural features, description, and suitability of proposed site, with rough sketch of creeks, lagoons, roads, reserves, &c., &c.? No new site proposed. Say also the nearest natural supply, and its extent and permanency. Rough sketch showing position of tank, various springs, and state area they occupy? The springs.

*If a Tank.*

7. The length, width, depth, and capacity, cubic yards, gallons? 100 yards long on top, 40 yards wide, may be 10 or 12 feet deep, slopes probably  $1\frac{1}{2}$  to 1, probably 10,000 yards, 1,687,500 gallons.
8. The height of the embankment; its length, form, and construction? Embankment is 8 feet high and very solid, quite 24 feet wide on top in places, less at ends, 400 yards measuring right round, and the slopes are about 1 to 1.
9. Any other remarks with regard to tanks, its site, dimensions, or capacity? Peri Springs are simply low hillocks of muddy sand, not more than from 2 to 4 feet high. They are about twenty in number, but only four or five give any quantity of water; the others show only by oozing at their sides. The best spring is utilized by having a pipe conveying the water from the spring into 130 feet of stone troughing, 4 feet wide and about 1 foot 2 inches deep, the surplus water flowing over the edge and away to the lake, as shown. If a good foundation could be got for stone shallow service

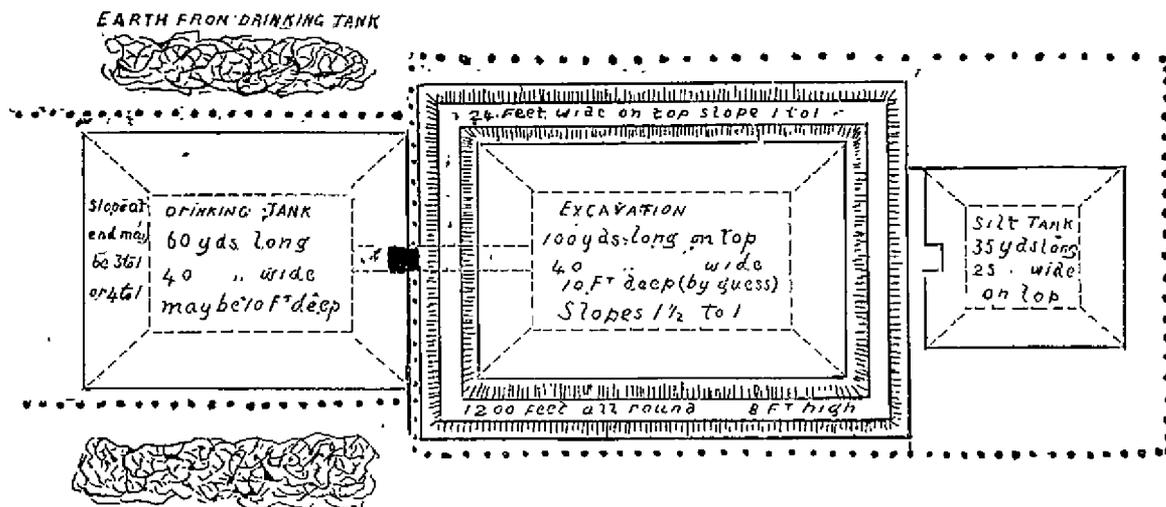
service-tank and troughing at a lower spot, and the water conveyed by pipes to the tank from the best of the springs, I think it would be the best way to make them really serviceable. If a low bank was thrown up round each spring, and a pipe through this bank to lead the water to the troughs, a great quantity of water might be collected. This might be done at one or two of the best, and perhaps no more would need to be done. The present troughing might do for small lots, coming every few hours as paddocked stock water, but it would require a very long trough and wide to contain at least 10,000 gallons if no tank was erected, and I believe this would be the cheaper plan; 400 feet long, 4 foot wide, and 15 inches deep would contain just about 10,000 gallons. In this spot it would cost from 12s. 6d. to 15s. per foot for troughing. The springs could be included in the Special Lease, as shown by dashes on sketch. I could not find the peg of Camping Reserve, but the dotted line must be nearly its position, as the S.L. is right in the middle on the west side.

10. Estimate of cost of work? 2s. per yard.

#### Watering appliances.

If drinking tank describe fully? An open drinking tank.

20. Description of whip; its advantages, delivery, and position? Size—60 yards by 40 yards on top. Slope—May be 4 to 1 at ends, and 3 to 1 at sides. Fencing—Only two lines from fence of main tank; not enclosing drinking tank. Condition—Apparently in good order; quite full. Efficiency—As a drinking tank it appears quite right, but should be fenced in properly, and fence made out in line with main fence.



Fencing as dotted, 62 panels by 32 rods round the main and silt tanks, and 22 panels each side of drinking tank, which has never been fenced across the end, as the water is above the edges of the excavation. I could only guess at the size, but I think it is correct; if not, there must be a correct measurement of these tanks in the Roads and Bridges Department.

This is the tank where the service-tap is broken, but it appears to be open. When I first visited these tanks the wells were so full of sludge that I could not tell how the taps were.

23. Supply tank; sort, size, position, construction, and estimated cost? The supply tank here is not fitted with any watering appliances, the stock watering at the open tank. May have been 1,500 cubic yards, probably 4,000 yards. Probably 675,000 gallons.
24. Pipes and connections; extent, sizes, &c.? C.I. inlet pipe, and also C.I. service pipe, with tap between main and supply tank. The tap is broken, but as it appears to be open I would not recommend anything to be done to it at present.
25. Troughing; sort, size, position, extent, &c.? 300 feet good. 18-inch iron troughing required to be erected at the Peri Springs, together with a good wooden storing tank of about 50,000 gallons.

#### Fencing.

26. Description, position, extent, and cost per rod (with sketch)? The main and silt tank are fenced in (but not the drinking tank) with six wires and top rail posts, about 9 feet apart; about 116 rods of fencing.

#### General.

28. Reasons for proposing the sort of work recommended in preference to either of the others? None proposed.
29. Chances of letting when constructed, and rental? I think if a Reserve of 640 acres were proclaimed at the existing tank and springs, well fenced, that it could be rented for £50 or £60. As there is no one living near, I don't think this tank will let well, for the following reasons:—1st. Peri Lake will have water in for years, and is only half a mile from tank, and a quarter of a mile from springs. There is an outer road, by which most of the traffic goes, quite 2 miles eastward of the road by the springs, and it is only in very wet times that the springs road is used, as it is very heavy sandy country, and the springs road is much longer.

30. Extent and position of Reserves required for use of tenant, and in connection with the watering-place for the use of travellers, teamsters, and drover's stock? I would recommend a Reserve of 640 acres at each of the tanks, with the tank in one corner of the Reserve. If this were done there would be no difficulty in renting any of them.

The description of the land and its grazing capabilities. Whether or not it is fenced? The land is rather poor and sandy; good grazing land in a good season, but would not carry much stock all the year round; 8 acres to a sheep, as much of the area consists of bare sandy country and clay-pans.

Whether there is a caretaker's cottage? No.

Tanks&Wells, Report by Overseer Tully on the Peri Tank and Springs.—Road from Wilcannia to Hungerford, in charge  
85-1,128. of J. B. Cameron, on taking delivery from Overseer Fraser.

State of drains.—In good order.

Silt tank.—Is full of water, probably much silted.

Inlet or flume.—C.I. pipes, under water at present.

Main tank.—Full, in good order.

Embankments.—Good order.

Fencing.—In good order, save where a few rails have been destroyed by teamsters as reported by Caretaker Cameron, and on which I made a special report.

General remarks.—Would recommend the springs to be utilized instead of the tank, as more permanent, and not dependent on rainfall.

#### Peri Springs.

State of shaft.—There are a number of inferior springs, each giving a little water, and one main spring with a C.I. pipe inserted, from which the water flows in a continuous stream into about 50 feet of good stone troughing. These works were made by the lessees of the run (Momba). I am convinced that a sufficient supply of water for all travelling stock is running from this spring, and with a large shallow stone supply tank, and (say) 400 feet of stone troughing a never failing supply would be at hand.

Whims, &c.

Rope, buckets  
&c.

#### Watering appliances.

State of drinking tank.—Full, and in order.

Service pipe and tap.—Pipe under water, well for access to tap has several feet of mud in it, covering the tap.

State of fencing.—The drinking tank has never been fenced around, but only two wings from main tank fence.

Work laid out for caretaker.—Cleaning the well for access to service-tap of silt, and to put the tap in proper order.

Repairs and alterations recommended to be given in detail, with estimated cost of each item:—

Cost of erecting supply tank and troughing of stone and cement at Peri Springs—

	£	s.	d.
400 feet troughing, at 10s. 6d. ... ..	210	0	0
30,000-gallon tank ... ..	220	0	0

Reply to circular 109.—No work of repair or alterations has been done here by Works Department.

MARK J. C. TULLY.

Dated at Wilcannia this 4th day of May, 1885.

Has the alteration in the special lease, so as to include the springs as recommended by me, been yet carried into effect? If so, I would submit that a recommendation for the fencing to be completed as soon as possible, may be forwarded to the Department of Public Works.—H. GILLIAT, B.C., 15/6/85.

#### Minute by Mr. H. Gilliat.

Department of Mines, Stock Branch, Sydney, 16 September, 1885.

Tanks&Wells, REFERRING to Mr. Overseer Tully's report on the Peri Springs and Tank I submit for the consideration  
85-3,438. of the Honorable the Secretary for Mines the following remarks:—

1st. The Peri Tank, as pointed out in my first report upon it, and in frequent minutes since, has been constructed within a short distance, some 15 or 18 chains, of a group of the best flowing fresh water springs in the Colony, which only require tapping and fitting with service tank and troughing to furnish an ample supply for all the stock and traffic ever likely to pass up and down the Paroo.

Both the tank and springs are unfortunately off the road used in dry weather, and upon one about two miles to the west passing over heavy sand ridges; this back track is several miles longer, and is rarely used, except in wet weather, or when the Paroo is in flood.

Had the Peri Tank been placed upon the shorter or dry weather track there would have been some apparent reason for its construction; but at present both sources of supply, the tank and springs, are on the wet weather and longer road, forcing stock and traffic to make a detour of some four miles, when there is no water in the Peri Lake, or when that becomes—as in these lakes it always does after two or three years' storage—too salt for use.

2nd. Under the circumstances it is now, I think, desirable the Minister should decide which source of supply is to be adopted, and that in future no expense may be incurred for the other. In my reports and minutes upon the Peri Tank and Springs I have opposed any outlay upon the tank for the same reasons given by Mr. Tully, that the springs afford a permanent and ample supply, entirely independent of the limited and uncertain rainfall.

While repeating my former recommendations that the lease area should be extended to include within its limits both springs and tank, I think it will be desirable to abandon the latter so far as further outlay upon it is concerned, reserving it merely as a stand-by until the improvements to be made at the springs are completed.

3rd. There is an alternative plan that I have always had in view when the time should come of dealing with this subject.

As

As shown by Mr. Tully and myself the supply at present is some 2 miles west of the shortest and dry weather track, and compels a longer journey at the very time ready access to water is the most urgent.

Ahead of the Peri Tank and Springs, but a few hundred yards to the east of the shorter or dry weather track, is another spring. A shallow shaft has been sunk in it, in which as far as I could learn the water is always standing, and in cloudy or before wet weather usually overflows. My informant, the late Mr. Bonny, of Mombah, was a careful observer, and had the experience of a twenty years residence on the Paroo.

It struck me when first visiting this spring that a bore in its immediate neighbourhood would probably tap artesian water, which, from its position on the shorter dry weather road, would prove more convenient to stock and traffic, attract more custom and rates, and be much more likely to find a tenant than at the present springs.

There are three water augurs on the Bourke-Wanaaring road, and but one, I believe, unless quite recently, has been in regular work. One of these might perhaps be sent to test the supply at this spring, a distance of about 140 miles, before finally deciding upon the improvements being made at Peri.

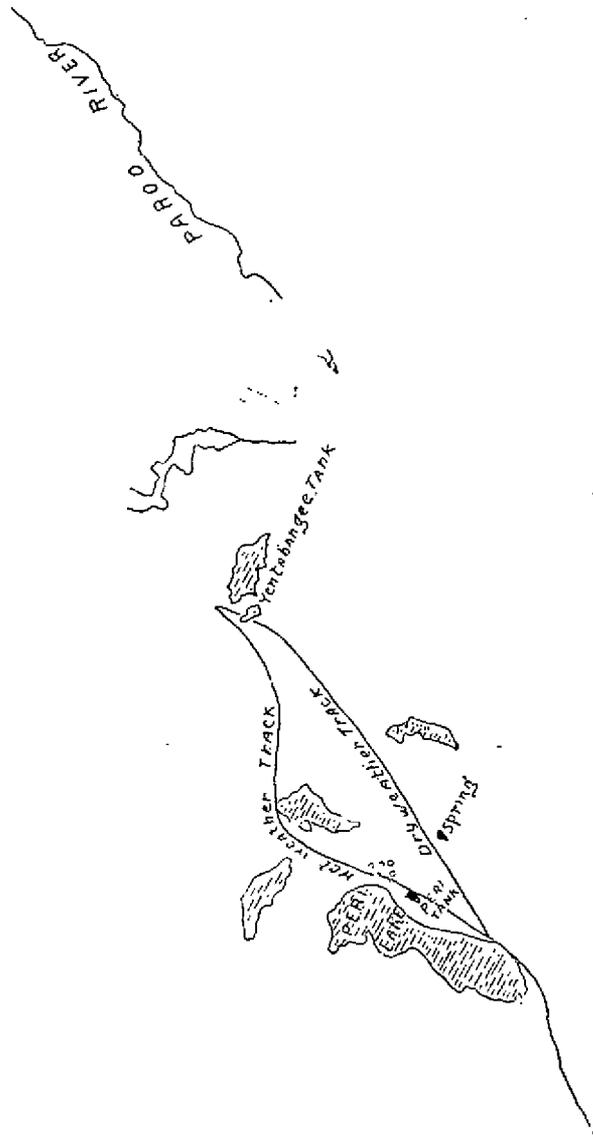
The time is favourable for the experiment, as there is both grass and water, and the expense would be inconsiderable.

4th. Should the Minister's decision be favourable to the improvements suggested at either of these springs, the question of the stone service tank and troughing, recommended by Mr. Tully (and which, personally, I think the best under the circumstances), as well as the embanking and tapping of the spring at Peri (should the alternative course submitted not be decided upon or prove unsuccessful), should, I think, be referred to the Commissioner for Roads for an opinion.

5th. In any case, I would recommend a lease area of 640 acres being laid out and marked at the spring on the inner road.

HARRY GILLIAT.

I should like to be informed of the estimated cost of boring at the spot recommended by Mr. Gilliat.—F.A.W., 12/10/85. The Superintendent of Drills.—H.G., B.C., 12/10/85. The cost to the Department of boring with water augur at per foot was £2 6s. 9½d. during last year, but I hope to be able to reduce the cost considerably.—W. H. SLEF, 30/11/87. No funds for the work; resubmit in three months.—H.G., 4/12/85.



## XII.

## Interference by Mr. Road-Superintendent Stillwell with Mr. Overseer Elworthy, at Pulletop and Hulong Tanks.

Pulletop Tank.

Hay, 6 December, 1886.

Sir,

P. W. P.,  
86-5,852.

On visiting this tank on 3rd instant, the water was 2 ft. above level of berm—20 ft. depth in the tank. John O'Neil is lessee; he has been in possession six weeks, and was in charge when I visited. The embankment was in very bad repair, and no effort had been made by lessee to remedy it. Water had been allowed to accumulate on top (which is dished) and break over at two corners, carrying down some thirty cubic yards of earth. The batters throughout were also corrugated by neglected rain-scour. The wires of enclosing fence were very slack, and should be attended to.

The service-tank was not full, and the lessee appeared to know little about the care or working of the steam pump. I got it to work, and he said he would employ a man to take charge of it. It worked satisfactorily, but the boiler needed cleaning. The troughing was in good repair; but it also needed cleaning.

The Commissioner and Engineer for Roads.

I have, &amp;c.,

A. W. STILLWELL.

Make copy to send Mines; resubmit on Mr. Wood's return.—W.C.B., 8/12/86. The Mines should certainly be informed, and requested to insist on lessees keeping works in proper order.—A.P.W., 10/12/86. Herewith.—13/12/86. Under Secretary for transmission to Mines.—W.C.B., 13/12/86. The Under Secretary for Mines.—J.R., B.C., 15/12/86. Mr. Overseer Elworthy for report. If these statements are correct, Mr. Elworthy will please say why reports of neglect at watering places in his district should be so frequently received through another Department before being reported on by him.—HARRY GILLIAT, B.C., 20/12/86. Mr. Overseer Elworthy.

These statements by Mr. Stillwell are very annoying. I visit these tanks regularly, and report you fully after each inspection. The last time I reported on this tank was when I handed it over to O'Neil in October. At two ends of the embankment the earth was washing away, and I gave O'Neil instructions to mend this up, and have sent him iron to make the V shaped gutter at corners. When passing the tank subsequently I noticed my instructions had not been carried out, mainly owing to Mr. Stillwell, whom the lessee said had countermanded my orders, and told O'Neil not to touch the embankments without instructions from him. Why does Mr. Stillwell do this? I have personally complained of this interference to Mr. Boulbee, who can tell Mr. Gilliat all about it, and I am sending Mr. Boulbee copies of several letters on the subject. I also refer you to my letter of 10th instant, wherein I complained about Mr. Stillwell. I will write O'Neil, and insist on the work being carried out at once; and if not done by the time I pay my next periodical inspection in January, I will report to you. I opposed O'Neil's tender for this tank, but he got it after all.—W. J. ELWORTHY, 22/12/86.

Sir,

Whitton, 21 December, 1886.

P.W.P.,  
86-5,927.

Referring to my instructions to visit the Hulong Tank, I now have the honor to inform you that I did so and found that Mr. Road-Superintendent Stillwell—after Mr. Overseer Elworthy had instructed the caretaker to coal tar the boiler, &c., in accordance with your circular, 3rd September last,—had issued fresh orders to the caretaker to paint it red and to apply to Mr. Elworthy for paint. Mr. Elworthy instructed the caretaker to prepare the newly dished top of the embankment for the reception of a shoot, for carrying off the storm water and material, for which Mr. Elworthy was supplying. These instructions were also countermanded and a length of india-rubber hose 2½ in. diameter was supplied by Mr. Stillwell to carry off all the storm water from the four embankments. I need hardly say how totally inadequate this is, and must at the same time protest against such a useless waste of money and such a childish innovation, that in the eyes of the travelling public so reflects upon the Public Watering Places' officer. I wish to bring this immediately and urgently before you, as I understand Mr. Stillwell is about supplying other tanks in his district with the same. A shoot of less than 1 ft. across is perfectly useless and is required in each angle. Actual experience, both at Hulong and Pulletop, has proved the folly of the 2½-in. hose, and caretakers have now definite instructions to proceed with shoots so soon as material arrives.

See P.W.P.,  
86-4,292 &  
86-5443  
attached.

The interference on the part of Mr. Stillwell and his assistant in regard to the control of Public Watering Places transferred to us is highly objectionable. The overseers do not appear to have the interest in their work they should have, while dictated to and snubbed by an officer who has no control over them. The caretakers cannot understand what appears to them a divided and antagonistic authority (antagonistic, however, only on the part of the Works officer), and between the two the Public Watering Places suffer.

After the transfer of Public Watering Places to us in good order, I would urge that the responsibility of the Works officers should cease. We have capable men as overseers, who, if they understood it to be their duty, could see all repairs executed, and, I think, with less expense, and thus avoid a correspondence and interference that, I venture to think, is hardly creditable to Mr. Stillwell and his endless and groundless complaints.

It is only from Mr. Stillwell's district that these frivolous charges come.

The accompanying copies of letters are, I think, a substantiation for my remarks.

I have, &amp;c.,

JAMES W. BOULTBEE,

Inspector, Public Watering Places.

The Chief Inspector of Public Watering Places.

Extract from Mr. Inspector Boulthbee's report on Quandong Tank, 17 November, 1887.

\* \* \* \* \* P.W.P.,  
86-5,443.

Shoots are required to carry off the water from the top of the embankments at each angle. Caretaker informs me Mr. Stillwell intends to supply him with a length of indiarubber hose to act as a syphon. I think a pannikin to bail it out would be as much use. The excavation for the road embankments hold water for a long time, and greatly interfere with the takings here. Stock drinking at these excavations should be compelled to pay if it can be done.

J. W. BOULTBEE,  
Hay, 17/11/86.

Submitted in confirmation of my report on hose at Hulong Tank.—J.W.B.

1 September, 1886. P.W.P.,  
86-4,292.

Subject :—Referring to the enclosed extract from your report upon the Quandong Tank, you will be good enough to state if you mean that such a hole as described exists in the embankment.

HARRY GILLIAT,  
Chief Inspector of Public Watering Places.

Mr. Overseer Keighran, Hay.

Extract from Mr. Overseer Keighran's report upon Quandong Tank, 27th August, 1886.

Embankments.—Newly repaired, but are now damaged by rain in consequence of the top being made flat or rather hollowed out, which catches the rain, the soakage from which causes the earth to give way, leaving a hole big enough to swallow a bullock.

J. A. KEIGHRAN,  
Overseer, Public Watering Places.

Hay, 6 September, 1886.

Yes, such a hole as described did exist in the embankment, and could not be filled up until such time as the ground dried sufficient to allow it to be done. Mr. Assistant Engineer Stillwell talks of having a syphon placed to carry off the rain water; but I question very much if that will answer.

JOHN A. KEIGHRAN,  
The Chief Inspector of Public Watering Places. Overseer.

Mr. Gilliat's letter of 3rd September, stating colours to be used in painting engine, &c.

Sir,

I have to request that you will be good enough to instruct the caretakers of steam-pumps in your district that boilers should in all cases be coal tarred while hot, and that steam-pumps should always be painted a dark green.

H. G.

Sir,

Mr. Stillwell was here yesterday; tried engine, which went splendid; he was quite pleased with her. He gave instructions for her to be painted—the boiler, red; engine, dark green; discharge-pipe, black. I have to take paint off facing, and shall want sand-paper. &c.

W. J. Elworthy, Esq.

4th December.

S. LEIGHTON.

Extract from S. Leighton's letter, 1st December.

"I should also inform you that when Mr. Stillwell came here he brought a hose to take water off embankment, so the ridging will not be required."

S. LEIGHTON.

Pulletop Tank.

Sir,

Public Watering Places Office, Narrandera, 10th December, 1886. P.W.P.,  
86-5,707.

A few days before I handed over this tank to John O'Neill on 20th October last, a heavy rainfall washed a by-gutter on the two outer corners of the embankment, and I told O'Neill it would be necessary to have these repaired, and I would send him material to avoid a similar break away; and I read him your instructions, dated 16th September, explaining how the drainage from embankment was to be carried down corners into tank. When passing the tank last week I noticed no repairs had been made, firstly, because the material which I had sent on 6th November had not arrived; and, secondly, O'Neill informed me Mr. Stillwell had been at the tank subsequent to my visit, and said nothing was to be interfered with at embankment without his instructions.

I merely mention this to save myself from blame should the embankment break away further, as Mr. Stillwell has countermanded my instructions. I have, &c.,

H. Gilliat, Esq.

W. J. ELWORTHY,

Overseer.

Dear sir,

4th December, 1886.

I beg to let you know that Mr. Stillwell was here yesterday. I pointed out to him that the hose he sent was useless for the purpose of taking off the water from the bank. He told me he did not think Jardine had done anything to the bank; but I told him that he had made the bank up. Whatever blame there is about the bank solely lies on Mr. Stillwell himself. I told Mr. Stillwell that I would put in the ridging as soon as it came, and he did not say anything. It appears to me that he wants to leave his own shortcomings on other people's shoulders.

I drew his attention to the state of the road crossing the drain, but he took no notice.

W. J. Elworthy, Esq.

JOHN O'NEILL.

Memo. *re* above.

O'Neill told me personally, and previous to this, that when he told Mr. Stillwell what instructions I had given him *re* embankment, Mr. Stillwell countermanded, and said O'Neill was not to do anything without his, Mr. Stillwell's, instructions.

W. J. E.

Sir,

Sir, Public Watering Places Office, Narrandera, 17 September, 1886.

I have the honor to acknowledge your 86-3,332 of 3rd instant, *re* painting of boilers, and I would advise that I left instructions with caretakers to coal tar the boilers, &c., but these instructions were superseded by the Road Superintendent, Hay (Mr. Stillwell), who has had the boilers painted red and the remainder black, French grey, blue, and other colors.

H. Gilliat, Esq.

W.J.E., Overseer.

Minute Paper.

P.W.P.,  
87-137.

*Subject*:—Interference of Works Officer with Mr. Overseer Elworthy's instructions to tenant, Pulletop Tank.

Department of Mines, Public Watering Places, 13 January, 1887.

Mr. Elworthy's report upon Mr. Road-Superintendent Stillwell's action in directing the tenant to disobey the instructions of the overseer with respect to the repairs to the embankments at Pulletop Tank, were, owing to my absence on leave, withheld from action till now.

The course pursued by Mr. Stillwell is open to several objections, notably that the authority of the local officers must be weakened by such interference in his dealings with a tenant.

2. That such interference is not warranted by any existing arrangement between the two departments.

3. That the maintenance of the Public Watering Places and the administration of the Act is vested in this department, and, under its regulations, the tenant is made responsible for these repairs, and the overseers, that they are carried out properly. This it is impossible he can successfully accomplish, when his orders are countermanded by an officer of another department possessed of no authority to interfere.

In this case the interference is with the functions of the Hon. the Minister for Mines, I think it necessary to submit my recommendation that through the proper channel the Commissioner for Roads may perhaps be requested to direct his local officers to refrain from any interference with either the tenants, caretakers, or overseers of the Public Watering Places. With reference to Mr. Elworthy's letter he may, I think, be desired to direct the attention of the tenant at Pulletop to the regulations under the Act, and to his indenture of lease, and to inform him that he is solely responsible to this department for his instructions, and that any failure in the conditions arising from disobedience of them will necessitate the enforcing of the penalties therein contained.

The Under Secretary for Mines.

HARRY GILLIAT,  
Chief Inspector, Public Watering Places.

Submitted for approval.—H.W., 17/1/87. Approved.—C.K.M., 18/1/87. Inform. Mr. Elworthy informed.—J.W.B., 21/1/87. The Under Secretary for Works.—H.W., B.C., 18-27/1/87. Roads, B.C., 27/1/87. W.C.B., 29/1/87. Mr. Stillwell for full report on separate paper.—J.W.B., 7/2/87. Report attached.—A.W.S., 9/2/87.

Sir, Public Watering Places, Mines Department, Sydney, 21 January, 1887.

P.W.P.,  
87-137.

Referring to your communication of 10th ultimo, complaining of the interference of Mr. Road-Superintendent Stillwell with your orders to the tenant of Pulletop Tank, I have the honor to inform you that the matter has been referred to the Under Secretary for Works, with a request that the Commissioner for Roads may be asked to direct his local officers to refrain from any interference with either tenants, caretakers, or overseers of Public Watering Places. You are at the same time requested to be good enough to direct the attention of the tenant of Pulletop Tank to the Regulations under the Act and to his Indenture of Lease, and to inform him that he is solely responsible to this department for his instructions and that any failure in the conditions arising from disobedience of them will necessitate the enforcing of the penalties therein contained.

Mr. Overseer Elworthy.

HY. GILLIAT.

Sir, Public Watering Places Office, Narrandera, 24 January, 1887.

P.W.P.,  
87-417.

I have the honor to acknowledge your 87-137 of 21st instant, *re* interference of Works Department Officers with my instructions to caretakers and tenants, and I have advised the caretakers in my charge, as also the tenant of Pulletop Tanks, of the contents of your letter under reply.

I have, &c.,

W. J. ELWORTHY,

The Chief Inspector, Public Watering Places.

Overseer.

As to alleged interference with the authority of the Mines Overseer at Pulletop Tank.

Sir,

Hay, 9 February, 1887.

Tanks and  
Punt.,  
87-119.

Referring to the attached papers, it is to be observed that Mr. Elworthy does not state that I countermanded his orders to the tenant, but that the tenant, O'Neill, informed him so. An obvious preliminary on Mr. Elworthy's part would have been to ascertain whether such were the facts. For your information I may state that it is about the reverse of the facts; but as this was not elicited by Mr. Elworthy it may perhaps be neglected as irrelevant, and now apparently the points to be considered are that this man's unsupported statement is taken by his overseer (as he intended it should be) as an excuse for gross neglect, for some two months, of a most obvious and urgent duty, and that his hand is unwittingly played further to by Mr. Elworthy's report and Mr. Gilliat's consequent minute being based upon it.

It would really appear that up to the present Mr. O'Neill has been master of the situation. I do not see how any responsibility regarding it rests with this department.

In

In fact, the matter should be one as Mr. Gilliat somewhat elaborates in his minute—so obviously and solely between the Mines officers and their tenant, that unless it had been forced upon me I should have had some delicacy or reluctance in dealing with it.

I can however heartily concur in what Mr. Gilliat says respecting the interference of officers with the men under another department—the more especially as this has been at times somewhat realised for me by actions of his overseers at works still under my jurisdiction; but I confess that I have failed to draw from it the somewhat anomalous conclusion that it is impossible an officer can successfully accomplish his work if his orders are countermanded by an officer of another department possessed of no authority to interfere.

On the contrary, I have found little difficulty in maintaining my authority, and little harm has resulted, and I have taken it all in good part as evincing only mistaken zeal on the part of his officers.

The Commissioner and Engineer for Roads.

I have, &c.,

A. W. STILLWELL.

Mr. Wood.—W.C.B., 11/2/87. Minute by the Commissioner for Roads:—Copies to be made of this correspondence and retained in this office.

#### Minute Paper.

*Subject*:—Alleged interference with Mr. Elworthy's instructions to tenant of Pulletop Tank.

Roads, Sydney, 11 February, 1887.

P. W. P.,  
87-741.

THE attached minute from the Mines, enclosing a report from Mr. Elworthy, complaining of Mr. Stillwell's interference with the tenant of Pulletop Tank, has been submitted to that officer for report, and his reply proves that there was no ground for the charges made by Mr. Elworthy, nor for the protest made in the minute against the so-called "interference with the functions of the Hon. the Minister for Mines."

From the tenor of Mr. Stillwell's report attached, it would appear that any complaint as to interference should, if made at all, have been made by him; but his good sense prevented any such action being taken, as he preferred attributing the actions of the local Mines officers to "mistaken zeal," and found himself fully equal to coping with their interference, and maintaining his own authority in his own province without any appeal to the head office for support.

The minute from the Mines is, as regards the charges made against Mr. Stillwell, fully disposed of, but it more than ever proves what this department has been cognizant of for a long time—that the existing arrangements in regard to the control of these works should be radically altered. A large sum of money has now been expended on tanks and wells, and, in the interests of the general public, to whom these works are a great boon, the management of them should be as perfect as possible. Under existing arrangements this is not the case, and the system of dual control has long proved an evil. The works are constructed by this department, and the maintenance of them when it involves an expenditure of over £10 is also one of our duties, but here we are confronted by a serious evil, for the lessees and caretakers, being subjected to the control of the Mines, any action on our part involving instructions to them is, as is evident in this case, jealously resented, the public interests being sacrificed to personal or departmental feeling. The old adage of "a stitch in time saving nine" is peculiarly applicable to the maintenance of these works, and in many cases the saving stitch, through the neglect or want of knowledge on the part of the local watering places overseers, is never put in, the result being complaints levelled at this department, and a large increase in the cost of maintenance. Should any of our officers instruct the lessees or caretakers as to the necessity of attending to any small point, instead of this course being received as being in the public interest, which both departments should equally strive to maintain, it is at once brought up against us as an interference with the functions of the Hon. the Minister of that department, and while the red tape is being unravelled and unknotted, the amount that will have to be expended on repairs is rapidly increasing.

As the Roads officers in charge of the dry districts construct the works, and are practically responsible for them afterwards, they are reasonably and justly entitled to have a controlling influence, and it would be in the public interest, both as regards the efficiency of them, and also as a step towards retrenchment, if the full supervision of them were placed in our hands, leaving to the Mines, which includes the Stock Branch, the determination of the routes to be watered, and the number of works required.

ARTHUR P. WOOD.

The Commissioner for Roads.

I concur in Mr. Wood's remarks. I have nothing to add to them except to disclaim any intention whatever of interfering with the functions of the Minister for Mines.—W.C.B., 11/2/87. Under Secretary, B.C. Forwarded to Mines.—J.R., B.C., 14/2/87.

#### Minute Paper.

*Subject*:—Alleged interference with Mr. Overseer Elworthy's instructions to the tenant of Pulletop Tank.

Department of Mines, Public Watering Places, Sydney, 11 March, 1887.

P. W. P.,  
87-1,128.

IN this case the alleged interference by Mr. Stillwell is denied by the Department of Public Works, and here in the ordinary course of business the question would have dropped. But the minute of Mr. A. P. Wood, concurred in by the Commissioner and Engineer for Roads and Bridges, contains, what I venture to think, such an entirely unauthorized criticism upon the administration of the Public Watering Places, as unjust as it is incorrect—that I consider myself justified in asking that the attention of the Hon. the Secretary for Mines may be specially drawn to all the papers. I am in entire agreement with the officers of the Department of Public Works with respect to the serious disadvantages of a divided control, and reference to our records will show that the attention of the heads of both departments have been directed by me on several occasions to its unfortunate results.

The

The administration of the Public Watering Places Act, which is the only Act that I am aware of that gives legal powers for the construction of works of this nature, is vested in the Hon. the Secretary for Mines, and I may perhaps respectfully submit for his consideration, that some permanent arrangement of the duties of the two Departments is probably desirable. The statements of Mr. Wood can be readily refuted, were he entitled to receive a reply, but in the interests of the public service, and of the special duties allotted to me, I consider any reply from me unnecessary, unless specially directed to do so.

HARRY GILLIAT.

The Under Secretary for Mines.

Submitted. If the Minister could spare time to confer with the Minister for Public Works upon this subject, a more satisfactory arrangement may perhaps be made.—H.W., 14/3/87.

### XIII.

#### *Re coating inside of Service Tank and Troughs with objectionable composition by Works Department.*

Telegram.

25 January, 1887.

P.W.P.  
87-371.

TRAVELLING mechanic is here, by instructions from Mr. Assistant-Engineer Stillwell, to tar inside of troughing, and about 2 feet from top of supply tank. I object to its being done as the tar melts and forms a scum on top of the water which prevents stock from drinking. The Boonoon and Mount Manara troughing had already been done; there has been several complaints about it; please inform me by wire if I am to prevent its being done to troughing at Ivanhoe Tank.

JAMES YEO,  
Overseer.

The Chief Inspector, Public Watering Places.

Minute.

*Subject*:—Tarring inside supply tank and troughs, at Ivanhoe.

Department of Mines, Sydney, 25 January, 1887.

P.W.P.,  
87-375.

It is perhaps unnecessary for a travelling mechanic to employ his time in tarring troughing and service tank, when there is a competent caretaker. I understand from Mr. Inspector Boulton the mixture used for the purpose contains tallow, and should not therefore be used inside; probably boiled coal tar is not objectionable.

Mr. Yeo may perhaps be directed to inform the travelling mechanic that this service is not required and to write to Mr. Assistant-Engineer Stillwell for his instructions to that effect.

HARRY GILLIAT,

The Under Secretary for Mines.

Chief Inspector of Public Watering Places.

Submitted for approval.—H.W., 25/1/87. Approved.—F.A., 25/1/87. Telegram sent.—J.W.B. Copy of minute forwarded to Mr. Overseer Yeo, 25 January, 1887. Telegram from the Chief Inspector of Public Watering Places to Mr. Overseer Yeo, Sydney, 25th January, 1887. Inform travelling mechanic this service, that is, tarring troughs and service tank is not required; write also to Stillwell that you have been instructed as above.—HARRY GILLIAT, Chief Inspector of Public Watering Places.

*Subject*:—Tarring inside supply tank and troughs, at Ivanhoe.

Sir

29 January, 1887.

P.W.P.,  
87-536.

I have the honor to acknowledge receipt of your instructions re the above subject, contents noted. I beg to state that I am communicating next mail with Mr. Assistant-Engineer Stillwell, informing him that my instructions are to the effect that this service is not required.

I have, &c.,

JAMES YEO,

Overseer.

The Chief Inspector, Public Watering Places.

Sir,

Stock Office, Ivanhoe, 25 January, 1887.

87-433.

I am instructed by the Chief Inspector of Public Watering Places to inform you that tarring troughs and supply tank is not required at the Ivanhoe Tank.

I have, &c.,

JAMES YEO,

Overseer.

A. W. Stillwell, Esq., Assistant Engineer, Hay.

Memo. from Mr. Inspector James W. Boulton.

In reference to Mr. Overseer Yeo's protest of 25th instant against tarring the inside of the troughing, &c., at Ivanhoe, I have the honor to state that when at Mount Manara Tank on 25th November last, I observed that the Works mechanic had covered the inside of the tank and troughs with a composition of tallow, tar, and pitch, and that the water pumped into them was, after standing a short time, most objectionable and undrinkable,

undrinkable, bearing a greasy and prismatic scum on the top. Macdonald, the drover, who was fined £10 for removing the rails at Boonoona, attributed the fact that his cattle would not drink at Mount Manara to this as much as to the height of the dwarf rail. The water at these tanks is quite fresh, and I think it is only where brackish water is met with that the galvanized iron of the troughs requires any dressing, and then I should omit the tallow, well boiled coal tar and pitch answering all requirements in my opinion. Another matter for your consideration is this, that this duty is clearly laid down as part of the caretakers' duties, and, with deference I submit, hardly the work for a skilled mechanic, who is, I believe, paid £6 per week.

The Chief Inspector of Public Watering Places.

JAMES W. BOULTBEE,  
Inspector, Public Watering Places.

Ivanhoe Tank.

Sir,

Hay, 29 January, 1887.

The Douglas pump has been fixed on the service tank, and the steam pump taken apart, cleaned, and new leathers put in by the travelling mechanic.

P.W.P.,  
87-617.

The Mines overseer would not permit the troughing to be coated with a composition of pitch, tar, and tallow, in accordance with Mr. Wood's instruction. He told the mechanic it was unnecessary, and that he had received instructions from Sydney not to have it done. He has since written me to same effect; his letter is attached.

There was 5 feet of water in the tank on 27th instant, and up to that time no rain had fallen sufficient to cause any flow in drains, so that the subsidence since my last report on 17th December last, when there was 7½ feet, has been at rate of ¾-inch per diem only.

I have, &c.,  
A. W. STILLWELL.

The Commissioner and Engineer for Roads.

Noted. Mr. Wood.—W.C.B., 31/1/87. It appears to me that, as this Department is responsible for repairs and renewals, no objection should be raised to such steps being taken as we consider necessary to protect the works or make them more efficient.—A.P.W., 7/2/87. I think the instructions of this Department should be carried out for the protection of this iron. Mr. Wood gave those orders after consulting on the matter, and the work is absolutely necessary.—W.C.B., 7/2/87. Under Secretary, B.C., for transmission. The Under Secretary for Mines, B.C., 10/2/87. Transmitted.—J.R.

Minute by the Chief Inspector of Public Watering Places.

WITH respect to the Commissioner's Minute, I find, after enquiry from all the overseers, that the use of tallow with the pitch and tar has, apparently, only been found necessary in Mr. Road-Superintendent Stillwell's district.

H.G.

Minute of the Chief Inspector.

Subject:—Tarring inside of troughing, &c.

Department of Mines, Sydney, 12 February, 1887.

ON Mr. Inspector Boulton's return from his last inspection, he reported an objectionable composition of pitch, tar, and tallow was being used for coating a portion of the inside of service tank and troughing at some of the watering places by a man in the service of the Works Department, acting under instructions through the Local Road Superintendent. Repairs of this nature are carried out by our own caretakers, who are paid for the service, and the employment of a skilled mechanic for the purpose appears therefore unnecessary.

P.W.P.,  
87-667.

Objection has been taken to the use of the composition referred to (*vide* Mr. Boulton's memo.), and I need hardly point out that it is apparently even more unsuitable when the water may at any time be required in considerable quantities for domestic purposes, as at the Ivanhoe Tank.

Our own officers are instructed to use boiled coal tar and pitch for coating service tanks and joints of troughing when required. This forms a hard glaze, and has so far been found suitable.

I am in doubt whether Mr. Wood is correct in assuming that the Department of Public Works is responsible for repairs, until they are authorized by the Honorable the Secretary for Mines, and I am equally in doubt whether it is desirable for that Department to take such steps as it may deem necessary to protect or render the works more efficient without reference to the Department responsible for their maintenance and control under the Act.

The effect of a divided control can only tend to confusion and lowering of the standard of efficiency, as well as to create friction between the Departments; and any steps taken, I would respectfully suggest, for the consideration of the Honorable the Secretary for Mines, would preferably be in the direction of relieving the Works Department entirely of all repairs in the future.

The Under Secretary for Mines.

HARRY GILLIAT,  
Chief Inspector of Public Watering Places.

Mr. Inspector Boulton states:—"A composition of tallow, tar, and pitch; and the water was, after standing a short time, most objectionable and undrinkable, bearing a greasy and prismatic scum on top."

Mr. Overseer Yeo states:—"It melts and forms a scum on top of the water, which prevents stock from drinking. Boonoona and Mount Manara troughing had already been done. There have been several complaints about it."

If the use of the composition renders the water unfit for the purpose for which it is conserved it is not clear how the use of it can be said to render the works more efficient. It is very desirable, in the public interest, that when the works have been taken over by this Department they should not be interfered with by the officers of another Department, and it is to be hoped the question of construction, control, &c., will be dealt with at an early date.—H.W., 16/2/87.

Submitted. Approved.—F.A., 21/2/87. Prepare copy for transmission to Works Department.  
—H.G., 23/2/87. Copy prepared and forwarded by letter.—J.W.B., 24/2/87.

Sir,

Public Watering Places, Mines Department, Sydney, 24 February, 1887.

Sir,  
 Referring to your B.C. communication of the 10th instant, relative to the coating of the inside of the service tanks and troughing with a composition at several of the public watering places, and to the minute thereon, I now have the honor to forward for your information a copy of a minute dealing with the matter.

I have, &c.,  
**HARRIE WOOD,**  
 Under Secretary for Mines.

P.W.P.,  
 87-67.  
 Public Works,  
 87-867.  
 Tanks and  
 Pumps,  
 87-89.

The Under Secretary for Public Works.  
 Copy of Minute, P.W.P. 87/667, enclosed.

## XIV.

## Old Gunbar Well.

Telegram from the Inspector of Tanks and Wells to Chief Inspector of Stock.

17 December, 1884.

Tanks & Wells,  
 84-1,637. *Re* Old Gunbar Well, have accepted transfer subject to Minister's approval; require analysis of water; report to follow.

HARRY GILLIAT.

Submitted for approval.—A.B., 17/12/84. The Under Secretary for Mines. Mr. Gilliat.—A.B., B.C., 29/12/84. I have to request that I may be furnished with two 1-gallon Winchester bottles; I wish to submit samples of this water for analysis.—H.G., B.C., 30/12/84. Requisition, 3/1/85. Supplied, 19/1/85.

Report respecting sample of water received from The Honorable the Minister for Mines.—Sample received 21st March, 1885.

Old Gunbar Well, near Carathool.

Tanks & Wells,  
 85-612.

25 March, 1885.

Total solids, grains per gallon	...	...	...	...	...	...	...	982.00
Soluble solids	"	...	...	...	...	...	...	826.20
Insoluble solids	"	...	...	...	...	...	...	68.00
Volatile, at red heat...	...	...	...	...	...	...	...	87.80
								982.00
Chlorine	...	...	...	...	...	...	...	313.25
Saline ammonia, parts per 100,000	...	...	...	...	...	...	...	0.028
Organic ammonia,	"	...	...	...	...	...	...	not determined

This water has been found to contain a very large quantity of organic impurity, derived partly from animal and partly from vegetable origin. This alone is quite sufficient to condemn it for domestic use.

There is also an excessive amount of saline matter, consisting chiefly of common salt, carbonate, and sulphate of lime. The water may be used for cattle if no other is to be obtained in the neighbourhood, but it should never be used for domestic purposes without first being boiled or properly filtered. However, no amount of boiling or filtration will remove the extraordinary quantity of soluble matter present. Distillation would be the only method of properly purifying such a water, and as I am not acquainted with the history of the water and its surroundings, I am unable to indicate the sources of pollution.

CHAS. WATT,

Government Analyst.

The Honorable the Minister for Mines.

Mr. Gilliat.—A.B., B.C., 26/3/85. The report of the Government Analyst upon the water of the Old Gunbar Well cannot be regarded as satisfactory, but I would point out that the organic impurities, especially those derived from animal origin, in water from a well shaft recently sunk 100 feet deep, lead to a suspicion that the water may not have been taken from the source intended. I would recommend that a gallon jar be packed and forwarded to Mr. Keighran with a request that he should draw the water himself and forward for analysis.—H.G., B.C., 7/4/85.

Forward jar and instruct Mr. Keighran.—A.B., 11/4/85. Letter sent, 15/4/85.

Gunbar Well.

Tanks & Wells  
 85-981.

Newspaper extract. Name of paper and date not noted.

I observe that you had the Minister for Mines in Hay lately, and promised to send up apparatus for deep bore water. The Government has lately put down a well at Old Gunbar, on the Hay to Hillston road, about 100 feet deep.

It is *on dit* that there is not one animal in Riverina that would drink one pint of this water unless he was first subjected to starvation by thirst, the water is so salt. Therefore, it is to be hoped that the Members for the District will urge the Minister for Mines to bore deeper in this well, so as to test what sort of water is to be procured at a greater depth, for a poor selector could not do worse than the Government has done in this case up to this.

Mr.

Mr. Gilliat,—A.B., 23/4/85.

Water was sent down from this well and condemned by the Government Analyst, but as there appeared some reason to suspect that the sample procured was not a pure one from the well, a fresh sample has been sent for. In any case, I have no hesitation in saying that in its present state horses will not drink it, and I am doubtful if sheep or cattle will. I have withheld making a recommendation to the Works Department upon the subject until the analysis of the water could accompany the paper.—H.G., B.C., 23/4/85.

Mr. Overseer Keighran was asked to obtain sample of the water on the 15th instant.—E.W., 23/4/85.

Sir,

Hay, 4 May, 1885.

Referring to instructions contained in your 85-612 "Tanks" of the 15th ultimo, I do myself the honor to inform you that I visited Old Gunbar Well and drew a jar of water from the well, which I am forwarding you by rail to-morrow, *per* Messrs. Wright, Heaton, & Co. Tanks&Wells,  
85-1,066

I have, &c.,

JOHN A. KEIGHRAN,  
Inspector of Stock.

The Chief Inspector of Stock.

The Government Analyst might be asked to furnish a report upon the sample of water now submitted by Mr. Overseer Keighran.—A.B., 8/5/85. Under Secretary for Mines. Approved.—H.W., 8/5/85. The Government Analyst.—H.W., 8/5/85., B.C.

Government Laboratory, 12 May, 1885.

MEMO.—The sample of water was found to contain 1,094.4 grains of solid matter per gallon. The water is quite unfit for use. The remarks made in the report, dated 25th March, apply to this sample even more strongly than to the previous one. Tanks&Wells,  
85-1,167.  
85-612.

It is possible that the organic matter may arise at any rate in part from the well not having been thoroughly cleaned out after the workmen left it. Nevertheless, the saline matter alone condemns the water.

CHAS. WATT,

Government Analyst.

The Under Secretary for Mines.

Copy and forward to Mr. Gilliat.—A.B., 14/5/85. Letter and copy to Mr. Gilliat.—18/5/85.

Overseer Keighran's Report on Old Gunbar Well, Carrathool to Hillston, in charge of Jacob Marks, April, 1885. Tanks&Wells,  
85-1,156.

State of shaft.—Very good.

Whim.—Very good.

Rope, buckets, &c.—Good.

Fencing.—No fencing here only that which protects the troughing.

General remarks.—This work is in very good repair throughout, but I am afraid that it will never answer the purpose for which it was intended, on account of the water being too salt for stock purposes, several shafts having been sunk in the vicinity by Armstrong Brothers, and had to be abandoned.

*Watering appliances.*

State of supply tank.—Full of water and in good condition.

Troughing.—In very good condition.

Machinery.—Horse-power; water raised by whim.

State of fencing.—None; only that which protects the troughing.

General remark.—Would not recommend any further outlay of money until such time as the water was proved to be fit for stock.

Work done by caretaker.—Little or no work here for a caretaker to do, only to see that the works are not damaged.

Work laid out for caretaker.—To clean up surroundings.

Repairs and alterations to be given in detail, with estimated cost of each item.—The excavation of a tank near to the township of Gunbar would have answered all purposes much better than this well, as it would have benefitted the public travelling out back, *via* Wheelbah, as well as those travelling to Hillston, besides benefitting the townspeople of Gunbar.

JOHN A. KEIGHRAN,  
Inspector of Stock.

Hay, 12 May, 1885.

A copy of this report, with papers relating to the analysis of the water, might perhaps be forwarded to the Works Department for consideration before allowing the fencing of the special lease to be proceeded with.—A.B., 22/5/85. The Under Secretary for Mines. Approved.—H.W., 30/5/85. Letter and copy of papers to Works, 2/6/85.

Sir,

Department of Mines, Stock Branch, Sydney, 18 May, 1885.

Herewith I have the honor to forward you copy of report by the Government Analyst on the second sample of water from Old Gunbar Well, submitted by Mr. Overseer Keighran. Tanks&Wells,  
85-1,446.

I have, &c.,

ALEX. BRUCE,  
Chief Inspector of Stock.

Mr. Harry Gilliat.

I would submit that these, with the previous papers and my telegram at the time of inspecting this well, may be forwarded for the information of the Commissioner and Engineer for Roads and Bridges, with the view of learning whether measures can be taken to improve the quality by boring.—H. GILLIAT, B.C., 9/6/85.

Submitted.—A.B., 11/6/85. The Under Secretary for Mines. The Under Secretary for Public Works.—H.W., B.C., 15/6/85. Roads.—T.R., B.C., 17th June, 1885. Mr. Hiles,—Can the telegram be traced.—W.C.B., 19/6/85. Telegram herewith, 19/6/85. As Mr. Wood was present when this work was taken, will he report?—will it not be included in his proposed trip?—W.C.B., 19/6/85. Mr. Wood, 19/6/85.

My own opinion was that this water was unsuitable for stock. The Department, in carrying out this work, was misled by the sample furnished by the local officer. I have, on a previous paper, recommended that continuous baling be carried out, and that that failing to give better water, a bore should be put down to bottom of shaft.—A.P.W., 25/6/85.

Telegram to Mr. Stillwell to know what he is doing. Sent.—A.P.W., 30/6/85.

Sir,

Department of Mines, Sydney, 2 June, 1885.

Tanks & Wells,  
85-1,573.

I have the honor to forward you herewith copy of report and papers relating to the analysis of water from the Old Gunbar Well for your consideration, before allowing the fencing of the special lease to be proceeded with.

I have, &c.,

HARRIE WOOD.

The Under Secretary for Public Works.

Roads, B.C., 9th June, 1885. Re-submit with all papers relating to this well.—W.C.B., 10/6/85. Mr. Hiles,—There must be other papers, probably with papers relating to other works on this road; see me with them and book.—W.C.B., 11/6/85. Will Mr. Wood report on this, which was taken over by Mr. Gilliat who tasted the water, and whose inspection was to be considered final on such points.—W.C.B., 13/6/85.

See former  
minute by Mr.  
Wood, 25/6/85,  
ante.

Mr. Wood,—This work was inspected by Mr. Gilliat and myself on the 15th of December last year. The water was tested, and the whole taken over by Mr. Gilliat on that date. I was under the impression that Mr. Gilliat accompanied me on these trips to finally decide for his Department as to whether these works should be taken over or not. It is now rather late in the day to condemn the water. Would it not be advisable for the Mines to have the well baled for (say) eight hours a day; this might lead to an improvement in the water. In the event of this not being the case, a bore might be put down from the bottom of shaft and the country tested at a lower level.—A.P.W., 15/6/85.

Very few of the well waters, though good enough for stock, will stand the test of analysis. The only course is to give up well-sinking completely if the works are to be rejected because water is not chemically pure. Mr. Gilliat passed this water, and took over the well. The character of the water may have since deteriorated, since finis being allowed to remain in well. If it does not improve in working, it may be advisable to bore, which will be done if ordered.—W.C.B., 15/6/85.

Under Secretary for transmission. Submitted.—J.R., 17/6/85. Forward to Mines.—F.A.W., 17/6/85. Under Secretary for Mines, J.R., B.C., 17/6/85. Mr. Gilliat, B.C., 19/6/85. Please attach the papers with my minute recommending this analysis being forwarded to the Works Department.—H. GILLIAT, B.C., 20/6/85.

Sir,

Sydney, 9 July, 1885.

Tanks & Wells,  
85-1,755.

I have the honor to bring under your notice the fact that the Government well at Old Gunbar, on the Hay and Hillston Road, although about 100 feet deep, and elaborately supplied with whim, troughing, &c., is altogether useless by reason of the water being so brackish that no animal can be got to drink of it.

I have therefore the honor to request that you will be good enough to cause the salt water to be puddled back, and a bore to good water be sunk in the shaft, or otherwise take steps to cause this well to be of some use.

I have, &c.,

ROBT. B. WILKINSON.

The Honorable the Minister for Mines.

I think the suggestion of Mr. Wilkinson a very good one, but should like a report without delay from Mr. Bruce.—J. P. ABBOTT, 10/7/85.

Sir,

Department of Mines, Stock Branch, Sydney, 13 July, 1885.

I have the honor to forward you herewith copy of a letter from Mr. R. B. Wilkinson, M.P., re Old Gunbar Well, and request that you will be good enough to furnish a report upon this matter for the information of the Honorable the Minister without delay.

I have, &c.,

ALEX. BRUCE,

Chief Inspector of Stock.

Mr. Harry Gilliat.

See minute paper herewith.—H.G., 16/7/85.

“The Gunbar Well.”

Department of Mines, Cobar, 16 July, 1885.

Tanks & Wells,  
85-1,839.

I HAVE to request that the previous papers connected with this case may be attached, for the information of the Honorable the Secretary for Mines.

It will be seen from my telegram, amongst these, that this well was taken over subject to an analysis of the water.

That, on my recommendation, two analyses were made, both condemning the water.

And, finally, my minute, recommending that the papers should be referred to the Works Department for the purpose of a bore being put in the shaft, as suggested by Mr. Wilkinson, M.L.A.

Mr. Alex. Bruce.

HARRY GILLIAT.

This

This might be forwarded to the Works Department, with a request that the previous papers, which were referred to that Department on the 16th June last, may be returned.—A.B., 22/7/85. The Under Secretary for Mines. The Under Secretary for Public Works.—H.W., B.C., 28/7/85. Roads, J.R., B.C., 3/8/85.

I would point out that fair water was got from this well in the first instance, and sample sent to this office of very good water. Doubts are now raised as to the authenticity of this sample; but in any case I think the well should have a trial, by being baled dry for several days, which has not been done, as surface water was abundant. The well not being baled the water accumulates, gets tainted and spoiled by the timber, and is unfairly condemned, as in the case of the Holy Box Well, the water of which is practically good, the purity necessary to secure chemical approval would be quite impossible to attain. I would refer the Minister to the tests of the Sydney water some years ago, which pronounced it to be unfit for use, though the people have been drinking it ever since.—W.C.B., 8/8/85. Forward to Mines.—F.A.W., B.C., 12/8/85. The Under Secretary for Mines.—J.R., B.C., 13 August, 1885. Mr. Gilliat.—A.B., B.C., 14/8/85. Mr. Keighran should be instructed to have the well baled for three days, and to report the result, and to forward a gallon of the water after baling is finished; a gallon jar might be sent him.—H. GILLIAT, B.C., 11/9/85.

Write Mr. Keighran, and forward jar for sample of water.—A.B., 15/9/85. Mr. Keighran informed.—R.W.G., 18/9/85.

Sir,

Hay, 25 July, 1885.

On 22nd inst., I found all in good (order) at this well and the service tank full, but the Mines Tanks & Wells, 85-2,009. caretaker was absent. The water continues very salt, and is reputed unfit for stock. There is no demand for water now, as there is plenty of surface water obtainable; but the well should be kept baled at the rate of at least 2,000 gallons a day to test whether a better quality of water is obtainable. A constant flow frequently produces this result, and I recommend that the Mines be requested to have this done. Periodical samples of the water could then be obtained for comparison. Sec 85-1,573, note.

The fencing of the special lease here is now in hand.  
The Commissioner for Roads and Bridges.

I have, &c.,  
A. W. STILLWELL.

I recommend this paper be transmitted to the Mines—W.C.B., 28/1/85. Mr. Gilliat.—A.B., B.C., 31/7/85.

Report by Overseer Keighran on Old Gunbar Well.—August, 1885.

9 September, 1885.

Fencing.—Good—that is, the fencing that protects the troughing.  
General remarks.—I consider this work in good order and condition; but as the water in the well is so very salt, am greatly afraid stock won't drink it. Tanks & Wells, 85-3,956.

*Watering Appliances.*

State of supply tank.—Full of water and in good condition.  
Machinery.—Horse-power and whim for lifting water from shaft.  
General remarks.—No stock water at this well, consequently the caretaker has nothing to do.

*Paddocks, &c.*

State of fencing.—At date of my inspection, 12th July, contractors were at work fencing the reserve area.

State of gates.—There was none at that time.

JOHN A. KEIGHRAN.

Mr. Gilliat, B.C., 11/9/85.

Hay, 20 October, 1885.

Gunbar Well—Further as to quality of water.

Sir,

In reply to Mr. Wood's minute attached, the water in this well is generally reported unfit for stock. I have not seen this put to the test, as since I have been in the district there has been surface water obtainable, and consequently no demand for that from the well. My own knowledge is only that it is unfit for horses. Tanks & Wells, 85-3,949.

I have before reported advising constant baling be persisted in for (say) a month, to test whether a better quality of water is obtainable at the present depth—but this has not been done. The well is in charge of Mines Department, and while I have been here (10 months) practically no water has been raised from it. As Mr. Wood says, something must be done to render the well available. I would again suggest that Mines Department be asked to direct their caretaker to bale at rate of (say) not less than 10,000 gallons daily for a month. This should be done under responsible supervision, and samples of the water forwarded weekly to Sydney. This should be started at once.

If better water is then not obtained it will be necessary to try deeper for it. The Government boring party and plant are in the district, about putting a trial bore down on the Hay to Gunbar Road, and they might be directed to bore from the bottom of this well.

The Commissioner for Roads.

I have, &c.,  
A. W. STILLWELL.

This should be forwarded to the Mines, asking them to have this well baled, as suggested by Mr. Stillwell.—A.P.W., 22/10/85. Under Secretary.—W.C.B., B.C., 2/10/85. The Under Secretary for Mines.—J.R., B.C., 24/10/85.

Request Mr. Overseer Keighran to give instructions to the caretaker at the Gunbar Well to bale forty buckets per diem until further orders. Mr. Keighran will please report at his next inspection whether he considers there is any improvement in the quality of the water. Please inform Works.—H.G., 29/10/85. Mr. Keighran and Works informed, 29/10/85.

Sir,

Sir,

Hay, 12 November, 1885.

P.W.P.,  
85-4,137.

Referring to your telegram of the 30th ultimo, I have the honor to inform you that I inspected the Old Gunbar Well on the 6th instant, the service tank being at the time full of water, which tasted very much of salt. I ran off about half the water from the tank, and instructed Caretaker Marks to bale forty buckets per diem until further orders.

I have, &amp;c.,

JOHN A. KEIGHRAN,  
Overseer, Tanks and Wells.

The Chief Inspector of Public Watering Places.

Seen.—H.G., 17/11/85.

Sir,

Cowl Cowl Station, 13 December, 1885.

P.W.P.,  
85-4,669.

I have the honor to report for your information of my having visited and inspected Old Gunbar Well on the 9th instant, and found Caretaker Marks baling. He informed me that he had been drawing forty buckets of water per day from the well for the last month, in accordance with my instructions.

I stayed at the well and saw thirty-five buckets lifted, and from out of the last bucket drawn I took a pannikin and tasted it (a good gulp), and found it to be very salt, with a nasty bitter taste, which did not leave my mouth for hours afterwards. I then tried my horses, and although very thirsty they would not drink. Therefore I am of the opinion that the water in this well is not fit for stock purposes.

I have, &amp;c.,

JOHN A. KEIGHRAN,  
Overseer, Tanks and Wells.

The Chief Inspector of Watering Places.

Chief Inspector of Public Watering Places to Under Secretary for Mines.—A copy of this might perhaps be forwarded for the information of the Commissioner and Engineer for Roads and Bridges.—H.G., 16/12/85. Approved.—H.W., 18/12/85. Copy for Department of Works.—H.G., 21/12/85.

Sir,

Hillston, 12 June, 1886.

P.W.P.,  
86-2,982.

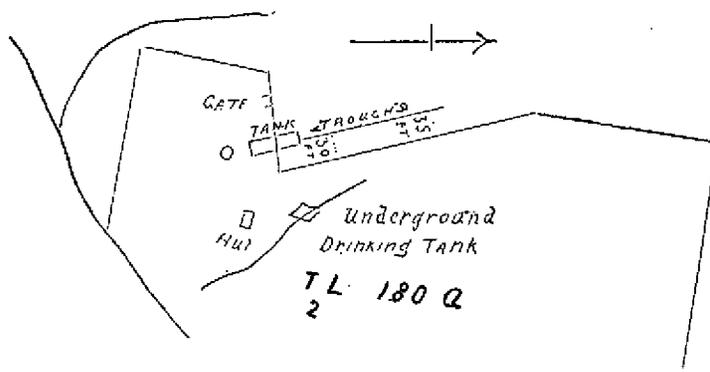
Referring to your telegram instructing me to report upon those cases in which the access for stock to the troughing is inconvenient, I now have the honor to report that at the Old Gunbar Well the troughing is parallel to, and only 30 feet to 35 feet distant from, a portion of the west fence of the T. L. I append a rough diagram overleaf, showing that on the east side of troughs there is little or no room for stock. Thirsty sheep would be very liable to jam and smother in such a narrow place.

I am, &amp;c.,

JAMES W. BOULTBEE,

The Chief Inspector of Public Watering Places.

Acting Inspector, Public Watering Places.



Mr. Boulton.—Will stock drink this water?—H.G., 31/8/86. No; since the well was taken over by this Department there has not been a penny collected for fees. Thirsty sheep have been tried at it, but refused to drink. Mr. Keighran's last report attached.—J.W.B., 31/8/86.

Report by Mr. Overseer John A. Keighran on the Old Gunbar Well, Road from Carathool to Hillston, in charge of Jacob Marks, Caretaker, for 1st August, 1886.

P.W.P.,  
86-4,013.

State of shaft.—In good order; has been lately repaired.

Whim, &amp;c.—In good order, with the exception of tarring, which will be done as soon as the weather permits; both tar and brushes are now on the ground for that purpose.

Rope, buckets, &amp;c.—Wire rope good; buckets in good order.

*Watering Appliances.*

State of supply tank.—In good order, and in about the same state as when taken over from the Works Department.

Troughing.—In good order, with the exception of tarring, which will be done along with whim and tank.

Machinery.—All the appurtenances and appliances for lifting water are in good condition.

*Paddocks and Fencing.*

State of fencing.—In good order.

State of gates.—New, but of a bad description, nor are so many gates and slip-panels required.

Remarks.—The water here being so very bad that stock won't drink it, consequently the caretaker collects no fees.

Caretaker's

*Caretaker's Work.*

Work done by caretaker.—Baling water and cutting burrs.

Work laid out for caretaker.—*To bale water regularly*, and to tar whim, &c., service tank, and troughing, as soon as the weather permits—tar and brush having been provided.

Remarks and recommendations.—As this watering place has proved a failure on account of the water being so bad that stock won't drink it, I would recommend that it be abandoned, and a tank excavated. There is a grand place here for a tank in close proximity to the well. The paddock would then be available for the same purpose as it is now. I don't believe boring will improve the water, because, allowing they bored and struck fresh water, the bad water now in the shaft would require to be puddled back, which would cost more money than the excavating of a tank; besides, in summer time stock cannot get a drink between Dry Lake and Crow's Nest Well, a distance of 40 odd miles.

JOHN A. KEIGHRAN,

Overseer of Public Watering Places.

Hay and Booligal, 19th August, 1886.

The Chief Inspector of Public Watering Places, Mines Department, Sydney.

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Minute.

Failure of Old Gunbar Well as a Watering Place.

In view of the reiterated report of Mr. Overseer Keighran upon the saltiness of the water, and in spite of P.W.P., the continuous baling ordered at this well, and its consequent inutility as a watering place for stock, the 86-4,192. Department of Public Works may, perhaps, be asked to inform this department if it is their intention to bore this well for a supply of better water.

HARRY GILLIAT,

Chief Inspector of Public Watering Places.

The Under Secretary for Mines.

Approved.—H.W., 17/9/86.

Sir,

I have the honor to request that you will be good enough to inform me if it is the intention of P.W.P., your Department to bore the Old Gunbar Well, on the road from Carrathool to Hillston, for a supply of 86-4,642. better water.

I have, &c.,

HARRIE WOOD,

Under Secretary.

The Under Secretary for Public Works.

Roads, J.R., B.C., 25/9/86. Mr. Wood.—J.W.B., 27/9/87. Mines have been previously informed that such was our intention. Work is now in hand.—A.P.W., 27/9/86. Under Secretary.—W.C.B., B.C., 27/9/86. The Under Secretary for Mines.—J.R., B.C., 29/9/86. Note.—Mr. A. P. Wood's minute in Tank Book.—H.G., 12/10/86. Noted, 25/10/86.

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Extract from Mr. Overseer Keighran's Report upon the Old Gunbar Well for January, 1887.

I would recommend that this well be abandoned and a tank excavated in its stead, as I do not P.W.P., believe the boring party will succeed in obtaining fresh water. 87-660.

They are now down 130 feet from bottom of shaft (on rock), and are going to leave it for a time.

J. A. KEIGHRAN.

Is there a good tank site within the area of the T.L. or P.W.P.?—H.G., 16/2/87. Mr. Overseer Keighran.—B.C., 16/2/87. The Chief Inspector. One of the best catches for a tank is within the area of the T.L.; in fact, inside of the paddock enclosure.—JOHN A. KEIGHRAN, Overseer, Hay, 28/2/87. This may perhaps be forwarded for the information of the Commissioner for Roads, with the view, in the first instance, of ascertaining if it is the intention of the Works Department to abandon boring.—H.G., 7/3/87. The Under Secretary. Approved.—H.W., 8/3/87. The Under Secretary for Works, —H.W., B.C., 10/3/87. Roads, B.C., 16/3/87. Mr. Stillwell.—W.C.B., 18/3/87. There is no question at present of abandoning this well. A contract of boring from the bottom is in hand, and pending the result of this no decision could be come to.—A.W.S., 26/3/87. The Under Secretary for Mines.—J.R., B.C., 29/3/87.

Sir,

Hay, 24 May, 1887.

I have the honor to report having visited this well on the 20th instant, and found caretaker P.W.P., Marks in charge; also that the boring party were working in the shaft. They had bored down 133 feet, 87-2,244. and were on rock which was causing slow progress.

I have, &c.,

JOHN A. KEIGHRAN,

Overseer.

The Chief Inspector of Public Watering Places.

Mr. Keighran,—Be good enough to forward as early as you can a sample of the stuff from the bottom of the bore.—H.G., B.C., 3/6/87.

The Chief Inspector of Public Watering Places,—As requested a sample of the stuff will be forwarded to your office as soon as possible, say ten days.—JOHN A. KEIGHRAN, Overseer Tanks and Wells, 12/6/87.

Sir,

P.W.P.,  
87-2,856.

Sir,  
I have the honor to report that there is no possible chance of my being able to send you any stuff (sample) from the bottom of the bore of this well (at all events for some time to come), as the men cannot get to the bottom on account of the drift sand. They have not been working latterly, awaiting the arrival of machinery from Sydney.

Hay, Stock Office, 26 June, 1887.  
I have, &c.,  
JOHN A. KEIGHRAN,  
Overseer, Tanks and Wells.

The Chief Inspector of Public Watering Places.

For Mr. Inspector Boulton's information and report.—H.G., B.C., 23/8/87.

P.W.P.,  
87-4,046.

Sir,  
I have the honor to forward herewith enclosed a communication from Caretaker Marks upon the Old Gunbar Well, from which you will observe that the men have abandoned the work of boring.

Hay, Stock Office, 17 August, 1887.  
I have, &c.,  
JOHN A. KEIGHRAN,  
Overseer, Tanks and Wells.

The Chief Inspector of Public Watering Places.

Mr. Inspector Boulton.—H.G., B.C., 1/9/87.

P.W.P.,  
87-4,047.

Sir,  
I beg to inform you that the boring party that was working at this well when you were last here on the 2nd instant only remained here one day, putting smaller pipes inside of the former ones that they had previously put down. They went to Hay, and returned on the 9th. The men told me they were sent back by the contractor, Stanley, to draw the pipes they last put in, which they did, and left them here, and told me they were the property of the Government; and they gave me to understand that the contractor intended to abandon the work altogether. I thought I had better let you know about the matter at once.

Old Gunbar Well, Hay, 15 August, 1887.  
I have, &c.,  
JACOB MARKS.

John A. Keighran, Esq., Overseer of Public Watering Places.

Report by Overseer John A. Keighran on the Old Gunbar Well, road from Hay and Carrathool to Hillston, in charge of Jacob Marks, caretaker, for August, 1887.

P.W.P.,  
87-4,911.

State of Shaft.—Apparently sound.  
Whim &c.—Good.  
Rope, buckets, &c.—Good.

*Watering Appliances.*

State of supply tank.—Good but empty, and has been for months.  
Troughing.—Good.

*Paddocks and Fencing.*

State of fencing.—Good.  
State of Gates.—Good.

Remarks.—The shaft of this well has been in the hands of the Works Department for over 12 months. Mr. Assistant-Engineer Stillwell has had a party of men boring down to try and obtain a supply of fresh water, but after boring down some 133 feet the men cleared out and abandoned it; I don't know what the Works intend doing next, it has been a great mistake all through.

Rates collected since last report.—There has been no fees collected on account of the water being that bad stock would not drink it.

Weekly depth of water since last report.—Cannot say.

*Caretaker's Work.*

Work done by caretaker.—Cutting burrs from off T.L. and killing rabbits, no other employment for a man.

Work laid out for caretaker.—There is no work to lay out for a caretaker to do, nor has there been except to protect Government property. As a watering place it has been a complete failure.

Remarks and recommendations.—I would recommend that the well be abandoned and a tank excavated in its stead; there is a grand catch for a tank close by in the paddock. It is very desirable that this should become a public watering place on account of it being nearly central between Crow's Nest and Dry Lake Wells, 20 miles from the former and 18 miles from the latter.

JOHN A. KEIGHRAN,  
Overseer of Public Watering Places.

Hillston, 21st September, 1887.  
The Chief Inspector of Public Watering Places, Mines Department, Sydney.

Extract from Stock Branch, 87-10,904.

Hay, Stock Office, 22 October, 1887.

"Diseases in Sheep Act Amendment Act," "Pastures and Stock Protection Act."

P.W.P.,  
87-6,403.

A meeting of the Hay Board of Directors, under the abovenamed Acts, was held this day, 22nd October, 1887, at Messrs. Wilkinson and Lavender's offices, Hay.

Mr. Keighran said there was a well at Old Gunbar, on the road from Carrathool to Hillston, and a man in charge of it for over three years, and no stock had been watered there during that time. The man got 8s. per day, and was still doing nothing but looking after the works.

Mr. Grant.—When things like this were allowed to go on, it was not likely to inspire confidence in the Department.

Mr.

Mr. Keighran said there was a tank wanted badly at Old Gunbar, as there was no public watering place where stock could get water between Dry Lake and Crow's Nest Wells, a distance of about 30 miles. Mr. Grant said they could put down a tank to supply water all the year round at one-half the cost of wells. Half the wells were of no use for watering stock, yet men were being paid to look after them. Mr. Grant asked Mr. Bruce if he was aware that there was a party boring for artesian water a few miles out. Twelve months ago they had got down 400 feet, and they were at that depth still. They had been over two and a half years boring, and the men were there still; but he did not know what they were doing. The bore was within 6 miles of a navigable river, and artesian water would be of no use if it was got. That is another waste of public money.

Mr. McFarland,—This bore would be of some use if it were at Ivanhoe or some other place. The Chief Inspector Public Watering Places.—A.B., B.C., 26/11/87.

Minute by Chief Inspector of Public Watering Places.  
Old Gunbar Well.

9th December, 1887.

With reference to the annexed minutes of a meeting of the Hay Stock Board:—1st. With respect to Mr. Keighran's, Overseer of Public Watering Places, remarks upon the extravagance of keeping a caretaker in charge of the Old Gunbar Well, it will be seen from the papers that in my telegram of 17th December, 1884, I informed the Department I had accepted transfer, subject to Minister's approval; but that an analysis of the water would be required. This analysis was furnished on 25th March, 1885, and condemned the water for domestic use; but it seemed desirable for certain reasons that a fresh analysis should be made. This second analysis, received 12th May, 1885, still more strongly condemned the water. On 17th June, 1885, I recommended that the papers should be sent to the Works Department to ascertain if they would take steps to try and improve the quality of the water by boring. Baling was continued daily at the desire of the Works Department to see if any improvement would result. On 17th September, 1886, I wrote, calling attention to Mr. Keighran's continued reports that there was no improvement in the water in spite of the continued baling, and urging that the Works be asked for the second time if it was their intention to bore this well. On the 27th September, 1886, this Department was informed that the boring was in hand. On 17th August, 1887, we are informed by Overseer Keighran that the bore was abandoned.

A caretaker was kept on to endeavour to improve the water by constant baling, as requested by the Works Department, and to protect the head-works and Government property.

It will be seen that in June, 1885, and September, 1886, after analysis of the water, the Works Department were asked to bore, for the purpose of improving the water, and that to this date we have no intimation from them that they have abandoned it.

This case may be, I think, regarded as an illustration of the bad effect of a dual control, and also supports my view of the defective method adopted in the construction of wells—viz., of erecting expensive head-works—whim, service tank, and troughing—before obtaining, by trial-shaft or boring, a satisfactory test of the quality and supply of the water. Before recommending the abandonment of the well, I have waited an intimation from the Works Department that their boring operation had failed. Mr. Inspector Boulton was, however, directed to report upon it on receipt of Overseer Keighran's notice of 17th August, 1887. This he has been unable, so far, to do on account of the pressing nature of other duties.

2nd. With reference to the boring operations on the road from Hay to Gunbar, on 17th February, 1884, I reported that a well half-way—i.e., about 25 miles—would meet all requirements. On 19th July, 1884, I again reported to the same effect.

Boring was subsequently commenced by the Drills Branch. A minute of mine—9th February, 1887—points out that, owing to the position selected for the bore being only 13 miles, instead of 25, from Hay, a second source of water supply will be needed to bridge the gap of 37 miles to Gunbar, and I recommended a tank, which paper was forwarded to the Department of Works. As soon as a report is received from Mr. Boulton re the Old Gunbar Well, its abandonment will most probably become necessary, and it may be found advisable to remove the whim to the bore put down by the Drills Branch, as a tank site is available on the present public watering place at Old Gunbar, and any further boring required for Public Watering Places should, I think, be done by contract, if reasonable tenders can be obtained.

HARRY GILLIAT,

The Under Secretary for Mines.

Chief Inspector, Public Watering Places.

Submitted.—H.W., 20/12/87. Seen. These papers should be submitted to the Commission on Tanks, Dams, and Wells, when they commence the inquiry.—F.A., 23/12/87.

## XV.

### Cleaning out Silt Tank at Merri Merriwa.

Report by Overseer James Yeo on the Merri Merriwa Tank, road from Hillston to Cobar, in charge of William Mortimer, caretaker, for 16th February, 1887.

P.W.P.,  
87-851.

State of drains.—Slightly filled with silt in places.

Silt tank.—Full of water.

Inlet or flume.—In good repair.

Main tank.—Full of water.

Embankments.—Slightly scoured from late heavy rains. Caretaker is proceeding with hollowing the top, and is making a very good job of it.

Watering

*Watering Appliances.*

State of supply tank.—In very good order.  
 Troughing.—In good order.  
 Machinery.—In good working order, and is kept nice and clean.

*Paddocks and Fencing.*

State of fencing.—In good order.  
 State of gates.—In good repair.  
 Rates collected since last report.—Books examined and found correct to date.  
 Weekly depth of water since last report.—Full of water.

*Caretaker's Work.*

Work done by caretaker.—Hollowing and repairing embankments, cleaning, screwing bolts, and painting service tank, cleaning engine and troughing, cleaning silt tank and drain, and general duties.  
 Work laid out for caretaker.—Complete hollowing embankments, keep machinery clean, clean drains, cut scrub in spare time, and general duties.

JAMES YEO,  
 Overseer of Public Watering Places.

Ivanhoe, 21 February, 1887.

The Chief Inspector of Public Watering Places, Mines Department, Sydney.

Report by Overseer James Yeo on the Merri Merriwa Tank, road from Hillston to Cobar, in charge of William Mortimer, for 18th April, 1887.

P.W.P.,  
 87-1,837.

State of drains.—Filled with sand in places.  
 Silt tank.—A great quantity of sand has washed in the silt tank during the late heavy rains.  
 Inlet or flume.—Under water.  
 Main tank.—Full of water over top of excavation.  
 Embankments.—Scoured in places.

*Watering Appliances.*

State of supply tank.—In good order, but water has been standing about under the tank around the concrete piers. I have instructed the caretaker to run off a portion of the water.  
 Troughing.—In good order.  
 Machinery.—Clean and in good order.

*Paddocks and Fencing.*

State of fencing.—In good repair, with exception of a portion round silt tank which was washed out of ground, during late heavy rain. A portion of fence round T. L. was washed away, but has been repaired again by caretaker.

Remarks.—The caretaker reports that enormous quantities of sand is continually washing off the ranges, and completely fills the drains and silt tank. I have instructed him to put in a few breaks in the drains which will block the sand from going into the silt tank, but will not prevent the water going its usual course.

Rates collected since last report.—Books examined and found correct to date.  
 Weekly depth of water since last report.—Full over top of excavation.

*Caretaker's Work.*

Work done by caretaker.—Repairing and hollowing embankments, cleaning drains, repairing fence, and general duties.

Work laid out for caretaker.—Continue cleaning drains, complete hollowing and repairing embankments, put remainder of fence in order, let part of water out of service tank, clean silt tank when sufficiently dry (at present full of water which is backed out in the drains) and general duties.

JAMES YEO,  
 Overseer of Public Watering Places.

Ivanhoe, 19 April, 1887.

The Chief Inspector of Public Watering Places, Mines Department, Sydney.

P.W.P.,  
 87-4,648.

Extract from report H by Caretaker William Mortimer, for August, 1887, on Merri Merriwa Tank.

Mr. Adam, Road Superintendent, has got a contract for cleaning out silt tank when it is dry enough.

WILLIAM MORTIMER,

4th September, 1887.

Caretaker, Merri Merriwa Tank.

The respective responsibilities of the Department of Public Works and of the Mines, with regard to the maintenance of public watering places, will perhaps be definitely settled shortly by the Cabinet, otherwise, it appears undesirable that the former Department should continue to undertake the charge of repairs as in this instance. I should perhaps point out that the cleaning of silt tanks is considered by this Department a portion of the caretaker's duty, and that having it done by contract appears an unnecessary expenditure.—H.G., 14/9/87.

The Under Secretary. Inform.—G.E.H., (*pro* U.S.) 15/9/87. Letter to Works, 5/10/87.

P.W.P.,  
 87-5,361.

Sir,

Department of Mines, Sydney, 5 October, 1887.

I have the honor to inform you that the caretaker at the Merri Merriwa Tank reports that Mr. Road-Superintendent Adams "has got a contract for cleaning out silt tank when it is dry enough," and I would point out that this work is considered a portion of the caretaker's duties, and to do it by contract would seem to be an unnecessary expenditure.

I have, &c.,

HARRIE WOOD,

Under Secretary.

Roads

The Under Secretary for Public Works.

Roads.—J.R., B.C., 7/10/87. Mr. Wood.—W.C.B., 10/10/87.

There is no doubt that the caretaker should keep the silt tank clean, but when this duty is neglected, and silt tank is allowed to fill with deposit, then, in the general interest, it is time for steps to be taken to save the main tank. In this case, seeing the work was necessary, this Department took action.—A.P.W., 18/10/87.

Under Secretary for transmission to Mines.—W.C.B. 10/10/87. Under Secretary, B.C. Forward to Mines Department. The Under Secretary for Mines.—J.R., B.C., 11/10/87. Ascertain from Mr. Yeo if up to the time he left the district any opportunity to clean out the silt tank was neglected.—H.G., 2/11/87.

Sir, Department of Mines, Public Watering Places, Sydney, 4 November, 1887.

I have to request that you will be good enough to inform me whether, up to the time you left the Ivanhoe District, any opportunity to clean out the silt tank at Merri Merriwa Tank was neglected.

P.W.P.,  
87-5,361.

I have, &c.,

HARRY GILLIAT,

Chief Inspector, Public Watering Places.

Mr. J. Yeo, Inspector of Stock, Moss Vale.

Sir, Stock Office, Moss Vale, 5 November, 1887.

Referring to your letter of the 4th instant, *re* cleaning silt tank at the Merri Merriwa Tank, I beg to state that no opportunity was missed to clean out silt tank previous to my leaving the Ivanhoe District.

P.W.P.,  
87-5,881.

I might also mention that this is the most difficult silt tank in the district to keep clean, owing to the great quantity of silt coming off the ranges, but the caretaker always did his utmost to keep it clean.

I have, &c.,

JAMES YEO,

Inspector of Stock.

Harry Gilliat, Chief Inspector of Public Watering Places.

Minute by Harry Gilliat, Chief Inspector of Public Watering Places, to The Under Secretary for Mines.

The attention of the Hon. the Secretary for Mines is invited to the Minute of Mr. A. P. Wood, on 87-5,361, and to Mr. Yeo's reply.

P.W.P.,  
87-6,242.

Mr. Wood makes an assertion without advancing a shadow of evidence, that the caretaker has neglected to clean the silt tank; this is directly denied by the late overseer, and in the absence of any evidence advanced by Mr. Wood, I am disposed to rely upon my own officer.

It is, of course, very probable owing to the wet season, that the caretaker has been obliged to wait until the tank is dry enough to clean it, but it will be observed on 87-4,648 that the contractor engaged by the Works Department is compelled to do the same. But the main point which does not appear to occur to the officers of the Works Department, is that any proven neglect on the part of the caretaker can hardly be regarded as a justification for expending public money on a contract to do work that should properly be performed by a public servant, and that a due regard for the public service would have led them to show to this Department that the caretaker's duties were neglected.

Since writing the above, my attention has been called to the minute of Mr. Bennett, 86-3,060.

In justice to the caretaker, I beg to submit it with the other papers.

HARRY GILLIAT,

18 November, 1887.

Submitted.—H.W., 22/11/87. Approved.—F.A., 22/11/87.

Extract from P.W.P., 87-5,780, report A1, by Mr. Overseer Proctor, for September, 1887, on the Merri Merriwa Tank.

Silt Tank.—In good order, newly cleaned out by contract, by order of Mr. Road-Superintendent Adams. E. W. PROCTOR.

P.W.P.,  
87-6,609.

Ivanhoe, 21 October, 1887.

Merri Merriwa Tank.

Extract from Mr. Alexander Adams' (Road Superintendent) Report, dated 9/8/86.

\* \* \* \* \*

Embankments also are in very good order; the caretaker at this tank keeps his embankments in better order than any other.

P.W.P.,  
86-3,960.

I think this should go on to Mines. We report bad men; a good man should have the benefit of the favourable report, as far as it may weigh with the authorities at the Mines.—W.C.B., 14/8/86. Under Secretary, for transmission to Mines. The Under Secretary for Mines.—J.R., B.C., 17/8/86.

Dept. of  
Public Works,  
86-7,457.

Extract from Mr. Inspector Low's Report on Mount Manara Tank.

\* \* \* \* \*

24 November, 1887.

87-6,586.

Silt tank, one on north side of main tank, dry and silted up to within two feet of surface. Caretaker Murray informs me, Mr. Stillwell, in August, told him not to interfere with silt tank, as he (Mr. Stillwell) would get it cleaned out.

\* \* Original with  
fencing papers.

J. LOW.

P.W.P.,  
30/12/87,  
87-7,124.

My minute upon the Merri Merriwa case applies to this. The cleaning of the silt tank is a portion of the caretaker's or tenant's duty, and it appears an unnecessary expenditure of money to have it done either by contract or by the Roads Department.—H.G., 30/12/87. The Under Secretary.

The Under Secretary directed me verbally to place this with the Merri Merriwa case.—J.W.B., 30/12/87.

## XVI.

## Ivanhoe Tank.

Tanks & Wells,  
80-50. Sir, I have the honor to inform you that the following tenders have been received for the repairs at the Waiko Well, Ivanhoe:—

Ivanhoe, 27 April, 1880.

B. Ford ... ..	£410
W. R. Parker ... ..	450
R. G. Casey ... ..	900

The difficulty of estimating the amount of damage at the bottom of the shaft, without a large preliminary expenditure, accounts for the high prices, and I have therefore the honor to recommend that the work be abandoned, and that the timber of the whim and shaft be sold.

I am in correspondence with Mr. George Williamson, of Ivanhoe, upon whose land the only available site for a tank in the neighbourhood is found, which I shall have the honor to submit to you, if it terminates in a reasonable proposal, with a recommendation for the construction of a tank at this place.

I have, &c.,

HARRY GILLIAT,

The Chief Inspector of Stock.

Inspector, Tanks and Wells.

Tanks & Wells,  
82-122. Sir, I have the honor to report that since the 23rd February the tanks and wells upon the road from Hay to Booligal, and from Booligal to Wilcannia, have been inspected, specifications prepared, and tenders for repairs invited and accepted.

Sydney, 25 June, 1880.

The contractors have completed their work at the Mossiel and Holy Box Wells, and are rapidly proceeding with it at the Jumping Sand-hill Well, the 12-mile, 35-mile, and 48-mile Tanks.

Boonoona Tank flooded.—At the Boonoona Tank the flood-water from the last rains will prevent the contractor from completing his work for some months.

Abandonment of wells, Waiko and Mount Manara.—After careful consideration I have thought it advisable to recommend the Department to abandon the Waiko and Mount Manara Wells, and to dispose of the material.

Reasons for this at Waiko.—My reasons for this, with regard to the Waiko Well, are that the shaft is in a dangerous condition, and attempted repairs will be attended with risk; that the extent of the injury at the bottom of the shaft, occasioned by the giving way of the slabbing and silting in of the drift, may be, and probably is, of such a character as to make it questionable whether the damage could be repaired to the satisfaction of the inspecting officer; and, finally, that the amount required by that one of the contractors who had the requisite plant to undertake the work with a prospect of success, is more than sufficient to sink and complete a new shaft and whim of the best description.

Reasons for abandoning Mount Manara.—The shaft of the Mount Manara Well is one of the oldest on the line. The supply from it is too limited to be depended upon. A few years since an officer of the Works Department expended a considerable sum of money in deepening it, in the hope of securing a better supply, but without success, and the shaft is now 210 ft. deep, and bottomed on a hard clay slate. I do not consider that further expenditure on a work of this class would be desirable, more especially since the immediate neighbourhood has numerous good situations for tanks.

Tanks preferred.—The large proportion of wells sunk in this district are salt; I am, therefore, strongly in favour of the construction of tanks wherever practicable, both as affording fresh water to travelling stock, and also, when properly made, being practically permanent.

Tank at Ivanhoe.—At Ivanhoe, the site of the Waiko well, the only good drainage area suitable for a tank is upon an 80-acre selection of Mr. George Williamson, postmaster and storekeeper. He is willing to alienate this to the Government with the improvements, consisting of fencing and several small tanks, in consideration of receiving 640 acres of vacant Crown Lands adjoining his selection. It is very desirable, in my opinion, that the Government should secure this, either by exchange or purchase, no other suitable situation that has not already been secured by the lessee of the run occurring between this and the Boonoona Tank, 22 miles distant.

Reserve at the Boonoona Tank.—At the Boonoona Tank a reserve was originally gazetted of 4 square miles. This was subsequently cancelled, and the Reserve No. 423, 2nd October, 1879, 450 acres, proclaimed. The lessee has been allowed to purchase, immediately adjoining the Government tank, 200 acres, including within it a considerable portion of the drains which supply the work at the high level. The swamp is sufficiently large to allow the owners of the run 200 acres without interference with the Government work, and the gentleman in charge, R. G. Casey, Esq., Kilfera, is willing that a resurvey should be made, and I would strongly recommend that it should be done as early as possible.

Reserve beyond Hardy's.—At a point near the road  $12\frac{1}{2}$  miles northerly from the Boonoona Tank, the lessees, Messrs. J. McDonald & Co., Kilfera, have secured a cane grass swamp; it is the only one suitable in point of distance from the Boonoona and Mount Manara works; the lessees are willing to exchange it for an equal area at Hardy's public house, 8 miles from the Boonoona Tank. It is desirable that the swamp should be secured and proclaimed as a water reserve with a view to future requirements.

Between Ivanhoe and the Boonoona Tank the road passes through thick scrub for a distance of 22 miles; it is a long stage in the hot weather for travelling stock without water, and is especially dreaded by drovers. By clearing the road a chain wide, stock would be enabled to travel by night and avoid any serious risk of loss.

These are several portions of the 72-mile track that would be benefitted by clearing, and would form a great inducement to drovers to follow this route. As the scrub is light, with but little timber, the cost would be small—probably from £15 to £20 sterling per mile. This, I consider a most important step in the interests of travelling stock. Would urge its early consideration.

Errors

Errors in construction of tanks.—I had occasion in my former report to point out some of the errors in construction that were apparent to me in the One-tree and Quondong Tank, and my objections have been confirmed by the opinions of the drovers and lessees of runs. They are extremely wasteful of water, difficult of access, and largely increase the area of evaporation as well as the cost of construction. This plan, I regret to say, has been followed in the four new tanks just completed on the Paroo River. I am of opinion that the watering tank will eventually have to be abandoned, and suitable troughing and pump substituted.

Tenders to be invited for remaining works.—I take leave to suggest that tenders should be called at an early date for the lease of the tanks on the road between Hay and Deniliquin, those on the road between Bourke and Cobar, and those between Cobar and Nyngan; and that as soon as the Department is notified of the completion of the works upon the Paroo that also should be offered for lease, it being undesirable that these works should be left in the charge of irresponsible caretakers, unless where tenants cannot be obtained.

Policy for the future extension of these works.—I have also the honor to call your attention to the rapidly increasing demand from the dry parts of the Colony for the adoption of measures for the conservation of water, and would beg to submit that it has now become necessary that for the future these works should be constructed as parts of a carefully considered and arranged plan, by means of which the passage of stock and traffic may be facilitated through the dry districts to the railways of this Colony, and that no work should be undertaken without careful consideration of its value in relation to this plan.

Probable lines of roads requiring to be dealt with.—It may be briefly stated that a scheme of this kind would probably include works on the road from Mount Gipps to Wilcannia; from Mount Poole, on the north-west frontier, to some point on the Paroo River; from Hungerford, southward. From Wilcannia it will probably be found desirable to proclaim a stock route direct to Cobar, thus opening a line, *via* Cobar to Orange, in one direction, and Nyngan in another, both on the road; and that from Louth to Cobar, works will probably be required.

A detailed examination of the Northern Districts would be required before submitting the general outline of a plan for consideration.

I would also take leave to suggest that I should be furnished with a circular letter to the Sheep Inspectors of the Colony, desiring them to afford me all information concerning the various reserves in their districts; and it would be advisable, also, that I should have a letter authorizing my taking delivery from the officers of the Works Department at the completed works upon the different roads.

I have, &c.,

HARRY GILLIAT,  
Inspector, Tanks and Wells.

The Chief Inspector of Stock.

#### Memo. to accompany Report.

THE accompanying Schedule shows that at several points distances exceeding 25 miles are waterless, and I have already explained that the saline character of the water at the Mossgiel and Holy Box Wells would make it necessary for them to be ultimately superseded by tanks. Tanks & Wells,  
82-121.

In the meantime I would suggest taking into consideration the construction of tanks at the following points along the road:—

- (1.) At the Tom's Lake Mail Station, about 13 miles from the Reserve, at the Adelaide Camp, and 9 miles from the Jumping Sand Hill Well.
- (2.) At the Polygonum Hut, half way between the Jumping Sand Hill Well and the township of Mossgiel.
- (3.) At a point about  $12\frac{1}{2}$  miles southerly from Mount Manara.
- (4.) At Mount Manara.
- (5.) At the 26-mile peg,  $13\frac{1}{2}$  miles from the 12-mile tank.
- (6.) That a trial shaft should be sunk to test the character of the water at a point between Ivanhoe and the Boonoona Tank, about 11 miles from each.

SCHEDULE showing the distances between existing works on the road from Hay to Wilcannia, omitting the Wanko and Mount Manara Wells recommended to be abandoned:—

Hay to—		Miles.
One Tree	.. .. . Tank	25
Quondong	.. .. . "	12
Booligal, Lachlan Crossing	.. .. . "	12
Reserve to Lachlan...	.. .. . "	10
Jumping Sand Hill...	.. .. . Well	22
Mossgiel	.. .. . "	25
Holy Box	.. .. . "	13
Boonoona	.. .. . Tank	38
12-mile	.. .. . "	36
35-mile	.. .. . "	23
48-mile	.. .. . "	13
Wilcannia, Darling River	.. .. . "	24

HARRY GILLIAT,  
Inspector, Tanks and Wells.

7/7/80.

PRESENT

## PRESENT AND ADDITIONAL WORKS.

## Schedule I.

In order to show at a glance how far the road from Hay to Wilcannia is now provided with water, and what works are still required, Schedule I, showing the former, and Schedule II, showing the latter, have been prepared.

Place.	Well or Tank.	Dimensions.	Depth of Water.	Distance from other Works.	Distance from Hay.
One Tree ... ..	Tank	17,000 yards..	16 feet..	12 miles..	25 miles
Quondong ... ..	"	16,000 " ..	16 " ..	12 " ..	37 "
Booligal Crossing, Lachlan River Reserve, Adelaide Camp ... ..	.....	.....	.....	13 " ..	50 "
.....	To river...	.....	.....	10 " ..	60 "
Jumping Sand Hill ... ..	Well	{ 130 feet } 3 × 6 " }	32 feet..	23 " ..	83 "
Mossgiel ... ..	"	{ 130 " } 3 × 6 " }	30 " ..	28 " ..	110 "
Holy Box ... ..	"	{ 130 " } 3 × 6 " }	30 " ..	13 " ..	123 "
Waiko (?) ... ..	"	.....	.....	16 " ..	139 "
Boonoona ... ..	Tank	15,000 yards..	14 feet..	22 " ..	161 "
Mount Manara (?) ... ..	Well	{ 210 feet } 3 × 6 " }	.....	24 " ..	185 "
12-mile ... ..	Tank	16,000 yards..	15 feet..	12½ " ..	197½ "
35-mile ... ..	"	16,000 " ..	8 " ..	23 " ..	220½ "
48-mile ... ..	"	16,000 " ..	15 " ..	13 " ..	233½ "
Tallywalka Creek ... ..	.....	.....	.....	15 " ..	248½ "
Wilcannia, Darling River ... ..	.....	.....	.....	9 " ..	257½ "

Memo.—Not having received the plans and measurements relating to these works, I am able to give only approximate particulars. I may add that the falling in of the banks at some of the tanks has materially affected the depth originally excavated.—H.G., 9/7/80.

## Schedule II.

## Watering Places as proposed.

Place.	Well or Tank.	Dimensions.	Depth of Water.	Distance from Works.	Distance from Hay.
One-tree ... ..	Tank	17,000 yards..	16 feet..	12 miles..	25 miles.
Quondong ... ..	"	16,000 " ..	16 " ..	12 " ..	37 "
Booligal Crossing, Lachlan River Reserve, Adelaide Camp ... ..	.....	.....	.....	13 " ..	50 "
.....	.....	.....	.....	10 " ..	60 "
New. Tom's Lake ... ..	Tank	18,000 yards..	18 feet..	13 " ..	73 "
Jumping Sand Hill ... ..	Well	{ 130 feet } 3 × 6 " }	32 " ..	10 " ..	83 "
New. Polygonum Hut ... ..	Tank	18,000 " ..	18 " ..	11 " ..	94 "
Mossgiel ... ..	Well	{ 130 " } 3 × 6 " }	30 " ..	16 " ..	110 "
Holy Box ... ..	"	{ 130 " } 3 × 6 " }	30 " ..	13 " ..	123 "
Waiko (?) ... ..	"	.....	.....	16 " ..	139 "
New. 11-mile, near Ivanhoe... ..	"	.....	.....	11 " ..	150 "
Boonoona ... ..	Tank	15,000 yards..	14 feet..	11 " ..	161 "
New. 12½-mile, Boonoona ... ..	"	18,000 " ..	18 " ..	12½ " ..	173 "
Mount Manara (?) ... ..	Well	.....	12 " ..	12 " ..	185 "
12-mile ... ..	Tank	16,000 yards..	15 " ..	12½ " ..	197 "
New. 26-mile Peg ... ..	"	18,000 " ..	18 " ..	14 " ..	211 "
35-mile ... ..	"	16,000 " ..	8 " ..	9 " ..	220 "
48-mile ... ..	"	16,000 " ..	15 " ..	13 " ..	233 "
Tallywalka Creek ... ..	.....	.....	.....	15 " ..	248 "
Wilcannia, Darling ... ..	.....	.....	.....	9 " ..	257 "

(?) Works recommended to be abandoned.—H.G., 9/7/80. The most urgently needed works are the Waiko, the 11-mile, near Ivanhoe, Mount Manara, 26-mile Peg, 12½ miles beyond Boonoona, in the order here given.—H.G., 10/7/80.

Statement.

Mr. GILLIAT; when engaged, what he has done, what repairs, to what tanks, what lines now require inspection, what have been leased, briefly what terms of lease, what tanks in charge of caretakers, and who they are; map showing additional tanks.

1st. Mr. Gilliat, when appointed—6th October, 1879.

2nd. What he has done:—Inspected the tanks and wells on the roads between Hay and Wilcannia, and between Balranald and Ivanhoe, fourteen in number; examined the country carefully with a view to recommending water reserves, and to the selection of situations for additional works when required. Submitted to the Departments two reports upon the matter.

From the 23rd of February, 1880, engaged in calling for tenders for repairs to the works on the abovenamed lines, preparing estimates, tenders, and specifications; further inspection of works, and closing arrangements with successful tenderers.

Visit of inspection with the Chief Inspector of Stock.

My reports and letters deal with the above matters in full.

Repairs have been completed but not yet passed at the Jumping Sand Hill, Mossgiel, and Holy Box Wells, and are in progress and well towards completion at the 12-mile, 35-mile, and 48-mile tanks.

At the Boonoon Tank the contractor has been unable to commence work owing to the flood-water in the surrounding swamp.

The repairs to the works on the Balranald and Ivanhoe road require to be put at once into the hands of the contractor. Works on the road from Hay to Deniliquin inspected and taken delivery of.

The road from Jerilderie to Tocumwal to be reported upon; the works between Hay and Wilcannia to be inspected, and contractors' work examined and passed; the new works on the Paroo River to be inspected and taken delivery of; the road from Mount Poole to Wilcannia to be reported upon; the road from the Paroo to the Darling to be reported upon; the works upon the roads from Bourke to Cobar, from Cobar to Nyngan, to be inspected and taken delivery of; the works on the road from Bourke to Fringonia and Bourke to Ford's Bridge to be inspected and taken delivery of. If recommendations with regard to the roads from Wilcannia to Cobar, and Louth to Cobar, be approved, these roads will require reporting upon with regard to reserves and sites for water supply.

I am informed that the works on the road from Hay to Wilcannia have been leased to Messrs. Cobb & Co. What terms of lease? £350 sterling per annum. No papers embodying conditions of lease have been referred to me.

Tanks in charge of caretakers:—The One-tree Tank, Wm. Small; the Quondong Tank, H. Richmond; the 12-mile Tank, Charles Millar; the 35-mile Tank, Ed. Ford; the 48-mile Tank, Hn. Hiskins; the Til Til and Yool Plain Tank, M. Guerin; the Box Creek Tank, J. Thompson.

My report of the 2nd July, 1880, deals fully with the more important of these subjects.

HARRY GILLIAT,

Inspector, Tanks and Wells.

Sydney, 8 July, 1880.

To amount voted for 1880	£	s.	d.
...	2,500	0	0
By payments, principally salaries and Inspectors' travelling expenses	£	s.	d.
...	625	16	9
Probable expenses for ensuing six months on work already reported on—			
Due contractors	846	10	0
Overseer's salary	156	0	0
Present caretaker's, for two months	82	16	0
1 caretaker, four months, with horse, at 48s. per week	44	16	0
Inspector's salary	200	0	0
Travelling allowance...	227	0	0
	<hr/>		
	2,182	18	9
	<hr/>		
	£317	1	3

Sir,

Sydney, 2 July, 1880.

With reference to my future movements, I have to suggest that after leaving Sydney I should, on reaching the Murrumbidgee, deal with Mr. Barbour's (M.L.A.) paper 80-25. Then visit and take delivery of the tanks between Hay and Deniliquin. Going on to the Lachlan, put men to work on the Balranald and Ivanhoe tanks; inspect and pass the works repaired between Booligal and Wilcannia. Crossing the Darling, report on paper 80-83, road from Mount Poole to Wilcannia; paper 80-37, road from Warramurtie to Tilpah. Take delivery of the tanks on the Paroo. Recrossing the Darling, take delivery and report on the Bourke, Cobar, and Nyngan works.

Should these suggestions be approved of, I think it desirable that I should start at as early a date as may be convenient to the Department.

I have, &c.,

HARRY GILLIAT,

Inspector, Tanks and Wells.

The Chief Inspector of Stock.

Road Superintendent Cambridge's Report as to abandoning or repairing Waiko and Mount Manara Wells.

Sir,

Hay, 26 July, 1880.

I have the honor to report herewith on the wells at Waiko and Mount Manara.

Waiko Well.—I personally examined this well throughout about 18 months ago. I found that the shaft was very much out of order. The ground behind the lining had by degrees been washed down to the bottom of the well, to a distance of some 20 feet from the bottom, by the surface water soaking downwards, and when the water was baled, large quantities of sand were brought up in the buckets. The shaft,

Tanks & Wells,  
80-154.

shaft, or at least a portion, is standing without any support to it. This I consider a very serious damage, and may, if interfered, fall down. The slabs are, on an average, in fair order. About one-third would require replacing with new ones.

The whim requires a thorough repairing, as it is very much out of order. The spindle is also out of plumb. The tank requires reconstructing; a good deal of the timber in it is decayed, and some of the galvanized iron lining corroded, and full of holes.

\* Tender is for £410. Most likely Mr. Cambridge contemplates more extensive repairs.

The timber work in the troughing is also very much decayed and will have to be replaced by new. I estimate that the shaft, whim, tank, and troughing can be put in efficient order at a cost of about £800.\* The shaft would have to be relined throughout, the best of the present lining being worked in with the new material, and where the supply of salt water comes in, the space behind the slabs to be puddled with the best clay obtainable (in the district) in the immediate neighbourhood.

The chief objection to this well being repaired is that the quality of the water is very bad and not fit for use, in fact sheep will only drink it when very thirsty. The people in Ivanhoe are working to get a tank put down, as the water for domestic use is very scarce, and that the inhabitants are dependent on Mr. George Williamson for drinking water, during the summer months.

† I think the character of the water should condemn the well.

Before deciding on a recommendation to abandon this well, finally or otherwise, I should like to again make a thorough and careful examination if you would authorize the expenditure which would be small.†

NOTE.—These marginal notes are in Mr. Bennett's handwriting, but not initialled.—J.W.B.

NOTE.—For completion of report, see Mount Manara Well papers.

#### Waiko Well.

Tanks & Wells, 80-167. It seems to be the opinion of the Commissioner for Roads that this well should be abandoned mainly on account of the bad quality of the water.

As this is also Mr. Inspector Gilliat's opinion, I presume that course will be taken, and a tank constructed in place of the well. If so, I would recommend that the work be carried out with all possible despatch, as Ivanhoe, where the Waiko Well is situated, is one of the most important points on the Wilcannia and Hay route, and in the meantime Mr. Gilliat might perhaps be asked to report on the most suitable site in this neighbourhood for a tank.

I believe there are no funds now available for such work, but if its construction be approved the site might be selected, and plans and specifications prepared in the meantime, so that it could be carried out immediately the money is voted.

The Under Secretary for Mines.

A.B., 11 August, 1880.

Submitted.—H.W., 14/8/80. Approved.—E.A.B., 18/8/80. Inspector Gilliat, 19 August, 1880.

#### Memo.—Under Secretary for Mines to Stock Branch.

Tanks & Wells, 80-79. As the construction of the works still rests with the Public Works Department, should not the matter be referred for report as to probable cost of constructing tanks in order that a decision may be arrived at upon Mr. Gilliat's recommendation? H.W., 14/5/80.

Approved.—E.A.B., 21/5/80.

Referred to the Works Department for report as to the probable cost of constructing a tank in place of repairing the well herein referred to, for which tenders have been received by Mr. Inspector Gilliat. The Under Secretary for Works.—H.W., B.C., 4th June, 1880. Commissioner for Roads.—J.R., B.C., 9/6/80. Mr. Cambridge.—W.C.B., 10/6/80. Report herewith, 15/6/80.

I attach reports. Tanks have been made in the Bourke district, for from £750 to £1,000; as such works are to a certain extent experimental in their locality, I consider £1,000 sufficient. Reports appended.—W.C.B., 29/7/80. Under Secretary for Mines, B.C., 2/8/80.

Sir,

Hay, 15 June, 1880.

I have the honor to report as follows on the cost of putting down tanks, and abandoning the Mount Manara and Waiko Wells:—Tanks, such as have lately been constructed on the Paroo, consisting of silt tank, main tank, and drinking tank, containing 18,500 cubic yards, with fencing, piping, and all complete, will cost £1,500 each.

I am, &c.,

The Commissioner for Roads.

HENRY CAMBRIDGE.

It was not necessary to send the papers to Mr. Cambridge to get this amount of information. I wish to know what state the wells referred to are in, and if it is advisable to abandon them. I would not do so without regret. Could not a gallery be driven, or the wells relined from the top and sunk deeper. I do not like this ignoring of our work, and I wish Mr. Cambridge had gone into the matter more fully. Will he write a fresh report on a separate paper, and let me have it as soon as possible.—W.C.B., 21/6/80.

Recommendation by the Inspector, Public Tanks and Wells, for the construction of two new tanks on the road from Hay to Wilcannia, between the Lachlan and the Darling.

Sir,

Sydney, 22 July, 1881.

Tanks & Wells, 81-424. I have the honor to recommend the construction of two new tanks, between Hay and Wilcannia.

The road is a most important one, leading directly from the great pastoral districts in the west and north-west of the Colony to the terminus of the Southern Railway, which will shortly be completed to Hay.

The

The traffic in stock and wool passing over it has always been large, but hitherto has been to a great extent diverted to Victoria; but on the completion of the Southern line this road will become one of its most important feeders, and the direct route between the lower Darling and the great pastoral districts beyond and Sydney.

The tanks recommended are doubly important, as contributing towards the completion of the water supply of the road, and by bridging over in each case distances exceeding 30 miles without provision of water. The first tank to be at Ivanhoe, the site being at the junction of the Balranald road, will have the additional advantage of contributing towards the completion upon that road, as well as upon the main line, between Hay and Wilcannia; estimated cost, £1,500 sterling. The second tank to be at Mount Manara, replacing the old and useless well at that place; estimated cost, £1,500 sterling.

I have, &c.,

HARRY GILLIAT,

Inspector, Tanks and Wells.

The Chief Inspector of Stock.

Sir,

No. 133, Macquarie-street, 25 June, 1881.

I enclose you a letter sent to me by the Honorary Secretary of the Wilcannia Progress Committee, dated the 14th instant, and addressed by mistake to the Minister for Public Works, with reference to the necessity that exists for the construction of two or more tanks on the main road between Wilcannia and Booligal, viz., one at Mount Manara and the other at Ivanhoe. Owing to the bad state of the Darling River for some time past provisions here are very scarce, so the merchants are now buying largely in the Sydney market, intending to have goods conveyed by carriers from Narrandera, on the Murrumbidgee River, the present terminus of railway.

I hope you will kindly take these important matters into your consideration, and have these tanks completed as early as possible.

The Honorable The Minister for Mines.

I have, &c.,

W. A. BRODRIBB.

Mr. Bruce.—These works have been recommended in my paper upon the subject.—H.G., 22/7/81.

Sir,

Wilcannia, 14 June, 1881.

I have been requested by the Wilcannia Progress Committee to bring under your notice the necessity that exists for the construction of two more tanks on the main road between Wilcannia and Booligal, viz., one at Mount Manara and the other at Ivanhoe.

Owing to the low state of the Darling River for some time past, provisions here are very scarce, so the merchants are now buying largely in the Sydney market, intending to have the goods conveyed by carriers from Narrandera, on the Murrumbidgee, and the present terminus of the railway. The merchants here feel convinced that after the railway reaches Hay a considerable trade will be done between Sydney and Wilcannia, for the river navigation is very uncertain and cannot be depended upon. There will therefore be a constant traffic by teams between Hay and this place, and water should be made plentiful in order to enable carriers to travel. Tanks at Ivanhoe and Mount Manara will then be an absolute necessity, and if taken in hand at once could be completed by the time the railway reached Hay.

Apart from the traffic by teams that will be certain to ensue, great numbers of sheep and cattle travel by this route. Last summer a flock of 7,000 store sheep nearly perished for water near Mount Manara, owing to the distances between the Government tanks being too great. Probably when the railway reaches Hay several stations will truck their stock to the Sydney market.

It will be wise policy for the Government to render the principal roads leading to the railway termini easy to travel over, in order to induce the residents of the middle Darling to trade more with Sydney than they have done during the past.

Trusting this request of the Committee will meet with your favourable consideration.

I have, &c.,

T. J. JAYDON.

The Honorable The Minister for Mines.

Hon. Sec., Wilcannia Progress Committee.

Sir,

Sydney, 31 May, 1882.

Referring to our conversation yesterday, and Mr. Cramsie's and my previous conversations with you on the subject of the tank at Mossgiel, I have now the honor to bring under your notice the great necessity for having that tank in the township of Mossgiel, or as near to the township as possible, as the inhabitants are in the summer-time entirely dependent on it for their water supply.

Tanks & Wells,  
82-443.

The Chief Inspector of Stock.

I have, &c.,

ROBT. B. WILKINSON.

Minute by the Commissioner and Engineer for Roads.

In further reference to the tanks and wells, it may be desirable that I should report to the Minister the action taken with respect to those ordered on 1st March to be commenced immediately.

16 May, 1882.

Tanks & Wells,  
82-416.

On the Hay and Wilcannia route tenders have been instructed to be accepted for tank at Tom's Lake.

Tank or dam at Willandra.—Local officer has been instructed to invite tenders for plain square tank or dam, leaving adjuncts to be determined and contracted for afterwards.

Further correspondence about the Mossgiel Holy Box and Waiko or Ivanhoe Wells shows that the two first are in fair order, and yield a fair supply of water, which can be used by the station sheep, and Mr. Wood, Assistant Engineer for Roads, states that he has known himself that during the first year of the Waiko Well travelling stock constantly watered there, and that the experience is that the water in such wells improves by the washing out of the salt instead of deteriorating.

At the same time, I would point out the anomaly of sinking tanks here where the Department has made wells, and on the Mount Browne Road sinking wells where the Department has made small emergency tanks.

At

At Mount Manara, the supply from well is insufficient, and tank will be let at once. On the other roads represented by Mr. Bruce as of the first importance, viz., Carathool to Hillston, and Hillston to Cobar, Mr. Wood has marked out the sites for tanks, and his reports have been forwarded to Mining Department with a view to the approval of sites and proclamation of reserves.

The urgent communication from the Department of Mines relating to Mount Browne road rendering the immediate presence of Mr. Cambridge necessary on that route, he proceeded from Cobar to Wilcannia, where he now is preparing to start out to let the tanks and wells; and Mr. Wood, with whom it was arranged he should proceed from Cobar, Louth, and Wamaring, returned to Sydney from Cobar via Nyngan, inspecting the Booramugga, Muriel, and Hermitage Tanks *en route*.

This will delay a little the determination of the sites of the seven tanks decided on between Cobar, Louth, and Wamaring, and thence to Bourke.

Mr. Postle has not yet been able to report on the four tanks, Bourke to the Culgoa, on sites for which he was instructed to report on 13th March. This comprises all the works which I have been instructed to proceed with; but, in addition, tenders have been invited for the tank at Mount Hope. It is extremely difficult in this dry season to let such works, and even if tenders are accepted, the contractors cannot be expected to proceed until rain falls.

16 May, 1882.

WILLIAM C. BENNETT.

The Under Secretary for Public Works.

Forward to Mines Department.—J.L., 19/5/82. The Under Secretary for Mines, J.R., B.C., 19/5/82. Mr. Gilliat.—E.W. (for A.B.), 22/5/82.

Extracts from Report by the Chief Inspector of Public Watering-Places.

Sir,

Sydney, 25 April, 1883.

Tanks & Wells,  
Extracts from  
82-283.

In referring to my proposal to put tanks in place of the wells constructed by the Works Department at Mossgiel, the Holy Box, and Ivanhoe, the Commissioner says:—

“All these wells where sunk gave a strong supply of fair stock water. The gear and slabbing, I am told, has been allowed to get out of order, and if the water accumulates in a well it would necessarily get very bad.”

The Commissioner has apparently been misinformed upon several important points. There has been no question of want of supply at any of the works named.

At the Ivanhoe or Waiko Well, the slabbing at the bottom had fallen in, and the whim was useless before this Department took it over from the care of the Department of Public Works. The gear, at all three of these works, had certainly been allowed to get out of order, and at the time this Department received the charge of them, none of them were in working order, the Mossgiel, and Holy Box were completely refuted by this Department, and have been in effective working order ever since; the objection to them is that they do not afford stock water.

The well at Ivanhoe, owing to its state of disrepair, I advised to be abandoned, finding that it would cost nearly as much to repair it as to put down a new shaft. Mr. Cambridge's minute against this work upon my list of works annexed to the Commissioner's paper must be read, therefore, as applying to his own Department.

The water from this well was said to be fair stock water but unfit for human use. Judging that Ivanhoe, from its situation at the junction of the Balranald and Paddington roads, would probably support a small population, I advised the construction of a tank of sufficient size to supply the wants of both township and travelling stock.

With regard to the Mossgiel and Holy Box Wells, it is not necessary to make, as suggested by the Commissioner, “Some judicious effort to put and keep the wells and gear in order,” that having been done and maintained by the Mines Department ever since they were transferred from the Department of Public Works. As regards the well at Ivanhoe, I have submitted my opinion and my reasons for it.

The Commissioner continues:—

“And that if a tank is decided on it should be placed at some convenient distance from the existing wells, so as to utilize the small supply therefrom.”

The objection urged by me against these wells, with the exception of that at Mount Manara, is not that the supply is insufficient, but that they do not yield stock water, or in other words water which not only sheep, but horses and cattle will drink, and which it appears to me, at public works of this nature, should also be suitable for human consumption. I would submit, therefore, that no advantage can be gained by placing tanks at convenient distances from such wells.

In cases of wells with small supply, such as at Mount Manara, the advantage seems doubtful; this well does not yield more than 3,000 gallons in the twenty-four hours. Even for a large supply tank for storage this is insufficient for travelling stock, and yet it would be necessary to maintain it at the same expense as a good work. Unless leased by some one who could utilize it for a special purpose, it would remain on the hands of the Department, charged with the expense of a caretaker, horse, and harness.

I have, &c.,

HARRY GILLIAT.

Inspector, Tanks and Wells.

Tanks & Wells,  
82-425.

I had the honor recently to give some details in connection with the Mossgiel, Holy Box, and Waiko Wells for the information of the Hon. the Secretary for Mines; from the annexed Minute-paper of the Commissioner and Engineer for Roads and Bridges, to whom the paper was sent, it appears that I have failed to express myself with sufficient clearness on some points.

1st. In the previous paper, I endeavoured to show that the supply of water from the wells named was ample, and that after being received from the Department of Public Works they were thoroughly refitted, and had been maintained in effective order since.

2nd. That the real objection to the Mossgiel and Holy Box Wells was that they did not yield stock water, stating that while the station sheep would drink in dry seasons the water from the Mossgiel Well, neither travelling stock, cattle, or horses would drink from either that or the Holy Box Well.

3rd.

3rd. That the Waiko or Ivanhoe Well being so much out of repair at the time of its transfer from the Works Department I advised its abandonment, on the ground that it would cost nearly as much to repair it as to sink a new shaft, adding that, while fair stock water, it was not fit for human consumption, and that the probable increase of population at Ivanhoe made it desirable that a tank should be placed there.

Two telegrams were submitted at the same time—one from Messrs. Robertson, Wagner, & Co., the present lessees, stating that no application for water had been made at either of the works during their tenancy, and that their own horses would not drink it; the other, from Overseer Hansen, was to the same effect. With regard to Mr. Wood's recollection of travelling stock watering at the Ivanhoe Well, it was distinctly stated that the water was reported fair stock water.

In wells not so brackish, but that water will be drunk by sheep broken to it on the station, Mr. Wood's experience and my own agrees—viz., that by constant use for a sufficient period a proportion of the salts in the water-bearing strata may become diluted, and the water improves in consequence; but I do not see how this can affect these wells, for if no stock will drink the water they are not likely to be improved by constant use, and baling for weeks would probably have no effect upon them.

But what appears to be the fatal objections to these wells remaining part of a line of public water supply on one of the most largely travelled roads of the Colony I would submit, are:—

- 1st. Their being unfit for human consumption, which may be considered of great importance in public works of this nature.
- 2nd. That two out of three wells are unfit for stock, and the third being so much out of repair a new work is advisable that would be of use to the inhabitants.

Referring to the information given by the Commissioner that a tank or dam near or in the Willandra is to be constructed, which will supersede the Mossgiel Well, the site is the one that I proposed; but it has recently been suggested by Messrs. Cramsee and Wilkinson, the Members for the district, that a site near the township of Mossgiel would be jointly available to the residents, as well as the travelling public. The consideration of this joint service is now with the Secretary for Mines, and I have only to say that a very suitable site may be found in "Smith's Clump," half a mile south-west of the township. As soon as the position is determined, it will be very desirable that a Reserve of 2 square miles should be applied for.

See letter from Mr. Wilkinson herewith. 82-443.

The anomaly of the Mines Department recommending tanks where the Department of Public Works has placed wells, and on the road to Mount Brown Wells where that Department has constructed service tanks, may, I think, be simply explained. I referred in my report on the latter to the exceptionally low average and irregular rainfall common to the district, and to the fact that wells had been sunk in various parts of it obtaining fair supply of good water at moderate depths, and drew my conclusion that wells would prove the more reliable source of supply under such conditions.

Plan of Water Supply, Wilcannia to Albert Gold-field. (Tarella Tank Case).

The Government wells on the road from Booligal to Wilcannia, five in number, cannot be considered successful; three are not fit for human consumption; one is unpalatable from its sickly sweet flavour, so noticeable that tea made from it does not need sweetening; and the fifth has no supply. The climatic conditions are different, the rainfall is slightly heavier and more regular. Under these circumstances I considered it my duty to advise the adoption of tanks.

As the Commissioner notifies his intention of abandoning the well at Mount Manara on account of insufficient supply, the course I had the honor of recommending in 1880, I would suggest that the overseer of that division may be authorized to remove such of the material as may prove useful for repairs at neighbouring works.

HARRY GILLIAT,  
25/5/82.

#### Abandonment of Holy Box and Waiko Wells.

MEMO.—It is, I think, evident from Mr. Gilliat's Memo., and the evidence to which he alludes that the Holy Box Well cannot be deemed a suitable watering place, for if the water there had been drinkable, even by sheep, no drover would, in such a trying season as the last, have passed it, as every one of them did, without watering his sheep, supposing they had been supplied, which they were not, with water at Mossgiel. The fact that no application was made to water stock at the "Holy Box" is sufficient proof that the water is unfit for any but station sheep, which have been made to drink such water by three or four days starvation, a course of procedure drovers dare not attempt with sheep on the road.

Tanks & Wells, 82-439.

Then as regards the "Waiko" Well, at Ivanhoe, there is no doubt but that this will be a township of some size, and likely before long a place of Petty Sessions, situated as it is about midway between Balranald and Cobar, and about the same position between Booligal and Hay, at the point where the roads between these townships cross each other, and it would tend not only to the comfort of the people travellers on these roads, to have a sufficient supply of fresh water here, but also to promote the growth of the township.

It would, I think too, be unsafe to have two doubtful means of supply, such as the "Holy Box" and "Waiko" Wells afford, next each other; for if the water at both wells were to be refused by stock (I was informed by several persons, on my way to Wilcannia and back, that only some stock would drink the Waiko water) they would have to travel 45 miles (from Mossgiel to Boonoonna) without a drink. Then again with regard to travellers. It is not right that on an important road, such as this now is, they should have to go half that distance in dry times without being able to obtain fit water for themselves or their horses, except perhaps by begging it, which they could only do at one or two places by the way.

See also Mr. Bennett's minute on Mr. Cambridge's letter, 20th July, 1880, 80-154.

Taking all these circumstances into consideration, and also the important fact pointed out by Mr. Gilliat, that the cost of repairing the "Waiko" Well will be nearly as much as sinking a new shaft, I would suggest that these papers be returned to the Department of Public Works, with a view to a reconsideration of the question of the abandonment of the two wells here referred to, especially that at Ivanhoe; and in doing so it should also be borne in mind that the nearest watering place on the Balranald Road (on which there is a considerable amount of both stock and general traffic) is at Til Til, more than 25 miles from Ivanhoe, and that if a sufficient supply of good water is not provided at the latter place, travellers by the Balranald Road will get none till they reach Boonoonna, some 16 miles farther on.

The Under Secretary for Mines.

A. B., 30/5/82.

Submitted.—H. W., 1/6/82. Refer to Department of Public Works, together with the letter of Mr. R. B. Wilkinson, M.P., on this subject.—A.R., 2/6/82. The Under Secretary for Public Works, B.C., 3/6/82. Roads.—J.R., B.C., 3/6/82.

It is no use writing more.—I have not time. Will Mr. Wood prepare instructions to Mr. Gordon to invite tenders for a tank at Mossiel, though in another paper from the Mines the combination of town and stock tank is objected to. Will Mr. Wood also note the importance of having a section of the Willandra and of the Lachlan at its junction taken. This information may probably be at Harbours and Rivers Office. Instructions to be also given to invite tenders for tank at Holy Box and a small tank at Waiko, which, in the event of the artesian bore turning out a failure, can be supplemented by a large stock tank.

Also a tank at Mount Manara, as, even if sufficient water could be obtained in well, it would probably be too deep to lift economically.—W.C.B., 7/6/82. Mr. Wood.

Draft instructions herewith.—ARTHUR P. WOOD, 9/6/82.

Ivanhoe Tank.—Contractor's claim for compensation.

Roads, Sydney, 10 March, 1885.

Tanks & Wells,  
85-521.

WHEN works for watering stock routes were first undertaken in 1870 a well was sunk at Ivanhoe, which yielded a plentiful supply of good water. This well was subsequently handed over to the Mining Department, fell into disrepair, and was ultimately condemned by its officers.

In 1882 application was made for a tank at this place, but in view of the fact that good water has been proved to exist under ground a well was strongly recommended by the Department, both on the score of economy and certainty of supply. This proposal was strongly opposed, and tenders were then invited for constructing a tank on the Balranald Road, about 1 mile west from the township, but owing to the seasons no reasonable tenders were received, or, when accepted, were not taken up. This occurred time after time until a change took place in the season, and tenders were again invited and Casey's tender accepted for constructing a tank at the site already mentioned. This being settled, the lessees of Kilfera Run, in conjunction with some of the townspeople, brought pressure to bear, and the site was removed to the Box Swamp, about 1 mile east of the town, on Ticehurst Run. Here the contractor was served with a notice by the lessee that he was trespassing, and it was then discovered that the land was selected a few weeks before.

The question of site was ultimately settled by constructing the tank on the Village Reserve, which pleases Kilfera, Ticehurst, and the residents of the township.

Mr. Casey's letter gives a faithful account of the changes that were made, and by which he lost the time for which he claims compensation.

The amount of his claim, £497 16s., is excessive; but as he is fairly entitled to some compensation for the fifteen weeks loss of time, it can be estimated at £10 a week for idle plant, £150, which added to £152 16s., Mr. Stillwell's estimate of actual cash losses, makes a total of £302 16s.

ARTHUR P. WOOD.

It will be seen the bungling was not the fault of this Department but of the law. The contractor has been offered £300. Mr. Wood advises that he should get £302 16s. and no more.—W.C.B., 11/3/85. Under Secretary, B.C. Forward to Mines.—F.A.W., 13/3/85. The Under Secretary for Mines.—J.R., B.C., 14/3/85. Mr. Gilliat.—A.B., B.C., 17/3/85.

Minute by The Chief Inspector Public Watering Places.

Ivanhoe Tank.

18 March, 1885.

Tanks & Wells,  
85-541.

THE exception taken by this Department to a well at Ivanhoe has always been based on the ground that the subterranean water, while good stock water, was too brackish for domestic purposes; 2nd., that any watering-place constructed here would be required for the use of the township, as well as for stock purposes.

It was therefore submitted the watering-place should be a tank, and within a convenient distance of the township. These conditions are, I think, fully met with in the site Mr. Wood has selected.

I must ask leave to correct a misapprehension of Mr. Wood with respect to the Waiko Well. He states, "the well was subsequently handed over to the Mining Department; fell into disrepair, &c." The well was leased by the Works Department to the Messrs. Kennedy, of Ticehurst; fell into disrepair while in their hands, and was thrown up by them before I took delivery, in 1879.

As I was unable to find a contractor who would undertake the repairs at a lower price than  $\frac{2}{3}$  the cost of a new well, and in view of the requirements of the inhabitants of the township, I recommended the construction of a tank.

HARRY GILLIAT.

Mr. Gilliat,—Be so good as to report with reference to the subject of the Commissioner's minute.—A.B., 23/3/85. The changes of site alluded to by Mr. Assistant-Engineer Wood were made without reference to or in consequence of any action on the part of this Department.—H.G., 23/3/85.

Minute by The Chief Inspector of Stock.

Correspondence between the Works and Mines Departments.

26 March, 1885.

Tanks & Wells,  
85-621.

I THINK, with Mr. Gilliat, that such remarks as those made by Mr. Assistant-Engineer Wood, on 85-164, herewith, should be carefully avoided, as likely to cause friction between the Departments, and unnecessary correspondence. This applies also to references to matters which have been long settled, such as that made by Mr. Wood in the accompanying paper, in regard to the Waiko (Ivanhoe) Well, where he has, I think quite unnecessarily, taken the trouble to recur to matters which took place some seven years ago, and unfortunately without being careful that his statements are borne out by the facts. Mr. Gilliat's reply with regard to state of well when transferred.

A.B., 27/3/85.  
Submitted.—

Submitted.—H.W., 11/4/85.

If Mr. Gilliat is correct, then the statements of Mr. Wood are somewhat reckless, and seem to be exceedingly offensive. I have no desire to encourage anything like illfeeling between the two Departments, but have at all times condemned in officers of this Department any action of theirs likely to produce such a feeling, and Mr. Wood should be certain of his facts.—J. P. ABBOTT, 21/4/85.

Mr. Gilliat, 23.

It may, perhaps, be as well to submit extracts from my reports on the Waiko Well, to show my opinion of the state of the work in 1879 and 1880; and Mr. Brougham, the Messrs. Kennedy's manager at Ticehurst, who leased the well, can, if it is thought necessary, no doubt confirm all I have said in my minute 85-541. The Chief Inspector of stock also visited this well with me, and heard from local report all that I have here stated.—H.G., B.C., 24/4/85.

Minute by the Commissioner and Engineer for Roads and Bridges to The Under Secretary for Public Works.

Re F. A. Casey's claim for compensation, re Ivanhoe Tank.

May 18, 1885.

On the 12/3/85 I forwarded a minute paper recommending that the sum of £302 16s. be paid to Mr. Casey in full of all demands. Mr. Casey having now intimated his willingness to accept the sum named, I have to request the return from the Department of Mines of the paper in question, as no action can be taken in the matter pending its receipt. Tanks & Wells  
85-1,299  
W.C.B., 18/5/85.

Forward to Mines, 22/5/85. The Under Secretary for Mines.—J.R., B.C., 22/5/85. Return papers 85-521, tanks, to the Works Department, 29/5/85.

Sir,

Department of Mines, 29 May, 1887.

Herewith I have the honor to return papers, tanks and punts, forwarded by you to this Department on the 14th March last, respecting the claim made by F. A. Casey, for compensation in connection with the Ivanhoe Tank, as asked for by you in your blank cover communication of the 22nd instant. Tanks & Wells  
85-1,299

I have, &c.,  
HARRIE WOOD,  
Under Secretary.

The Under Secretary, Public Works.

Sir,

Ivanhoe, 18 May, 1885.

I herewith enclose rough sketch of tank in course of construction at Ivanhoe. The contractor has, I should think, excavated about 15,000 to 16,000 yards of soil, and is now into a sand drift which will be the bottom of the tank which, in my opinion, will not hold water. There is a good drainage, and I think the position I have shown the drains in the rough sketch would be most suitable for the catchment of surface water. The best position for the troughing will be at the south-east end. It will avoid stock from running across the drains. There is no reserve round this tank; the land adjoining has been laid out for the township, but I believe it has not yet been offered for sale by the Government. I cannot give an estimate of the cost of fencing, not knowing the description of fence required by the Government. There is no timber round this immediate neighbourhood that would be suitable for posts. I think there is a possibility of leasing this tank when finished to Cobb and Co. Tanks & Wells  
85-1,254

I have, &c.,  
JAMES YEO,  
Overseer of Tanks and Wells.

The Chief Inspector of Stock.

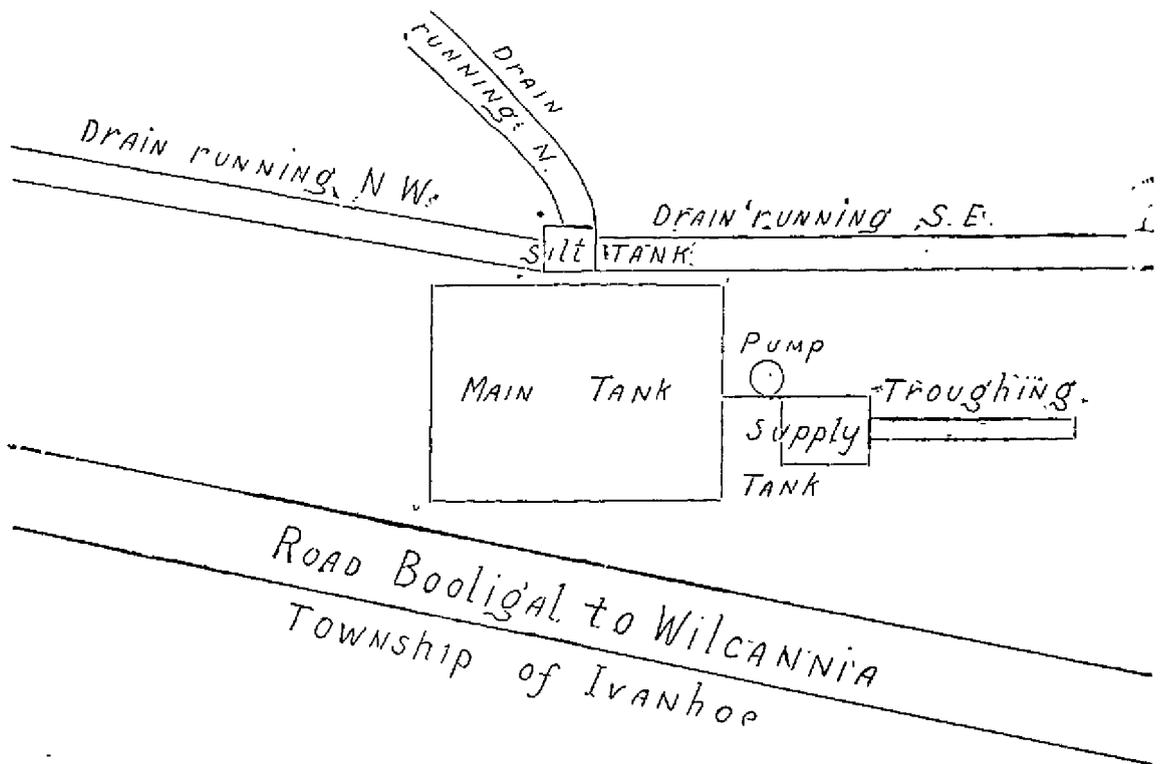
Mr. Gilliat.—A.B., B.C., 22/5/85.

I do not see what use can be made of this information. The construction of the work is being conducted under the supervision of a qualified officer of the Works Department. Criticisms of this sort, with suggestions as to the method of continuing the work, appear to me impossible between the two Departments, unless proceeding from an officer specially instructed to that effect by the head of the Department. The information, if conveyed as a private memo. for the information of the Chief Inspector of Public Watering Places, would perhaps have some value. I cannot recommend any action upon this.—HARRY GILLIAT, B.C., 9/6/85.

Ask Mr. Yeo to report on this tank on printed form.—A.B., 13/6/85.

Mr. Overseer Yeo should have used the printed form of report (he will be asked to do so) in reporting on this work, as the greater part of the information which is required with respect to it has not been sent. I think, however, the information which he gives in regard to the unsoundness of the ground should, in the public interest, have been transmitted by him, and that it should, as you suggest, be conveyed in a private note from you to Mr. A. P. Wood, of the Works Department. The other matters to which he alluded may be considered as for your information only.—A.B., B.C., 13/6/85. Mr. Gilliat.

Letter to Mr. Yeo, 16/6/85.



Inspector J. W. Boulton to the Chief Inspector of Public Watering Places, reporting on tank recently constructed at Ivanhoe.—Road—from Hay to Wilcannia; distance from and name of post town—at Ivanhoe; parish—Warwilly; county—Manara.

Questions:—

25 April, 1884.

1. Name of road and length?—Hay to Wilcannia, 286 miles.
2. If near a town, give estimate of population that may be dependent on the watering place?—In centre of Ivanhoe township; from one to two hundred.
3. Estimate of traffic in stock and teams?—The traffic is very large, especially in seasons like this, when it is necessary to send sheep to the mountains.
4. The traffic; by what roads; the destination?—Both stock and teams; it is the main stock route from the north.
5. Its distance from nearest watering-place, or permanent natural water on each side?—18 miles from Holy Box Well on south; 23 miles from Boonoon Tank.

*If a Tank.*

6. The dimensions and capacity in cubic yards? 65 x 65, 18 feet deep; 20,000 cubic yards.
7. Form of embankment and distance from excavation?—Amphitheatre. The bank on the inlet side is lower, however, than the others.

*Watering appliances.*

13. Full description of watering appliances and delivery in gallons per hour?—A 4-horse power Tangye steam force pump in course of erection.
14. Supply tank; size, construction, capacity in gallons? A buckleplate iron tank, 25 x 25 x 25; 20,500 gallons.
15. Troughing, length, width, depth, material, and position? 300 feet galvanized iron troughing, with post and rails of sawn pine.

*Fencing.*

16. Area enclosed; description; distance between posts; number and gauge of wires?—Tank is enclosed in T. L.; 640 acres; Nos. 6 and 8.
17. Gates?—None erected yet.

*General.*

18. Probabilities of obtaining tenant and estimated rent?—The distances from watering-places on either side are greatly in this tank's favour; a high rent should be obtained. The paddock being in the township, so to say, should render it valuable for agistment. Not less than £100 a year should be taken.
19. Area, position, and quality of land included or to be included in tenant's lease; area notified for public watering-place?—The T.L. now being fenced is 640 acres in extent, is not first-class country, being open broom and hop brush scrub; clearing would increase the value.
20. Caretaker's cottage and description?—None erected.

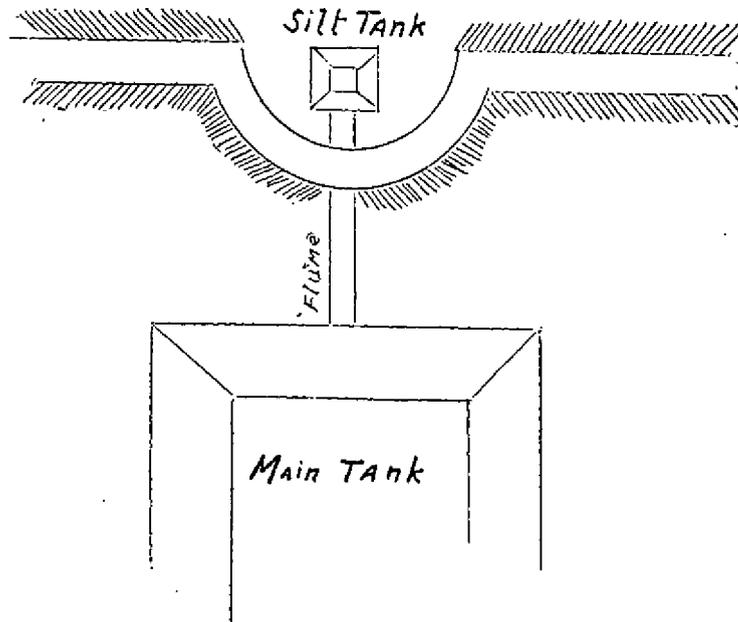
JAMES W. BOULTBEE,

Acting Inspector, Public Watering Places.

General

## General Remarks on Ivanhoe Tank.

I visited this tank on 29th April last, and found that it was not out of the contractor's hands. I do not think, however, that it will be long before it is ready for transfer. The main tank is a fine excavation, 65 feet  $\times$  65 feet and 18 feet deep, excavated in red clayey soil with a substratum of white greasy sand. I heard several opinions expressed that it would not hold, but anywhere where the sand shows the smallest admixture of clay, the ground holds well. The tank is surrounded by a drain to carry off the water from the batters and thus save guttering; but the ends of the drain, where they run into the flume, are at present closed. The embankments are 10 feet high upon three sides, and on the side where the inlet upon East comes in the bank is considerably less. The arrangement at the flume is different from any I have seen, and I think the plan a weak one. The drains empty into a small silt tank, 10 yards square and 6 feet deep, excavated almost in the banks, and a lower horseshoe bank is raised and passes over the flume on a logging of rough leopard wood, a timber that is perfectly useless in the ground. The following diagram may perhaps explain:—



The effect of this will be that the body of water coming down the drains will fill the silt tank, and dam back and eventually carry away the bridge and all the embankment in the half circle into the tank. If the bridging of the flume had been well made, and the banks of the same height as main banks, I think risk would have been avoided.

The drains, of which there is a very great extent, are well made; but they run about and through the township, and must collect a great amount of filth, on the drain from the north from the tank. On its very edge is a piggery belonging to Macdougall's Hotel, and Cobb & Co.'s yards are in close proximity too close for the benefit of the water. The fluming on the east, connecting the small silt and main tank, is sawn pine tarred, 5  $\times$  2, ending upon a 12  $\times$  12 apron, also sawn pine. That on the west is round iron flume, leading to an open box flume of sawn pine 2  $\times$  2, and ending in an apron 12  $\times$  12. On the inlet side of this flume the valve is quite unprotected; even now the earth is falling in around it. A small staging and a protection of stubbing to keep the loose earth of the embankment from falling in is highly necessary. The silt tank on the west side is 30  $\times$  30  $\times$  6 feet; is almost half full of sludge. The embankment is pierced for the suction pipe upon the ground level, which is supported by sawn pine uprights, upon which the depth in feet could now be easily marked. There is no nozzle tank. The supply tank is the usual buckle plate iron, 25  $\times$  25  $\times$  5, upon small girders upon concrete piers. It has now a coating of refrigerating paint. The valve to the troughs is defective; it is too short to allow of the wheel being fixed. The pipe or valve is shorter than others I have seen, and it consequently brings the wheel against the side of the tank. If it is retained as placed, a spanner will have to be used. The troughing is the usual 300 feet galvanized iron troughing, protected by posts and rails, which, in this as in other cases, has the same fault—the rails are too high from the edge of the troughs. There is no flushing outlet to troughs.

The engine and gear is a 4-horse power Tangey now in course of erection. It is, however, in my opinion, too close to the supply tank. There is no room left for the erection of engine-house. The fencing is pine posts with top rail of pine of a substantial character, but without any bands. As pine is of a very brittle nature when dry, I think these hoop-iron bands would be an improvement. The T. L. is now being fenced in, and comprises an area of fair country—hop bush and broom scrub; its value would be largely enhanced by being cleared and burned off. A paddock like this, almost in the heart of the township, should command a high rental. The tank is enclosed in the area, but the troughs are outside, and running parallel to the fence. From the north the approach to the troughs is only down the main street, or by going behind some of the houses and entering the street again by a narrow pass. I think all arrangements of the position of tanks and troughing should be made with a view to the convenience of stock. To get cattle or sheep into the troughs from the north will necessitate knocking them about to get them there.

The space between the troughs and the T. L. fence does not give very much space on the one side of the troughs for a body of stock.

The

The tank is a considerable distance from watering places on either side. The township is at present dependent upon a small private tank of Mr. Williamson's. This public watering place should let well and readily, and I think nothing less than £100 a year should be taken as rent. When particulars of surveys of township public watering places are complete, I am of opinion that these public watering places are better in the hands of trustees.

JAMES W. BOULTBEE,  
Acting Inspector, Public Watering Places.

Mr. Yeo will be good enough to note this report carefully, with a view of pointing out defects when taking over from the Works Department. I shall be glad to have a report as soon as he can make it, and to be informed of the probable date of transfer.—H.G.

Mr. Overseer Yeo for report,—B.C., 21st May, 1886. To be returned.—H.G. Contents noted. Report will be forwarded at an early date.—J. YEO, 28/5/86.

Sir,

Stock Office, Ivanhoe, 1 June, 1886.

P.W.P.  
86-2,761.

Referring to your request to report on the Ivanhoe tank I now beg to furnish you with the following general remarks, viz. :—

1. The tank is still in the hands of the contractor who has only to finish the erection of the machinery, when it should be ready for transfer, provided that the tank will hold water, which, I think, is very doubtful. There was about 4 feet of water in the tank on the 18th May last, since then it has soaked away, with the exception of 4 inches on the west side of the tank, which is a little deeper than the east side, the water has quite gone from the east side. The main tank is a fine piece of workmanship, 67 x 67 x 18 feet deep, which is excavated in a red clayey soil with a substratum of white sand, which, in my opinion, will never hold water unless it is puddled with clay. There is a drain surrounding the main tank to catch the water from the embankments and thus save the batters of the main tank from guttering, but the ends of the drains on the east side of the tank, when they should empty, are at present closed by an embankment over the flume and round the end of the silt tank, which, in my opinion, will be washed into the main tank after a heavy fall of rain, for it will be impossible for the flume under the embankment to carry the water away into the the main tank. The flume is of the ordinary size, 5 feet by 2 feet deep. I consider the silt tank on the east side is much too small and also too near the main tank.

The embankments are 10 feet high and 60 feet wide at base on three sides; on the east side is much less. It is necessary that some one should attend to the embankments as soon as possible for there are several deep gutters washed in them already.

It would have been much better if the embankments had not been so steep, then they would not have washed in gutters nearly as bad as they will now.

The drains are very well made, and I consider they are about three miles altogether. The drain which runs from the north-west corner of the main tank goes through the township allotments, consequently it will frustrate the idea of ever forming a township here unless the drain is done away with. It also goes, as Mr. Boultee reports, on the very edge of Mrs. Macdougall's piggery, and Cobb & Co.'s stable yards are in very close proximity. Mrs. Macdougall holds a special lease (on which the piggery and Cobb & Co.'s yard stands) granted from 1st January, 1884, to 31st December, 1888, to H. T. Millie. This drain is naturally bound to collect a great amount of filth. Mrs. Macdougall says she will remove the piggery if required, but complains that she has been done a great piece of injustice by cutting off the supply of water. The fluming on the east is sawn pine, tarred, 5 x 2, ending upon a 12 x 12 apron, also sawn pine. That on the west is round iron flume, leading to an open flume of sawn pine 2 feet x 2 feet, and ending in an apron 12 x 12. The valve is quite unprotected on the west side of the tank, consequently the earth from the embankments is continually falling around it; some protection should be erected around it, which I presume will be done by the Department of Works. The silt tanks are both nearly full of water.

The service tank is of buckled plate iron 25 feet x 25 feet x 5 feet upon iron girders upon concrete piers. The valve mentioned in Mr. Boultee's report has since been removed, and another put in its place which appears to be all right. The section pipe goes through the embankment on the ground level which is supported by sawn pine uprights, and on which I have arranged with a man to paint the depths in feet, which will cost 10s.

The engine and gear is a 4-h.p. Tangye, now in course of erection.

The troughing is 300 feet in length, 30 inches x 12 inches deep, galvanized iron on timber bearers; the troughing is protected by post and rails of sawn pine, tarred, of the usual description. I am of the same opinion as Mr. Boultee that the rail is too high from the edge of the trough. The fence round the T.L. is now being erected. The country which it includes is very fair, but a great deal of the scrub can be cleared, which I propose to have done by the caretaker when it is handed over to this Department. It will be a great improvement to set back the fence some distance on the east side of the tank, so that stock will not require to go through the main street.

The tank is about 20 miles from the Holy Box Well, and 20 miles from Boonoona Tank.

The township people have for some time been dependent upon a small private tank belonging to Mr. George Williamson, who complains very strongly about the drain which runs from the north-west side of the tank and cuts off the water-supply. It will be a serious matter with the township people if this tank does not hold water, for it prevents private tanks being filled that will hold water.

There are parties who are anxious to rent this tank, but I would recommend that it should be placed in the hands of trustees.

I have, &c.,

J. YEO,  
Overseer, Public Watering Places.

The Chief Inspector, Public Watering Places.

Connect this with Mr. Boultee's report and all other papers relating to this tank. Has Mr. Yeo wired any reports of its filling from late rains?—H.G., 9/6/86. All papers herewith.—S.N., 10/6/86. Suspend until notice is received that the tank is ready for transfer.

Sir,

Sir,

Stock Office, Ivanhoe, 21/6/86.

I have the honor to inform you that 3 ft. 6 in. of water ran into the Ivanhoe Tank on Thursday, 17th instant, but is soaking away at the rate of 3 inches per day.

P.W.P.,  
86-3,173.

The same depth of water which ran into the tank about a month since had all soaked away previous to this catch of water. I do not think it is possible for this tank to hold water unless it is puddled, which I consider should be done as soon as possible.

J. YEO.

The Chief Inspector, Public Watering Places.

This tank is not yet transferred, I think.—H.G. No.—S.M. Please watch the loss by percolation, and report from time to time. In taking delivery of this tank (when you are instructed), you should embody in your report the exact loss you have noted from time to time.—H.J., B.C. 29/6/86. Mr. Yeo.

Contents noted. The loss by percolation from 17th June to 5th July was 2 ft. 6 in. We had 1.30 points of rain on night of 5th July, which put 5 ft. 10 in. of water into the tank, and with 1 ft. in it before, it now has 6 ft. 10 in. in it.—J. YEO, 7/7/86.

Resubmit with Mr. Yeo's new works report.—H.G.

Department of Roads and Bridges, Sydney, 1 September, 1886.

MEMO.—Mr. Stillwell wires that Ivanhoe Tank will probably be ready to transfer to your Department in a fortnight. The heavy roads have delayed delivery of material necessary to complete alterations ordered by this office.

P.W.P.,  
86-4,728.ARTHUR P. WOOD,  
Assistant Engineer.

The Chief Inspector, Public Watering Places.

Mr. Wood states he will wire to-day to Mr. Stillwell, and ask if Ivanhoe Tank is ready for transfer, and when answer is received will at once send memo. to Mr. Gilliat.—R.W.G., 7/10/86.

Department of Roads and Bridges, Sydney, 7 October, 1886.

MEMO.—Telegram from Mr. Stillwell this day that Ivanhoe Tank will be visited in the course of a few days, when it can be transferred; 12 feet of water.

P.W.P.,  
86-4,793.

The Chief Inspector, Public Watering Places.

ARTHUR P. WOOD.

Mr. Yeo can be instructed by wire to arrange with Mr. Stillwell as to date of transfer of Ivanhoe Tank, and Mr. A. P. Wood informed by memo. that such instructions have been given.—H.G., 8 October, 1886.

Telegram to Mr. Yeo, 9/10/86. Memo. to Mr. Wood, 9/10/86.

Telegram from Mr. Overseer Yeo to The Chief Inspector, Public Watering Places.

Ivanhoe, 12 October, 1886.

MR. STILLWELL is here, and proposes transferring the Ivanhoe Tank on Thursday next, when there will be a trifling amount of work left to complete. Shall I take delivery until the whole of work is completed? Please arrange for Carctaker Playford to proceed here to take charge. I can arrange with a man prior to his arrival.

P.W.P.,  
86-4,844.JAMES YEO,  
Overseer.

I think transfer may be made without delay.—H.G., 12 October, 1886. The Under Secretary for Mines. Approved.—H.W., 12/10/86. Inform Mr. Yeo by wire.—H.G., 12 October, 1886. Telegram to Mr. Overseer Yeo, 18/10/86.

Telegram from Mr. Overseer Yeo to The Chief Inspector, Public Watering Places.

Ivanhoe, Sydney, 18 October, 1886.

DELIVERY was taken of the Ivanhoe Tank on Saturday, 16th instant.

P.W.P.,  
86-4,947.JAS. YEO,  
Overseer, Public Watering Places.

Resubmit with report.—H.G., 19/19/86.

16 October, 1886.

Overseer James Yeo to the Chief Inspector of Public Watering Places, reporting on tank recently constructed at Ivanhoe.—Road—from Hay to Wilcannia; distance from and name of post town—at Ivanhoe; reserve (nature, No., and date)—within T.L. 56, 29/1/86; parish—Ivanhoe; county—Mossgiel.

P.W.P.,  
86-4,992.

Questions:—

1. Name of road and length? Hay to Wilcannia, 255 miles.
2. If near a town give estimate of population that may be dependent on the watering place? In centre of Ivanhoe township, 40.

3.

Estimate of traffic in stock and teams? The traffic is very large, it being a main road from Victoria to Queensland; at present there is a great number of cattle coming down from Queensland for the Victorian markets.

4. The traffic, by what roads, the destination? Both stock and teams. It is the main road from Queensland to Victoria and from Paddington to Balranald.
5. Its distance from nearest watering place or permanent natural water on each side? 20 miles from Boonoon Tank; 20 miles from Holy Box Well.

*If a Tank.*

6. The dimensions and capacity in cubic yards? 200 × 200 ft., top; 146 × 146 ft., bottom; 18 ft deep; 20,000 cubic yards.
7. Form of embankment and distance from excavation? Surrounding tank 20 ft. from excavation.

*Watering appliances.*

13. Full description of watering appliances and delivery in gallons per hour? Especial three h.-p. steam pump (Tangye), 4,000 gallons per hour.
14. Supply tank; size, construction, capacity in gallons? 25 × 25 × 5 ft.; iron buckled plates on concrete piers; 20,000 gallons.
15. Troughing, length, width, depth, material, and position? 300 ft. long, 30 in. wide, 9 in. deep; galvanized iron on timber bearers; south side of service tank.

*Fencing.*

16. Area enclosed; description; distance between posts; number and gauge of wires? 640 acres in progress, post and wire; 10 ft. apart; five No. 6, and one No. 4 wires.
17. Gates? To be 12 ft. wide.

*General.*

18. Probabilities of obtaining tenant and estimated rent? There would be no difficulty in getting a tenant for this tank, it being, so to say, in the centre of the township, and should command a high rental. I consider at least it would be worth £100 a year.
19. Area, position, and quality of land included or to be included in tenant's lease. Area notified for public watering place? T.L., 640 acres, fencing in progress, on south-east side of main tank. The country is fairly good, but its value can be improved by clearing the useless scrub.
20. Caretaker's cottage and description? None erected.

*General Remarks.*

The Ivanhoe Tank, with its appurtenances, was transferred by Mr. A. W. Stilwell, A.E., Hay, to James Yeo, overseer of P.W. Places, Ivanhoe, on Saturday, October 16th, 1886.

The main tank at present has 11 ft. 6 in. water in it, which is soaking away and evaporating at the rate of 1½ inch every twenty-four hours, which is much less than it has been. (About six weeks since the water was going out of the tank at the rate of 3 in. every twenty-four hours.) The batters are washed from the continual swell of the water into little steps, which I consider will be advisable to let remain, for it will catch any silt which might settle on the batters, and perhaps eventually stop the leakage.

The embankments have been hollowed out the top to prevent them from scouring; they were scoured previous to it being done. The caretaker can put them in order again with two days' work. The embankment over the flume on the east side of the tank is on a logging of leopard wood, which I consider is not suitable for the purpose. I drew Mr. Stilwell's attention to this when taking delivery.

The silt tanks are both partly full of water, but are in a good state of repair. The silt tank on the east side was first put inside the embankment, which was found to be too near the main tank. It has since been filled up, and a fresh one put down outside the embankment.

The drains are well made, but will require a lot of grading and clearing before the water will run in them properly. In places they will require to be cleaned at least 3 ft. deep, which I have set the caretaker to do at once.

There is a piggery, belonging to M'Dougall's hotel, on the edge of the drain running north, which I consider should be removed, but I don't know if I have power to have it removed, it being on a conditional lease.

The fencing round tank and T.L. is in course of construction.

Machinery is in good working order, but requires painting, tarring, and cleaning.

The troughing is in good order, but the rail over which cattle have to drink is much too high; this I pointed out to Mr. Stilwell, and he has since made arrangements to raise the ground.

J. YEO,

Overseer of P.W. Places.

The percolation and evaporation now does not exceed 1 in. every 24 hours. There is, I think, little doubt but that every succeeding rain will help the holding powers of this tank. There is already a diminution of 2 in. per day in the soakage.—JAMES W. BOULTBEE, Acting Inspector of Public Watering Places, Ivanhoe, 27/11/86.

Report by Acting-Inspector J. W. Boulton, on the Ivanhoe Tank, road from Ivanhoe to Wilcannia, in charge of Playford, for 23rd November, 1886.

Tanks & Wells,  
86-5,587.

State of drains.—In fair order; require levelling and cleaning at crossings.

Silt tank.—Half-full of water. The small one has been filled in, and a larger one excavated.

Inlet or flume.—In good order, but covered with a logging of leopard wood.

Main tank.—Cut into shelves by action of waves.

Embankments.—In good order, dished on top, but no shoot for water to run out—it is left to run out the one end of embankment, which is apparently the highest part.

*Watering*

*Watering Appliances.*

State of supply tank.—Good ; the refrigerating paint has peeled off.  
 Troughing.—In good order. Earth been raised, but rails are still too high.  
 Machinery.—In very good order.

*Paddocks and Fencing.*

State of Fencing.—T.L. incomplete, apparently in the same state as my last visit. Contractor Bevan has sub-let to Elliot, he has sub-let to Anderson, and he has sub-let again. Bevan and Elliot are, I believe, wool-carting ; meanwhile travelling stock are skinning the paddock. No alteration has been made to give access to tank by the back, as suggested in my new works report. The wire round enclosure is simply reeved, and I hear that there are no strainers, and that the wire is to be strained in long lengths to the post where it ends. This is a concession made by Mr. Stillwell. The first contractor must be getting a fine price for this.

*Rates collected since last Report.*

	£	s.	d.
Month ending October, 1886 ... ..	0	1	2
„ November, 1886... ..	4	2	2
	<hr/>		
	£4	3	4

*Traffic since last Report.*

Month ending October, 1886 ... ..	7 horses.
„ November, 1886... ..	31 horses, 7,638 sheep.

Weekly Depth of water since last report.—The water is going away at the rate of  $\frac{1}{2}$  of an inch per day ; now about 8.6.

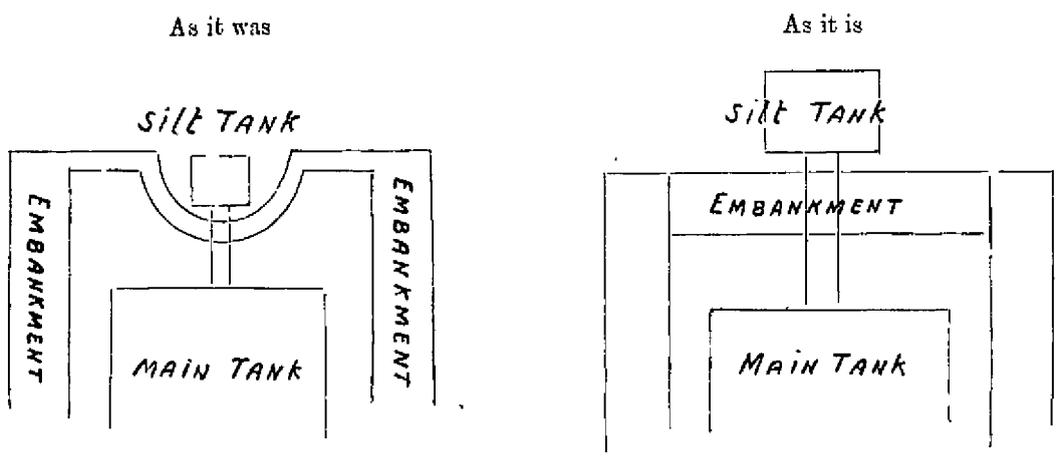
*Ivanhoe Tank.*

The alterations made by Works Department since my last report, are as follows :—  
 Top of embankment dished, but no way of storm water to escape. The small silt tank and horse shoe embankment has been filled in and removed. A new tank excavated and long fluming put down.  
 The alterations suggested in fencing have not been attended to. I think it is highly necessary, and I furthermore think that the troughs should be enclosed. Red lines show fence as it is, blue lines the proposed fence.  
 The iron fluming mouth has been protected by a sort of cover. The drains will always be a source of trouble, especially where the road crosses them. All the stock traffic runs over them, and one runs right through the town allotments, which are advertised for sale. I think the leopard wood cover to fluming should be removed. It is very useless timber, especially in the ground. I believe 15s. per chain was paid for the drains here, work that I got done on the Darling for 3s. 6d. to 4s. 6d. a chain, 6 ft. wide, and 18 in. deep. Gauge has been painted on derricks.

JAMES W. BOULTBEE.

*Caretaker's Work.*

Work done by caretaker.—Trimming embankments, tarring engine, and painting and pumping.  
 Work laid out for caretaker.—To clean drains and finish embankments, cut scrub when able.  
 Remarks and recommendations.—There is one drain that for a considerable distance runs up hill, and a cutting 3 ft. deep is required to run the water down. Mr. Stillwell had a man at this, but it is now left for our caretaker to do. I instructed him not to touch it until he has put everything else in good order. The place is fully half a mile from tank, and working there he can have no check upon travellers. Travelling stock are watering at Elliott's Tank in preference to Government Tank since the rails are inconvenient. The ground has been raised, but the rails seem to block wild cattle. We are losing hundreds of pounds all over the Colony, owing to this one defect.  
 The alterations made by the Works Department, since my last report, are as follows :—Top of embankments dished, but no way for storm water to escape. The small silt tank and horse shoe embankment has been filled in and removed, a new tank excavated, and long fluming put down.



The alterations suggested in fencing have not been attended to. I think it is highly necessary, and I furthermore think that the troughs should be enclosed.

JAMES W. BOULTBEE.

## Extract from Report by Mr. Inspector Low.

## Ivanhoe Tank.

31 August, 1887.

P.W.P.,  
87-4,960.

State of fencing.—Not yet transferred from Works Department. This style of fencing cannot be too strongly condemned, by running wire and straining to any post. Although this is only lately erected some of the posts are now splitting, owing to being split pine and straining wires to them.

The drains here have evidently been constructed with no respect as to what a drain is for. One drain for a good half-mile running water from tank. Another is brought along road to Mossgiel and cut up very badly by both stock and teams. The water from this drain overflows silt tank, which is very small, and partly upon main road, and runs into Elliott's tank on opposite side of road. Which water Elliott afterwards sells to the public. Another long drain runs through township allotments which have been sold, and is now being blocked up.

The Chief Inspector, Public Watering Places.

JOHN LOW,  
Inspector of Public Watering Places.

I submit this extract from Inspector Low's report upon the Ivanhoe Tank and fencing for the information of the Hon. the Secretary for Mines, as it so strongly confirms my former remarks. It is work of this sort that occasions so much discredit, and for which this Department is so frequently blamed.—H.G., 28/9/87. The Under Secretary for Mines. Submitted.—H.W., 29/9/87.

Seen. I cannot help saying after having seen this tank that, in my opinion, a very improper situation was selected, and the work, in my estimation, is badly done.—F.A., 12/10/87.

## XVII.

## Holy Box Well.

Tanks and  
Punts,  
77-9.

Sir, I have this day let to Fred. Richelman, a task for sinking a trial shaft in the Holy Box Paddock, between Ivanhoe, Waiko, and Mossgiel, at 6s. per lineal foot, to 150 feet; and 7s. 6d. per foot, 50 feet deeper. I have, &c.,  
The Commissioner for Roads. W. H. HIGMAN.

Wilcannia, 13 May.

I understood that there was to be a tank here.—W.B.C., 22/5/77. A tank was never proposed, the country is unsuited.—W.H.H. Mr. Higman to telegraph result.—W.C.B., 13/6/77.

Telegram from Mr. W. H. Higman, to Commissioner, Roads.

Tanks and  
Punts,  
77-17.

RICHELMAN has very good water at 95 feet, Holy Box, between Mossgiel and Ivanhoe. I have, &c.,  
W. H. HIGMAN.

Telegraph, arrange for a well.—W.C.B., 26/7/77. Telegram sent.—26/7/87. Register and file.

## Holy Box Well.

Tanks and  
Punts,  
77-34.

Sir, In passing through Hay early this month, I saw the iron-work, fittings, and sheet iron, required for this work, on drays. The timber (pine) is being cut about 60 miles north. I have, &c.,  
The Commissioner for Roads. W. H. HIGMAN.

Wilcannia Road, 29 October, 1877.

## Holy Box.

Tanks and  
Punts,  
77-38.

Sir, I have to report that the material for this work is daily arriving on the ground. I am not without hope that it may be completed to be available during the present summer. I attach a statement showing detailed quantities and schedule rates to agree with contractor's bulk sum. I have, &c.,  
The Commissioner for Roads. W. H. HIGMAN.

Wilcannia Road, 1 December, 1877.

Little or no progress here yet. No possibility of getting timber. Three or four thousand feet of timber on the ground. Trial shaft down 95 feet, good water.—26/1/78.

## Holy Box.

Tanks and  
Punts,  
78-16.

Sir, The bulk of the material for this work is now on the ground, the shaft and tank have been started by the same men who built those at the Jumping Sand Hill, and I anticipate equally good work. The utility of this well has been strikingly proved by the saving of three lives. In each case the men reached the trial shaft utterly exhausted, and by making ropes of their blankets fortunately succeeded in getting water. I am anxious to receive instructions for Taylor to go on with the Lignum Hut Well. I forward return by same mail with this. I have, &c.,  
The Commissioner for Roads. W. H. HIGMAN.

Darling Road, 1 April, 1878.

I do not wish to give instructions for the commencement of more work until I know exactly how Mr. Higman stands with respect to funds.—W.C.B., 16/4/78. Mr. Higman.—To be returned.

Unless the amount required would be advanced from some general vote, I am afraid the work must stand over. I regret this as Taylor has an excellent staff together, and it is an important work.—W. H. HIGMAN, 23/4/78.

W.C.B., 29/4/78.

### HOLY BOX WELL.

Showing quantities and Schedule of prices to agree with Contractor's bulk sum of £1,031.

No.	Dimensions.	Quantity.	Price.		No.	Dimensions.	Quantity.	Price.	
			£ s. d.	£ s. d.				£ s. d.	£ s. d.
288	6' 4" × 8" × 2"				2	6' 4" × 6" × 6"			
288	3' 2" × 8" × 2"				2	4' × 6" × 6"			
54	3' × 4" × 4"				2	9' × 8" × 8"			
19	12' × 3" × 3"				2	4' × 8" × 8"			
19	12' × 4" × 4"						4,515	5 0 0	225 0 0
TANK.									
70	6" × 4" × 5' 6"				2	8" × 6" × 17' 3"			
4	8" × 6" × 5' 6"				16	8" × 1½" × 15'			
47	6" × 4" × 17' 3"				222	8" × 1½" × 10'			
							5,077	4 0 0	203 0 0
TROUGHING.									
84	6" × 6" × 10' 6"				60	6" × 3" × 10'			
30	14" × 6" × 2' 4"						3,966	4 0 0	158 0 0
WHJM AND POPPET LEGS.									
1	12' × 12" × 12"				2	4' × 7" × 7"			
2	14' × 8" × 8"				4	10' × 6" × 4"			
2	14' × 8" × 4"				5	5' × 6" × 4"			
3	10' × 6" × 4"				30	9' × 4" × 3"			
6	12' × 7" × 7"				14	4' 6" × 14" × 2"			
2	8' × 7" × 7"						1,348	4 0 0	54 0 0
150	Oregon Battens	...	...	...	...	...	...	...	10 10 0

### ROUND TIMBER.

32" × 8" dr. span beam 6/6	...	...	...	...	...	...	...	10 8 0
256' King posts, &c., 4/6	...	...	...	...	...	...	...	57 12 0
336 sleepers 8/-	...	...	...	...	...	...	...	84 0 0
Screws, bolts, washers, &c.	...	...	...	...	...	...	...	10 0 0
Fencing	...	...	...	...	...	...	...	50 0 0
No. 4 wire, 1½ cwt.	...	...	...	...	...	...	...	1 10 0
Galvanized iron, 27 cwt.	...	...	...	...	...	...	...	108 0 0
Copper nails	...	...	...	...	...	...	...	8 15 0
Spikes	...	...	...	...	...	...	...	1 0 0
3" nails	...	...	...	...	...	...	...	5 12 0
4" nails	...	...	...	...	...	...	...	5 12 0
1 set whjm mountings	...	...	...	...	...	...	...	30 0 0
2 cast-iron cocks	...	...	...	...	...	...	...	8 1 0
Total	...	...	...	...	...	...	...	£1,031 0 0

### Holy Box Well.

Sir,

I have to report that work at this place is progressing very satisfactorily, the shaft is timbered for 65 feet, and is now in hard slate, which must be blasted. The tank timber is all fitted ready for erection. This well should be complete in two months at the outside.

The Commissioner for Roads.

I have, &c.,

W. H. HIGMAN.

Tanks and  
Punts,  
78-20.

Mr. Higman gives no idea of the quantity of water. Would a bore hole through this slate answer?—W. C. B., 17/5/78. Mr. Higman, B.C. To be returned.

No water obtained yet in main shaft, nor expected until reaching depth of trial shaft, 95 feet; it is too early yet to bore, we must have a certain depth of water to work the buckets in.—W.H.H., 23/5/78.

### Holy Box Well.

Sir,

Work at this place is progressing, the shaft being timbered and centred for 80 feet. The tank and whjm are commenced all material is on the ground fitted and ready for fixing. I am in great hopes that the well will be ready for use in August.

The Commissioner for Roads.

Seen.—W.C.B., 25/6/78.

I have, &c.,

W. H. HIGMAN.

Tanks and  
Punts,  
78-27.

Telegram

Telegram from Mr. W. H. Higman to Commissioner for Roads.

We have splendid water, Holy Box Well, every prospect large supply; work now progressing satisfactorily.

W. H. HIGMAN.

Boohigal, 26 August, 1878.

Holy Box Well.

Sir,

Hay, 16 August, 1878.

Tanks and  
Punts,  
78-41.

I have to report unsatisfactory progress at this place, some difficulty with the men being the cause; there has been scarcely any work done since my last report. I have given the contractor, J. H. Taylor, to understand that unless he can make an immediate arrangement for completion at an early date the work will be taken off his hands and carried out at his risk. This I am prepared to do. I return here in a day or two.

I have, &c.,

W. H. HIGMAN.

The Commissioner for Roads.

Mr. Cambridge to report on this at once.—W.C.B., 19/8/78. Hay, B.C. Mr. Cambridge, B.C. To be returned.

As mentioned in this report I returned to these works immediately, and found work recommenced on good progress being made. On the return trip again I found that excellent water had been struck at 92 feet, and in the next 3 feet increased rapidly, giving every prospect of a good supply.—W. H. HIGMAN, 28/8/78. File.—W.C.B., 6/9/78.

Telegram from Henry Cambridge to Commissioner for Roads.

Hay, 24 September, 1878.

Tanks and  
Punts,  
78-35.

CONTRACTOR for Holy Box Well likely to become insolvent. Can the workmen claim their wages due from bondsmen if they agree to carry out work?

HENRY CAMBRIDGE.

Mr. Flynn to see with reference to payments due, then record for reference.—W.C.B., 29/9/78. Accountant.—J. K. Taylor is the contractor for the work. The amount of the contract is £1,031, paid on account £611 12s. There are no vouchers in office at present.—J.W.F., 25/9/78. Put with papers.—W.C.B., 25/9/78.

Telegram from Henry Cambridge to Commissioner for Roads.

Hay, 28 September, 1878.

Tanks and  
Punts,  
78-37.

TAYLOR relinquishes contract Holy Box; gives up all claim to balance of money now due. Saunders, his security, agrees to complete and pay all arrears of wages provided he be guaranteed all moneys now due or to become due on contract, even though Taylor should be forced into Insolvent Court. Instruct at once as I leave Hay in the morning. I have promised to relet to Saunders.

H. Y. CAMBRIDGE.

Telegram from Mr. James H. Saunders to Commissioner for Roads.

Hay, 30 September, 1878.

Tanks and  
Punts,  
78-38.

As surety for Taylor, I should complete the work, Holy Box, if he fails to do so. If I accept the position and pay wages due and Taylor be made insolvent, can assignee impound or obtain possession of balance of contract money, about £400? Will the Department guarantee that I receive it?—if so what steps must Taylor take? Reply immediately. Important.

JAMES H. SAUNDERS.

Mr. Cambridge has been instructed. File.—4/10/78.

Extract from Mr. Cambridge's Report.

The Holy Box Well.

Wilcannia, 9 September, 1880.

Tanks and  
Punts,  
80-17.

The Holy Box Well has been attended to by Mr. Gilliat. The wood work has received two coats of tar. All joints in troughing and tank have been attended to and everything is in good order. I could not ascertain what cost of repairs were here or at the Mossgiel Well.

Telegram from Messrs. Robertson, Wagner, & Co., to Mr. Harry Gilliat, Inspector, Public Tanks and Wells.

Hay, 27 April, 1882.

Tanks & Wells,  
82-299.

No applications at either place. Coach horses won't drink the water.

ROBERTSON, WAGNER, & CO.

Mr. Bruce,—In answer to my request for information whether they had received any applications for water from travelling stock, or if their own horses would drink the water from the Holy Box or Mossgiel Well, I have received this reply from Messrs. Robertson & Wagner (Cobb & Co's.)—H.G., B.C., 1/5/82.

Telegram from Mr. John Hansen to Mr. Harry Gilliat, Inspector, Public Tanks and Wells.

Wilcannia, 4 May, 1882.

Tanks & Wells,  
82-359.

No travelling sheep or cattle have ever applied for water at Holy Box and Mossgiel wells, water too salt, no stock will drink it, cannot get to Copago, return to-morrow Ivanhoe. Then Hay report re Clancey sheep posted.

JOHN HANSEN,  
Overseer, Felgate's Hotel.

Mr. Bruce,—This telegram might be attached to the similar one from the lessces of these wells.—H.G., B.C., 5/5/82.

This might perhaps be forwarded to the Department of Public Works, in connection with previous papers. (Works 82-299, T. & W., 82-45).—The Under Secretary for Mines.—A.B., 5/5/82. The Under Secretary for Public Works, B.C., 6/5/82. G.E.H. (for U.S.) Roads.—J.R., B.C., 10/5/82. Holy

Holy Box Well.

H. Cambridge—Well is finished.

Memo. with voucher for completion of the Holy Box Well.

The well is finished at last, and everything is satisfactory.

I visited the work on the 7th, and had the supply tested; and am of opinion that it will not only give the required supply, but four or five times as much in every twenty-four hours, and then not fail. The quality of the water is good. The material and workmanship is very fair. I could not get to the bottom, but the shaft had been timbered to the bottom before the supply was obtained.

When the bailing began, there was a depth of nearly 30 feet; after bailing about two hours, the top water was got rid of, and the depth then was about 15 feet, at which depth it kept, whilst bailing at the rate of 1,500 gallons an hour.

HENRY CAMBRIDGE.

Tanks and Punts, 83-180.

Original of above bears no date, but was forwarded with final voucher of Dec. 1/82.—T.H.

MEMO.

I had the honor recently to give some details in connection with the Mossgiel, Holy Box, and Waiko wells, for the information of the Honorable the Secretary for Mines, from the annexed minute paper of the Commissioner and Engineer for Roads and Bridges, to whom the paper was sent. It appears that I have failed to express myself with sufficient clearness on some points.

Tanks & Wells, 82-416. Original, with Ivanhoe Tank papers.

- 1st. In the previous paper I endeavoured to show that the supply of water from the wells named was ample, and that after being received from the Department of Public Works, they were thoroughly refitted, and had been maintained in effective order since.
- 2nd. That the real objection to the Mossgiel and Holy Box wells was that they did not yield stock water, stating that while the station sheep would drink in dry seasons the water from the Mossgiel Well neither travelling sheep, cattle, or horses would drink from either that or the Holy Box Well.
- 3rd. That the Waiko or Ivanhoe well being so much out of repair at the time of its transfer from the Works Department, I advised its abandonment, on the ground that it would cost nearly as much to repair as to sink a new shaft, adding that while fair stock water, it was not fit for human consumption, and that the probable increase of population at Ivanhoe made it desirable that a tank should be placed there.

Two telegrams were submitted at the same time, one from Messrs. Robertson, Wagner, & Co., the present lessees, stating that no application for water had been made at either of the works during their tenancy, and that their own horses would not drink it. The other, from Overseer Hansen, was was to the same effect.

With regard to Mr. Woods' recollection of travelling stock watering at the Ivanhoe Well, it was distinctly stated that the water was reported fair stock water.

In wells not so brackish, but that water will be drunk by sheep broken to it on the station, Mr. Woods' experience and my own agrees, viz., that by constant use for a sufficient period, a proportion of the salts in the water bearing strata may become diluted, and the water improved in consequence; but I do not see how this can effect these wells, for if no stock will drink the water, they are not likely to be improved by constant use, and bailing for weeks would probably have no effect upon them. But what appears to be the fatal objection to these wells remaining part of a line of a public water supply on one of the most largely travelled roads of the Colony, I would submit,—

- 1st. Their being unfit for human consumption, which may be considered of great importance in public works of this nature.
- 2nd. That two out of the three wells are unfit for stock, and the third being so much out of repair, a new work is advisable that would be of use to the inhabitants. Referring to the information given by the Commissioner that a tank or dam near or in the Willandra is to be constructed (which will supersede the Mossgiel Well), the site is the one that I proposed; but it has been recently suggested by Messrs. Cransie and Wilkinson, the Members for the District, that a site near the township of Mossgiel would be jointly available to the residents as well as the travelling public, the consideration of their joint service is now with the Secretary for Mines; and I have only to say that a very suitable site may be found in Smith's Chump, 1/2 mile S.W. of the township. As soon as the position is determined, it will be very desirable that a reserve of (say) 2 miles should be applied for.

The anomaly of the Mines Department recommending tanks where the Department of Public Works has placed wells, and on the road to Mount Brown (wells where the department has constructed service tanks), may, I think, be simply explained. I referred in my report on the latter to the exceptionally low average and irregular rainfall common to the district, and to the fact that wells had been sunk in various parts of it, obtaining fair supply of good water at moderate depths, and drew my conclusions that wells would prove the more reliable source of supply under such conditions.

The Government wells on the road from Booligal to Wilcannia, five in number, cannot be considered successful. Three are not fit for human consumption, one is unpalatable from its sickly, sweet flavour, so noticeable that tea made from it does not need sweetening, and the fifth has no supply. The climatic conditions are different; the rainfall is slightly heavier, and more regular. Under these conditions I considered it my duty to advise the adoption of tanks.

As the Commissioner notifies his intention of abandoning the well at Mount Manara, on account of insufficient supply, the course I had the honor of recommending in 1880, I would suggest that the overseer of that division may be authorised to remove such of the material as may prove useful for repairs at neighbouring works.

HY. GILLIAT, 25/5/82.

Abandonment of Holy Box and Waiko Wells.

MEMO.

It is I think evident from Mr. Gilliat's memo., and the evidence to which he alludes, that Holy Box Well cannot be deemed a suitable watering place, for if the water there had been drinkable, even by sheep, no drover would in such a trying season as the last have passed it as every one of them did without watering his sheep, supposing they had been supplied, which they were not, with water at Mossgiel.

Tanks & Wells, 82-439.

The

The fact that no application was made to water stock at Holy Box is sufficient proof that the water is unfit for any but station sheep which have been made to drink such water by three or four days' starvation, a course of procedure drovers dare not attempt with sheep on the road.

Then as regards the Waiko Well at Ivanhoe. There is no doubt but that this will be a township of some size, and likely before long a place of Petty Sessions, situated as it is about midway between Balranald and Cobar, and about the same position between Booligal and Hay at the point where the roads between these townships cross each other, and it would tend not only to the comfort of the people in the township and that of the travellers on these roads to have a sufficient supply of good, fresh water here but also promote the growth of the township.

It would I think be unsafe to have two doubtful means of supply such as the Holy Box and Waiko wells afford next to each other, for if the water at both wells were to be refused by stock (I was informed by several persons on my way to Wilcannia and back that only some stock would drink the Waiko water) they would have to travel 45 miles from Mossgiel to Boonoonna without a drink. Then, again, with regard to travellers, it is not right that on an important road such as this now is they should have to go half that distance in dry times without being able to obtain fit water for themselves or their horses, except perhaps by begging it, which they could only do at one or two places by the way.

Taking all these circumstances into consideration, and also the important fact pointed out by Mr. Gilliat, that the cost of repairing the Waiko Well will be nearly as much as sinking a new shaft, I would suggest that these papers be returned to the Department of Public Works with a view to reconsideration of the question of the abandonment of the two wells here referred to, more especially that at Ivanhoe, and in doing so it should also be borne in mind that the nearest watering place on the Balranald Road (on which there is a considerable amount of both stock and general traffic) is at Til Til, more than 25 miles from Ivanhoe, and that if a sufficient supply of good water is not provided at the latter place travellers by the Balranald Road will get none till they reach Boonoonna, some 16 miles further on.

A. BRUCE.

Mr. Wood.—Draft instructions herewith. A. P. Wood, Commissioner Roads.—B.C. Submitted.—H.W., 1/6/82. Refer to Department of Public Works together with the letter of Mr. R. B. Wilkinson, M.P., on same subject.—A.R., 2/6/82. The Under Secretary for Public Works.—B.C., 3/6/82. Roads.—J.R., B.C., 3/6/82.

It is no use writing more, I have not time. Mr. Wood, prepare instructions to Mr. Gordon to invite tenders for a tank at Mossgiel, though in another paper from the Mines the combination of town and stock tanks are objected to. Will Mr. Wood also note the importance of having a section of the Willandra and of the Lachlan at its junction taken? This information may probably be at Harbours and Rivers Office. Instructions to be also given to invite tenders for tank at Holy Box and a small tank at Waiko which, in the event of the artesian bore turning out a failure, can be supplemented by a large stock tank.

Also a tank at Mount Manara, as even if sufficient water could be obtained in the well it would probably be too deep to lift economically.

W.C.B., 7/6/82.

#### Holy Box and Mossgiel Wells.

Sir,

Jumping Sand Hill Well, 27 August, 1882.

Tanks & Wells,  
82-920.

These works are in repair. Whilst at Mossgiel Station I drove over with Mr. Parsons, the owner, to inspect Mossgiel Well. He is prepared to buy the material above and below ground of these two wells, filling up the old shafts. For the Mossgiel Well, the material of which is not so good or is it in such good order, he is prepared to give £100, and for the Holy Box, £200. If this price suits the department he would like an early answer, as the material is wanted for other wells. Address—Messrs. C. J. Parsons & Co., Mossgiel Station.

Mr. H. A. Gilliat, Inspector of Public Tanks and Wells.

I have, &c.,

T. ILBERY,  
Overseer, Public Tanks and Wells,  
S. W. Division.

Mr. Bruce.—This letter with another, was missent, and has just reached me, please forward it or a copy to me at Ivanhoe that I may make enquiries. It may be advisable also to instruct me if such a sale would be confirmed by the Hon. the Secretary for Mines.—H.G., B.C., 2/11/82. Copy forwarded, 17/11/82.

Do you not think that the owners of the runs on which these wells are might purchase the wells? If they would, more would be got than by selling the material.—A.B., B.C., 17/11/82.

Mr. Gilliat.—The water from these wells is practically useless; sheep in very dry seasons have drunk that at the Mossgiel, but been always more or less injured in doing so; neither stations will buy them; but the present offer from the managing partner of Mossgiel is too good in my opinion to be neglected.—H.G., 8/1/83.

Sir,

Kilfera, 30 November, 1882.

I have just returned from having visited these works. I was unable to see Mr. Armstrong, the resident partner of C. J. Parsons & Co., he being absent from the station; his representative, however, informed me that they were still prepared to purchase at the prices already quoted to you, and would like an early answer; I wired you to this effect from Mossgiel.

H. A. Gilliat, Inspector of Public Tanks and Wells.

I have, &c.,  
T. ILBERY,  
Overseer, Public Tanks and Wells,  
S. W. Division.

Mr.

## Tanks on Hay to Wilcannia Road.

As the price here quoted (1s. 10d. per cubic yard) is an extremely high one, and as the season of the year is becoming more favorable for getting the work done at a reasonable price, I would suggest that the Works Department be invited to call for fresh tenders, and if a scarcity of water still exists it might be conditional (as Mr. Quin, M.P., tells me it often is in such cases in the Darling District) that the period allowed to do the work should be counted from the date at which sufficient rain fell, to enable the contractor to obtain grass and water for his working stock.

The Under Secretary for Mines.

ALEXR. BRUCE,  
Stock Branch, 1/9/82.  
Under Secretary for Works.—

Submitted.—H.W., 2/9/82.  
H.W., B.C., 6/9/82.

Approved.—A.R., 4/9/82.

Roads.—B.C., 13 Sept., 1882. Holy Box and Mossgiel tanks are let, and new shaft, Waiko, will be let as soon as a reasonable offer can be obtained.—A.P.W., 3/1/83. Commissioner for Roads.

Sir,

Stock Office, Euston, 10 November, 1882.

When in Balranald, a few days ago, I met Mr. Brougham, from Tycehurst Station, near Ivanhoe, and he informed me that the well at Ivanhoe had fallen in, and that stock have now to travel along the Booligal Road, for a distance of 85 miles, without getting water from Government tanks or wells, viz. from Boonoona Tank to the Jumping Sand Hill. Mr. Brougham states that there are two wells between Ivanhoe and the Jumping Sand Hill, but they are both as salt as the sea.

Can any water improvement be made on this very important line of stock route?

I have, &c.,

J. McLEOD,  
Inspector of Stock.

Mr. Alexr. Bruce, Chief Inspector of Stock.

Mr. Gilliat.—A.B., B.C., 6/12/82.

The subject of this letter has formed the material of numerous reports from me during the last three years, and the steps, considered most suitable to cure the evil, have been urged as often; at present I understand that a tank has been marked at the Holy Box Well, and another near the Mossgiel Well. I shall shortly have occasion to visit those sites, and shall inform the department more particularly.

The actual distance from the Jumping Sand Hill Well to the Boonoona Tank is 80 miles, in this interval are three Government wells, two of which are salt and the third fallen in and condemned.

Full particulars of this road and the works on it, with schedule of the distances between water, have been furnished by me on several occasions in addition to my reports, and recommendations for the construction of works suitable for stock purposes, and at proper distances apart.—H.G., B.C., 29/12/82.

Telegram to The Chief Inspector of Stock.

Mossgiel, 3 January, 1883.

Mossgiel and Holy Box Wells

OWNERS urge early reply to their offer, viz., one hundred pounds sterling for material, Mossgiel; two hundred, Holy Box—not likely to get more. Will reply. Mossgiel, thirty January.

H. GILLIAT,  
Inspector,  
Ivanhoe.

Telegram to The Chief Inspector of Stock.

Booligal, 8 January, 1883.

Re Mossgiel and Holy Box Wells.

THE manager urges a reply to his offer for the material by the 20th instant. I expect to be there eighteenth. Will you wire decision to Mossgiel that I may inform. Papers posted to-day.

HARRY GILLIAT,  
Inspector of Public Tanks, &c.

Telegram from Mr. H. Gilliat to Chief Inspector of Stock.

Mossgiel, 19 January, 1883.

HAS a decision been arrived at regarding sale of material at Holy Box and Mossgiel Wells? Unless dealt with at once tender must be withdrawn, as contractor's men are waiting for the material.

H. GILLIAT.

Mr. Gilliat informed by telegram.—22/1/83.

Minute by Commissioner and Engineer for Roads.

Subject:—Transfer of the Holy Box Well and appurtenances from the Mining Department to this Department.

Roads, Sydney, 8 January, 1883.

THE officers of the Mining Department having condemned the quality of water in the Holy Box Well as being unfit for stock use, I have to recommend, that, as the timber and ironwork in the shaft and appurtenances will greatly reduce the costs of the work now being constructed to replace the well, the Mining Department be requested to hand the well, &c., over to this Department, the material to be used up in the new tank works. This course should be the more readily adopted, as the local officer reports that it is the intention of that Department to sell the material to certain residents in that district. While recommending this course I feel it to be my duty to again draw your attention to the difference of opinion regarding the quality of the well water entertained by their officers and ours.—W.C.B., 8/1/83.

The Under Secretary for Mines.—B.C., 9/1/83. This recommendation might perhaps be acted on, and the wells and material handed over to the Department of Works. The prices offered for the material were £100 and £200—£300 for the two.—A.B., 19/1/83. The Under Secretary for Mines. Submitted.—H.W., 20/1/83. Approved.—J.P.A., 20/1/83. Public Works informed.—24/1/83. Mr. Gilliat informed by telegram.—24/1/83.

Mr.

Sir,

Hay, 5 February, 1883.

Tanks & Wells,  
83-217.

I have the honor to request that you will give me authority to use material of abandoned tanks and wells on the road from Booligal to Wilcannia, so that same may be utilized in new works now in progress.  
I have, &c.,

JOHN GORDON,  
Assistant Engineer.

Mr. Gordon informed that the material at the Holy Box and Mossgiel Wells are at his disposal, but that they are the only ones I have been directed to transfer to his Department.—H.G., B.C., 9/2/83.

Mr. Bruce,—Mr. Gilliat may perhaps be instructed to hand over the material of any abandoned works for which the Officers of the Department of Works may apply.—A.B., 13/2/83. The Under Secretary for Mines.

Submitted.—H.W., 14/2/83. Mr. Gilliat may do so, always at once reporting to his Department that fact.—J. P. ABBOTT, 14/2/83. Mr. Gilliat.—A.B., B.C., 15/2/83. Mr. Gordon informed.—H.G., B.C., 22/2/83.

## Holy Box Tank.

Copy of Telegram from A. P. Wood, dated Wilcannia, 27 February, 1883.

Tanks and  
Punts,  
83-111.

THE construction of the Holy Box Tank in the face of the recent test, which has proved the well fit for human consumption, will be an absolute loss of £1,900. I must strongly recommend abandonment of tank works. If you think they should go on despite this, please telegraph Gordon.

A. P. WOOD,  
Assistant Engineer.

Telegram sent to Mr. Gordon to proceed with tank works.—28/2/83.

## Telegram to The Commissioner for Roads.

Wilcannia, 26 February, 1883.

Tanks & Wells,  
83-333.

INSTRUCT Contractor at Holy Box Tank to start and bale well. The result has been most satisfactory for Department, as Mr. Gordon telegraphs me that water is better than Jumping Sandhill, and was readily drunk by horses, and this is a crucial test. This should be communicated to Mines, and is another proof in support of views already advanced. Further comment is unnecessary.

ARTHUR P. WOOD,  
Assistant Engineer.

Mr. Wood has been instructed to let work at tank proceed.

Sir,

Tank at Holy Box, Hay, 9 March, 1883.

Tanks and  
Punts,  
83-128.

On testing the water at the "Holy Box" Well, and finding that stock would use it, I told Parker not to do any more to the tank.

I have a letter from him stating that since he had shifted his camp from the Holy Box, the sheep had used all the water he had in the silt tank, and that he could not do any more there till rain came. I have written reminding him that water can be got from the well, which I consider better than what they were using from the silt tank at the time I was there, and that he must push on the work. I will let you know the result when I hear from him.

I have, &c.,  
JOHN GORDON.

The Commissioner for Roads.

Mr. Hiles as to last action about tank or well here. Has not a telegram been sent on to Mines. Has not Mr. Gordon been told to wait.—W.C.B., 12/3/83. Last action submitted.—12/3/83.

Sir,

Hay, 28 February, 1883.

Tanks and  
Punts,  
83-113.

I have the honor to forward a jar containing water taken from the well at Holy Box. This well has been for months condemned by the Mines Department as unfit for use, and the construction of a tank was in consequence commenced.

When on our way to Mount Manara a few days ago, Mr. Wood and myself thought it advisable before dismantling the well, to have it baled out and see what quality of water would be found after taking out what had been standing in the shaft for months, and which was as salt as sea-water. Accordingly a horse was put to work on Monday eve, and baling carried on until my return on Friday morning, when good water was being brought up, a sample of which I forward. I showed it to Mr. Armstrong, and his opinion is that, so long as we can get water like it from the well, no tank will be required. When I drove up to the well on Friday the horses drank two buckets full each, and would have taken more. When I saw that, and tasted the water, I stopped the work at the tank. Parker had about 3,000 cubic yards out, I told him to level out the bed of the pit so that it might be measured.

In my opinion the well only requires to be regularly wrought, in order to have a plentiful supply of good water.

Mr. Armstrong would like to know the result of the analysis, as he has two wells giving water of a similar quality.

I have, &c.,  
JOHN GORDON.

The Commissioner and Engineer for Roads.

Mr. Flynn, look up the jar.—W.C.B., 2/3/83. Jar received this day, 14/3/87.

I forward sample of water from well condemned by the Mines Department. It seems to me good enough for all purposes, though it has a slight taste; in all probability the tank water would also have a taste. I wait instructions as to whether in the face of this sample I am to direct work to be resumed at tank.—W.C.B.,—14/3/83.

Under Secretary, B.C., with bottle of water. The Minister of Mines with sample of the water.—A.S., 2/4/83. The Under Secretary for Mines.—J.R., B.C., 4/4/83. Submitted. Shall the water be analysed?—H.W., 5/4/83. Yes.—J. P. ABBOTT, 6/4/83. The Geological Surveyor.—B.C., 6/4/83.

Mr.



If, however, the well has been heavily baled it may prove that a more powerful fresh water spring has broken in when there will probably be a permanent improvement in the water. A case of this kind occurred a number of years ago on the adjoining station, and has, I am informed, yielded excellent water ever since. Or, it is possible, that continuous baling night and day may have caused the water to flow into the shaft so rapidly, from a point beyond the saline stratum, in which it usually becomes impregnated, that it has not had time to take up the salts, in which case the well may continue to improve if constantly worked. I would suggest that information be obtained from the Works Department, how long the well was baled, and if, as reported for several days and nights, it will be advisable to put on a caretaker and to supply him with a horse, as at present there is no water between the Boonooa Tank and the Jumping Sand Hill Well.

I hand you herewith letters from Messrs. Armstrong and Brougham, the latter gentleman, probably the oldest resident in the district, which will show what the water from this well has hitherto been.

Both the water and salt I think should be sent for analysis.

I should add that, as regards the quality of the water, I do not consider it as nearly equal to that from the Jumping Sand Hill Well, the water from that leaves no trace of salt on evaporation. I have also, since visiting the Holy Box, inspected two station wells. One with the water about equally brackish, the other a little more so, but at neither of these, which have been carefully examined, can any trace of salt be found in either troughing or service tank, while at the Holy Box it can be picked up in large lumps below every leak in the troughing or tank.

HARRY GILLIAT.

Telegram from Mr. Inspector Gilliat to Chief Inspector of Stock.

Ivanhoe, 13 March, 1883.

Tanks & Wells, 83-391. IF rain comes, Mr. Brougham will send down enough horses, men, and feed to bale Holy Box for three nights and days, and fill the supply tank for £27. It cannot be done cheaper. Wire me Wilcannia if I can accept. H. GILLIAT.

Telegram from Mr. Inspector Gilliat to Chief Inspector of Stock.

Wilcannia, 14 March, 1883.

Tanks & Wells, 83-395. AM informed contractor is sent back to work at Holy Box, and that well is to be baled out by him. Have received no communication from officers of the Works Department with regard to this. H. GILLIAT.

Mr. Gilliat informed by telegram, 14/3/83.

Mr. Gilliat's report on the Holy Box Well, which is now said to give good stock water, is herewith, and he suggests that the well be baled to settle the question as to the fitness of the water. As, however, it seems from this telegram that the Department of Works is about to have this done, no action appears called for by this Branch in the meantime, unless it be thought necessary to inquire whether or not the baling has been ordered. The sample salt is herewith, but the water has not arrived. Inquiry will be made if it does not come to hand to-day.—A.B., 15/3/83.

The Under Secretary for Mines. Submitted.—H.W., 15/3/83. Approved.—J. P. ABBOTT, 17/3/83.

Telegram from Chief Inspector of Stock to Inspector, Tanks and Wells.

Sydney, 14 March, 1883.

I THINK you should instruct Mr. Casey to be at Holy Box when well is baled.

ALEX. BRUCE,  
Chief Inspector of Stock.

#### Memorandum.

Mount Manara, 28 February, 1883.

I LEARN by the last mail from Wilcannia that Mr. Assistant Engineer Wood, of the Roads Department, has received a telegram from the contractor sinking a tank near the Holy Box Well, to the effect that he has pumped out the well and finds the water better than at Jumping Sand Hill Well, and that his horses drink it readily. This well has recently been condemned by this Department on the score that the water was unfit for stock; it is important that the truth of this report should at once be inquired into and a report made upon the quality of the water, or if horses have really been drinking it readily. I will visit the well myself about the 6th of March, but I wish you to do so at once on your return from Gol Gol, and to prepare an independent report. You will also procure a bottle of the water from the shaft and forward it to Sydney for the satisfaction of the Department. You will please spare no pains in obtaining the facts of the case.

HARRY GILLIAT,

Inspector, Tanks and Wells.

Frank G. Casey, Esq., Overseer, Tanks and Wells, Ivanhoe.  
Urgent.

Sir,

Ivanhoe, 6 March, 1883.

Tanks & Wells, 83-398. I have the honor to forward to you the following report on the water in the Holy Box Well on the Wilcannia Road.

On the 5th instant I visited this well, and obtained from the shaft two bottles of water, which I forward for your inspection. The water I have obtained appears to be a good stock water; but I feel quite sure from what I have heard from people who have resided in this district for some years, and from my own knowledge of the water in the well, that after it has been baled for some time, until all the drainage water has been baled out, that the water in the well will be found quite unfit for watering stock of any description.

In evidence of this theory, I collected from the cattle-troughs in which there was some water left, the salt which is forwarded for your inspection. This salt was formed in a thick cake on the top of the water that remained in the troughs, and was collected by me by just running my hand along the top of the water.

Messrs.

Messrs. Robertson and Wagner also leased this tank from the Government, and have never taken any money at it, though numerous mobs of both sheep and cattle have frequently passed this well, wanting water very badly.

In some places, where the troughs have leaked, there are large deposits of salt and solid lumps.

Residents who have lived in this part of the country for years are quite unanimous in declaring that this water, when it was in use before, was quite unfit for watering stock with.

I have, &c.,

FRANK G. CASEY,  
Overseer, Public Tanks and Wells, South-western Division.

The Chief Inspector of Stock.

Submitted in connection with previous papers, 83-395.—A.B., 16/3/83. The Under Secretary for Mines. Submitted.—H.W., 16/3/83. Approved. The saline matter forwarded may be analysed, and the result submitted to me; and when the water comes to hand it should also be analysed.—J. P. ABBOTT, 17/3/83. Water also herewith—two bottles. The Under Secretary for Finance.—A.B., B.C., 19/3/83. To Mr. Watt, for analysis.—21/3/83. The Government Analyst.—J.T. for U.S., B.C., 22/3/83. Samples herewith—two bottles and two packages.—Mr. C.

Telegram from Mr. Geo. Parker to Mr. Assistant-Engineer Wood.

Mossgiel, 13/4/83.

Tex thousand sheep waiting at Holy Box Well. Drover considers it better than Jumping Sand Hill.

GEO. PARKER.

Tanks and  
Punta,  
83-179.

Sir,

Albert-street, 28 March, 1883.

I have to acknowledge the receipt of two bottles of water, and two samples of saline matter, respecting which I have now the honor to report as follows:—

Tanks & Wells,  
83-484.

The "saline matter" was found to consist almost entirely of chloride of sodium (com. salt).

Water from the Holy Box Well, Wilcannia Road.

The sample of water marked as per margin yielded:—

Total solids	...	...	...	373.44	grs. per gallon
Containing chlorine	...	...	...	163.30	" "

By far the largest proportion of the above consists of chloride of sodium (com. salt); the remainder of carbonates of lime and magnesia, sulphate of lime, iron, alumina, &c.

The water when received was found to be much charged with sulphuretted hydrogen gas; information should be furnished whether the water has this odour originally. This water is seriously charged with saline matter; it is unfit for human consumption, and should only be used for cattle when no better water is obtainable. It is probable that cattle will refuse it unless they have been long without water. Nevertheless, I am aware that in parts of this Colony and in Queensland, cattle have to depend upon water containing even more saline substances than exist in this water. Such water should not be exposed in open troughs, as by evaporation the relative quantity of saline matter may thus be much increased, and then the water would be rendered totally unfit to support animal life.

I have, &c.,

CHAS. WATT,  
Government Analyst.

The Under Secretary, Finance and Trade.

The Under Secretary for Mines.—B.C., 29/3/83. J.T. for U.S. Submitted.—A.B., 30/3/83. The Under Secretary for Mines. Submitted. See Overseer's report herewith.—H.W., 31/3/83.

I wish Mr. Bennett to see this report of Mr. Watts, also Mr. Hansen's report. I desire then that a copy of each of these should be made and forwarded to Mr. Russell, the Astronomer, with a statement of the locality of the well.—J. P. ABBOTT, 2/4/83. The Under Secretary for Public Works.—H.W., B.C., 4/4/83.

Mr. Gilliat is in error in regard to the salt in the troughs, &c., having been deposited from the water baled out at the late trial. It was there before the baling, and had very probably been accumulating for a lengthened period. As the result of the trial bears out the direct evidence of our officers as to the character of the water, which is further supported by the telegram, which I now attach, the better plan to adopt to satisfy the "Mines" and this Department that the water is suited for watering purposes, will be to bale the well night and day for a week. I may add that Mr. Gilliat's opinion that the water drawn being fresh has by its lesser specific gravity floated on the salt water beneath, is scarcely tenable, inasmuch as the buckets run to the bottom of the well; and did such a state of things ever exist, which is improbable, the whole would, by the disturbance caused by the buckets, soon be uniformly mixed.—A. P. WOOD, 17/4/83. Commissioner for Roads.—B.C.

Some more of the water is in this office. It has been pronounced excellent by Messrs. Brodribb, Quinn, & Cramsie. As the tank was let and the resumption of the work ordered by telegram, in accord with the orders from Mining Department, but the contractor has not yet resumed, I wait further instructions as to whether this work should be gone on with or not. It will cost £2,000.—W.C.B., B.C., 17/4/83. Under Secretary.

Mount Manara, 28 February, 1883.

I AM informed by last mail from Wilcannia that Mr. Assistant Engineer Wood, of the Roads Department, has received a telegram from the contractor sinking a tank near the Holy Box Well, to the effect that he has pumped out the well and finds the water better than that at the Jumping Sand Hill, and that his horses drink it readily. The work has recently been condemned by this Department on the score that the water was unfit for stock, and this step was taken, in a considerable measure, on your reports that the water would not be used by any travelling stock, not even sheep.

Please

Please inform me at once what tests were made by you during the time the work was in your charge, and also if it was pumped out and offered to any stock during the time it was leased to Robertson, Wagner, & Co.

All particulars bearing on the subject are important, and you will please report without delay.

HARRY GILLIAT,

Mr. Overseer Hansen.

Inspector, Public Tanks and Wells.

Sir,

Fort Bourke, 8 March, 1883.

Tanks & Wells,  
83-482.

I have the honor to acknowledge your letter dated 28th February last, requiring further particulars *re* Holy Box Well on road from Ivanhoe to Mossgiol.

If the information referred to in your letter is correct, viz., that the water in said well is now drinkable, all I can say is, something extraordinary must have brought this change about. While stationed in that division, I never knew of any stock that would drink the water during the time this well was leased to Messrs. Robertson, Wagner, & Co. The said well was baled down repeatedly, but no stock of any kind would touch it. I do not speak from what I heard, but what I saw myself. I often tried my horses, but they would not drink it. Further, I have seen sheep brought there in very hot weather, that had been travelling for three days without water, but the result was the same; and as no money was taken by lessees, it proves that the water was very bad. Had it been otherwise, large sums would have been collected, as there was no water on either side of this well for a long while nearer than about 20 miles.

I visited Canoble Station, as per your instructions, dated 2nd May, 1882, in order to ascertain whether this well could be sold to the station. The Manager, Mr. Evans, was not at home, but the officer in charge, Mr. Ridgway, promised to write to Mr. Evans, telling me, at the same time, that he would not advise to have it bought on station account, as the water was too salt.

If the water at present in the Holy Box Well is better than the Jumping Sand Hills, it must be very good indeed. I have always drunk the water at the last-named well, and so have many others that had to pass that way.

Mr. Inspector Gilliat.

I have, &c.,

JOHN HANSEN,

Overseer, Public Tanks and Wells.

*Re* Holy Box Well.—H.G., 26/3/83. Mr. Bruce, B.C. Submitted.—A.B., 30/3/83. The Under Secretary for Mines.

Dear Sir,

Booligal, 3 March, 1883.

Tanks & Wells,  
83-386.

It is quite true that the contractor for the Holy Box Tank has baled out the well, and that the water it now yields is not simply drinkable but very good—at least I may say this of the sample he brought to me.

Of the quality of the water previously obtained I can speak only from hearsay, not having at any time tested it personally; but I think it must be conceded to have been very bad, because, during the time the well was worked (it had a fairly extended trial), stock taken there to water refused to drink.

This is all I know of the matter. 67 points of rain on Tuesday.

Mr. Inspector Gilliat.

Yours, &c.,

A. ARMSTRONG.

My dear Gilliat,

Caiwarra, 1 July, 1883.

Tanks & Wells,  
83-1,183.

Your letter, dated as far back as 9th March last, only to hand last week, which will account for my not replying sooner. *In re* Holy Box Well, I can quite understand you and Brougham finding the water so good. The first water tapped in the well was good, but considered not sufficient supply; consequently contractor bored and struck a heavier supply, but quite salt in comparison to the first water. I drank some of the first water (so did my horse), and must say it was quite equal to the North Abbotsford Well near main road. I also tasted the second water when first struck, and must confess it was so salt that I wondered the Road Superintendent did not block up the bore and put a chamber in the well to help the light supply of good water. The second water was so salt that it used to leave a very large deposit of salt and potassium in the troughs.

We missed each other, I regret to say, by half an hour in Wilcannia last March. I hope you will come and see us should you visit the Cuttaburra, on the road from Bourke to Hungerford. That township, and along the border for 30 odd miles east of that town, forms the south boundary of these two runs. The Cuttaburra Creek at the crossing is only 40 miles from our Thorbindah Station, and 56 miles from Caiwarra H. S. With kind regards.

I have, &c.,

ALFRED J. COTTER.

Mr. Inspector Gilliat.

*Re* Holy Box Well.—Mr. Cotter was for a long time manager of North Abbotsford, within a few miles (eight, I think) of this well, and was on the spot at the time the shaft was put down. I have now submitted so much evidence with regard to the quality of the water, and the opinion entertained of it by old residents of the district, that should the water prove, on being lowered in the shaft to the salt spring, unfit for stock purposes, the responsibility will not rest with this Department. Mr. Cotter's letter might be annexed to the previous papers.—H.G., B.C., 2/8/73.

Submitted.—A.B. The Under Secretary for Mines. Submitted.—H.W., 8/8/83. Seen.—J. P. ABBOTT, 14/8/83.

Sir,

St. Kilda, 9 April, 1883.

Tanks & Wells,  
83-1,176.

With reference to your recent letter, asking my opinion as to the utility of the Holy Box Well, I beg to state that the water contained therein is the very worst for stock purposes within the whole district. I am continually passing the well when carrying out my instructions in the neighbourhood, and when the swamp dries up have tried on several occasions to get my horses to drink the well water, but could never induce them to touch it however hot and thirsty they might be. The neighbouring squatters inform

inform me that it is equally distasteful to sheep and other stock. It appears to have been a great oversight that the excellence of the site (close to where the shaft is sunk) for a large tank was not pointed out to the Department, it being the best for that purpose within a considerable radius, and, from my own knowledge of the water after a fair rainfall, is retained in the swamp for a longer period than in any other swamp in the neighbourhood.

Mr. Inspector Gilliat.

I am, &c.,

G. B. CARTER.

This might be attached to report and evidence as to the quality of the water at the Holy Box Well.—H. GILLIAT, B.C., 1/8/83. Submitted.—A.B., 3/8/83. The Under Secretary for Mines.

*Re* Holy Box Well.

Dear Sir,

57, Bourke-street West, Melbourne, 6 March, 1883.

In reply to your query as to quality of water in the Holy Box Well, in my opinion the water is utterly unfit for stock purposes. Tanks & Wells,  
83-397.

I have tried to get my thirsty buggy horse to drink it in hot weather unavailingly. I have seen an inch and a half of saline deposit in the troughs after water has been left lying in them. The opinion of drovers and others interested in travelling stock used to be that it was simply a trap for drovers who expected to get water there for their stock and found poison. In an old shaft close to Mossgiel station, which I knew to be as salt as the sea, I saw water nearly fresh drawn up for a few weeks—after some years' interval of disuse—but the water became again as bad as in former times.

I think a tank in this locality is an urgent public want.

Yours faithfully,

R. G. CASEY.

Mr. Inspector Gilliat.

Mr. Casey managed Kilfer for the late Mr. John Mathison, of the Bank of Victoria; is considered, from his great experience, one of the best authorities on wells in Riverina.—H.G., 11/3/83. Mr. Bruce, B.C.

Dear Gilliat,

Ticehurst, 2 March, 1883.

Yours *re* Holy Box Well to hand, and, as requested therein, give you particulars as far as I know respecting said well. What you say about the water greatly surprises me, for I know, not only from hearsay, but from personal knowledge, that the water is unfit for travelling stock. I know of instances of cattle and sheep perishing for a drink, and being taken to the well and not touching the water, and have had drovers coming to me and offering fabulous prices for water, stating that the stock would not touch the water at Holy Box. Had the water been as good as you tell me it is, two or three years ago, there would not have been the severe losses that have occurred on the Darling track. This well is so thoroughly condemned by drovers that not one ever thinks of applying to the lessees for a drink.

Last year and this year also I have known cattle to go from Boonoona Tank to Mossgiel, a distance of 60 miles, without a drink, and one mob this year from Boonoona to Jumping Sand Hill Well, a distance of 80 miles. I think this goes to prove (whatever the water may be like now) that at one time it was perfectly unfit for stock.

Yours, &c.,

H. E. BROUGHAM.

Sir,

Ticehurst.

Since writing you my former letter on the subject of the Holy Box Well, we having inspected said well together, I now, at your request, give you my opinion about it. Tanks & Wells,  
83-385.

The water drawn up by us last Wednesday is not only fit for stock, but would be used, on emergency, for domestic purposes. I must say I am somewhat at a loss to account for this change; it must be either owing to a spring of fresh water having broken out below, or that the well has not had a thorough baling, and, as is often the case, there is a small spring of fresh water, which water rises to the surface, and, after baling a short time, the supply of fresh water is exhausted.

I am rather inclined to think the latter is the cause in this case, as there are no great signs of constant baling being done.

In the supply-tank there are quantities of feathers and the remains of several dead birds. Had the tank been filled, these naturally would have been carried through the escape-pipe into the sheep troughing, which also contains a number of small bones and other rubbish, showing there had not been a rush of water down the troughing at all; this matter would have been carried to the far end of the trough, whereas it is now lying all along the troughing.

The cattle-trough had about 4 or 5 inches of water in it, which was covered with a coating of pure salt—and this could only have originated from the water that had lately holed, as no water had been drawn out of the well for months previous. Lumps of salt are to be found under the troughing and around the tank where the water has been leaking out. I do know of an instance of a well in this district where the water changed from salt to good water. This well was sunk in 1868. The water was perfectly salt; the whim horses would not touch it; water had to be carted for them. In 1873, I rented this well from the station. I found, to my surprise, that not only was the water good enough for horses, but for domestic purposes also, and has since remained so.

I have, &c.,

H. E. BROUGHAM.

The Chief Inspector of Public Watering Places.

Minute by Commissioner and Engineer for Roads to Under Secretary for Public Works.

Holy Box Well, road Booligal to Wilcannia.

I HAVE to suggest that the Department of Mines be requested to again take over charge of this well and make the necessary arrangements for its being worked. Tanks & Wells,  
83-1,454.

The water has been a second time tested by Mr. Gordon, Assistant Engineer, and been pronounced quite fit for the use of stock. Mr. Gordon's report is forwarded herewith. W.C.B., 24/9/83. Under Secretary for Public Works.

Forward to Mines.—E.A.W., 26/9/83. The Under Secretary for Mines. J.R., B.C., 26/9/83.

Acting on this report, Mr. Oversocr Casey might perhaps be instructed to meet Mr. Gordon or some other officer of the Works Department, take over the well, and place a caretaker in charge, pending the work being let.—A.B., 27/9/83. The Under Secretary for Mines. Submitted.—H.W., 28/9/83. Approved.—J. P. ABBOTT, 29/9/83. Mr. Casey informed, 1/10/83.

Reporting

## Reporting on trial of water at Holy Box Well.

Sir,

Hay, 19 September, 1883.

Tanks and  
Punts,  
83-569.

When in Mossgiel, on the 13th instant, I was shown a copy of the *Wilcannia Times*, in which reference was made to the bad quality of the water in the Holy Box Well.

In that letter it was stated that the water was not fit for stock after the well had remained for a few days unwrought.

Knowing that the well had not been wrought for more than three months, I thought it was a good time to put the said statement to the test, and got the contractor for the Mossgiel Tank to send a horse and man to the well. I followed, and was in time to taste the water from the first bucket drawn up. I cannot detect any difference between it and the water drawn after the well had been wrought for four days.

At that time I sent you a sample in a jar. I now send you a sample in a bottle, being a portion taken from the first bucket brought up after the well having remained unwrought for more than three months.

Parker, the contractor for the tank at Mossgiel, informs me that about three and a half months ago a drover got him to work the whim when 10,000 sheep were watered, and that he did not hear of any damage being done by it or any deaths as the result of having taken the water.

When at the Quondongs, on my way home, I met with a drover in charge of sheep. I got him to taste the water, and he pronounced it good stock water.

Parker informs me that Mr. Evans, the Manager of Canoble, said he would work the well during the summer months if allowed. It might be well to let him do so, in order that the efficiency of it might be established, on the presumption that he would charge the public no more than the usual Government rates.

If you think of this I will try and make arrangements.

I have, &c.,  
JOHN GORDON.

I do not know of any man in the mean time, but will be on the look out, lest you should object to Mr. Evans' proposal.—J.G., 19/9/83.

Sir,

Department of Mines, Stock Branch, Sydney, 1 October, 1883.

Tanks,  
83-1,454.

It having been decided to again take over the charge of the Holy Box Well, I am directed by the Minister for Mines to instruct you to meet Mr. Assistant-Engineer Gordon, or some other officer of the Works, take of (over?) the well, and place a caretaker in charge until the work is let.

You will, of course, report as to the rate of wages to be paid, and date of caretaker's appointment.

I have, &c.,  
ALEX. BRUCE,  
Chief Inspector of Stock.

Mr. Overseer Casey.

Telegram from Mr. J. G. Casey to Chief Inspector of Stock.

Balranald, 22 October, 1883.

Tanks & Wells, I HAVE not seen Mr. Gordon. Have telegraphed him, and waiting reply.  
83-1,595.

J. G. CASEY.

Sir,

Clare, 20 October, 1883.

Tanks & Wells,  
83-1,564.

I have the honor to report that, through the Postmasters not having followed my instructions about my letters, I have not received them until to day.

Your letter re the Holy Box Well, I have received. Have telegraphed to Mr. Engineer Gordon to find out what date I can meet him there.

Chief Inspector of Stock.

I have, &c.,  
F. G. CASEY.

Sir,

Waiko, 26 October, 1883.

Tanks & Wells,  
83-1,595.

I have the honor to report having seen Mr. Engineer Gordon on the 26th instant. He stated, when I showed him your telegram, that he had received no instructions to hand over the Holy Box Well to me, and that he was at present making arrangements for working the well, and having the water properly analysed, then advertising in the papers the result.

Will you please inform me how to proceed in the matter.

I have, &c.,  
F. G. CASEY.

The Chief Inspector of Stock.

These papers should perhaps be referred to the Works Department, with a view to the necessary instructions being issued to Mr. Engineer Gordon.—A.B., 2/11/83. The Under Secretary for Mines. The Under Secretary for Public Works.—H.W., 3/11/83, B.C. Forward to Roads.—F.A.W., 8/11/83. B.C., 8/11/83. Mr. Wood.—W.C.B., 12/11/83. Mr. Gordon has been instructed to arrange for working this well, when it has been still further proved that the water is suitable; then it will be advisable to transfer to the Mines again.—A.P.W., 12/11/83. Under Secretary.—W.C.B., 12/11/83, B.C. Submitted.—J.R. Approved.—F.A.W., 16/11/83. The Under Secretary for Mines.—J.R., 19/11/83, B.C. Mr. Casey might perhaps be so informed.—E.W., 21/11/83. Mr. Overseer Casey informed.—22/11/83. No reply was received from Mr. Casey in this matter.—E.W., 8/2/84. Mr. Gilliat,—Should Mr. Keighran not visit this well and report?—A.B., 8.

Since the date of Mr. A. P. Wood's minute, no stock could have travelled this road, so that his proposal to further test the water under Mr. Gordon's supervision cannot yet have been acted on; but as Mr. Gordon's head quarters are in Hay, Mr. Keighran might perhaps arrange to be present when the test is made. To be any way conclusive, it will require at least four or five days and nights continuous baling.—H.G., 11/2/84.

Sir,

Sir, Department of Mines, Stock Branch, Sydney, 22 November, 1883.  
 With reference to your letter of the 26th instant, respecting the Holy Box Well, I have the honor to inform you that Mr. Gordon has been instructed to arrange for working and handing over this well to the Mines Department, when it has been ascertained beyond all doubt that the water is good.

Copy.  
83-1,595.

Mr. Overseer Casey.

I have, &c.,  
 ALEX. BRUCE,  
 Chief Inspector of Stock.

Report by Mr. Overseer Keighran upon Holy Box Well.

February, 1884.

HERE there is a well newly erected, with all necessary appliances for watering stock; but, on account of the water killing some two or three hundred sheep belonging to Canoble Station, it is now shunned by the travelling public, teamsters, and others. Tanks & Wells, 84-258.

I noticed that a tank had been commenced within half a mile from this well, and had been abandoned. It was a great pity the work was not carried out, as there is no water between the Jumping Sandhill and Boonocua, a distance of 70 miles.

JOHN A. KEIGHRAN,  
 Inspector of Stock.

I have so frequently reported on this well and the bad quality of the water, that it is unnecessary for me to say more.—H.G., 4/3/84, B.C. The Chief Inspector of Stock. Inspector Gilliat,--- Recommend that Inspector Keighran be instructed to be present when Engineer Gordon again tests the water at the well. Mr. Inspector Keighran will be good enough to arrange with Mr. Gordon, as recommended by Mr. Gilliat.—A.B., 12/3/84, B.C. Mr. Engineer Gordon and myself having tested the water at the Holy Box Well, we are of opinion that it is fit for the use of stock.—JOHN A. KEIGHRAN, Inspector of Stock. Mr. Gilliat.—A.B., 2/7/84, B.C. No further action can be taken until it has been shown whether this is a permanent improvement or not.—H.G., 19/7/84, B.C. Tanks & Wells, 83-1,595.

Sir,

Hay, 25 March, 1884.

Referring to your 1,595/83 Tanks, of the 12th instant, I have the honor to inform you the engineer (Gordon) is at the present time in Sydney. On his return, will arrange to be present when he tests the water at Holy Box Well, as recommended by you. Tanks & Wells, 84-392.

Inspector, Tanks and Wells.

I have, &c.,  
 JOHN A. KEIGHRAN.

Holy Box Well—That the Mines be requested to take charge.

This well which was constructed by this Department some years ago and handed over to the Mines, was condemned by them under the impression that the water was unfit for stock purposes. It was subsequently handed over to us to be dismantled, but prior to doing this, as the reports of our officers were so different to those furnished to the Mining Department, it was deemed advisable to have the well tested. This was done, the result being that the water was found to be quite suitable for stock. Since then travelling sheep have been watered there. The Canoble sheep were watered there, and Cobb & Co. are now using it for their horses. In the face of these facts I must recommend that the Mining Department be requested to resume charge of this work, which was constructed at great cost and is now in first rate order, and work it for the benefit of the travelling public. Tanks & Wells, 84-1,208.

ARTHUR P. WOOD.

I recommend that this well be taken charge of by the Mines.—W.C.B., Under Secretary, B.C., 25/9/84. Forward to Mines.—F.A.W., 29/9/84. The Under Secretary for Mines.—J.R., B.C., 30/9/84. Mr. Gilliat.—A.B., B.C., 2/10/84. The Chief Inspector of Stock.—I have already submitted a minute upon the well. I would recommend that tenders for its lease should be immediately called.—H.G., B.C., 28/10/84.

Minute by Mr. Inspector Gilliat, suggesting leasing Holy Box Well.

Department of Mines, 29 November, 1884.

I would suggest, with reference to the Holy Box Well, that as it is impossible to put a caretaker in charge without making arrangements to cart water for his use, it is desirable no delay should be made in calling for tenders for its lease. Tanks & Wells, 84-1,511.

But as the well has an inexhaustible supply of water, and all our experience tends to show the more these salt-water wells are used the greater the chance of the water improving, I would submit, for the consideration of the Hon. the Secretary for Mines, the propriety of leasing the well to the pastoral lessee, with permission to water his own sheep, he being bound to give priority to travelling stock.

HARRY GILLIAT.

Submitted for approval.—A.B., 15/12/84. The Under Secretary for Mines. Submitted.—G.E.H., (for the Under Secretary), 29/12/84. Approved.—J. P. Abbott, 3/12/84. Mr. Inspector Gilliat, 2/1/85. Mr. John Evans, of Canoble, Mossgiel, might now be informed that tenders have been called for the lease of the Holy Box Well, and that if his tender should be that accepted, permission will be given to water his own sheep, travelling stock in all cases having priority.—H.G., B.C., 5/1/85. Mr. Evans, 28/1/85.

Sir,

Department of Mines, Stock Branch, Sydney, 28 January, 1885.

The Holy Box Well is about to be advertised for lease, and as I believe you are to tender for same, I am directed by the Minister for Mines to ask whether you will be good enough to take charge of the well on behalf of the Department until such time as it is handed over to you as lessee, in the event of your tender being the highest. Tanks, 84-1,511.

You will be allowed to water your own stock, but must give priority to travelling stock.

John Evans, Esq., Canoble, Mossgiel.

I have, &c.,  
 ALEX. BRUCE,  
 Chief Inspector of Stock.  
 24 September, 1884.

Report

## Report by Mr. Road-Superintendent Stillwell on Holy Box Well.

May, 1885.

Tanks & Wells,  
85-1,081.

ON visiting this well to-day I found no one in charge; the service tank empty; six rails and one stud missing from cattle troughing; the top wire broken on sheep troughing, and trough foul with sediment and sheep droppings; fifteen rails gone from the fence round sheep trough, and the wire broken, and two of the drum struts loose.

At my last inspection I found a man of Mr. Evans', of Konoble Station, in charge, and watering the station sheep, but since the rain has rendered this unnecessary the well apparently has been abandoned, and at the mercy of travellers and teamsters.

Were it not that the track in present use is some  $\frac{1}{2}$  mile away much more wanton damage would probably have been done.

Should not the "Mines" be communicated with as to this?

A. W. STILLWELL.

I recommend that this paper be sent on to Mines.—W.C.B., 5/5/85. Under Secretary.—B.C.  
Forward to Mines. Under Secretary for Mines.—J.R., B.C., 6/5/85. Letter and Copy of Report  
to Mr. Keighran. Letter and extract to Mr. Evans.—9/5/85.

P.W.P.,  
85-1,511.

Sir, Department of Mines, Stock Branch, Sydney, 5 May, 1885.  
I have the honor to call your attention to the notice published in the *Gazette* of the 1st instant, calling for tenders for the lease of certain watering places, including the Holy Box Well.

If you are still desirous of obtaining a lease of this well you should submit a fresh tender.

I have, &amp;c.,

ALEX. BRUCE,

Chief Inspector of Stock.

Mr. John Evans, Canoble, Mossgiel.

Tanks,  
85-1,081.

Sir, Department of Mines, Stock Branch, Sydney, 9 May, 1885.  
Herewith I forward you copy of report upon Holy Box Well, by Mr. Road-Superintendent Stillwell, and beg to state that you will be held responsible for the damage done, for if you had handed the works that are in the Ivanhoe district to Mr. Yeo before this, the well would have been under Mr. Yeo's supervision. Be good enough to attend to this at once.

I have, &amp;c.,

ALEX. BRUCE,

Chief Inspector of Stock.

Mr. J. Keighran, Overseer, Public Watering Places, Hay.

Tanks,  
85-1,081.

Sir, Department of Mines, Stock Branch, Sydney, 9 May, 1885.  
Herewith I forward you extract from report upon Holy Box Well, and have the honor to inform you that as the Government allowed you to have the charge of this well until such time as it was handed to you as lessee in the event of your tender being the highest, you ought to have taken better care of it, and I have to request that you will be good enough to at once put it and keep it in good order.

I have, &amp;c.,

ALEX. BRUCE,

Chief Inspector of Stock.

Mr. John Evans, "Canoble," Mossgiel.

Extract from Tanks, 85-1,081. Report by Mr. Road-Superintendent Stillwell, re Holy Box Well, Booligal to Wilcannia Road.

Tanks & Wells,  
85-1,327.

"On visiting this well to-day I found no one in charge; the service tank empty; six rails and one stud missing from cattle troughing; the top wire broken on sheep troughing, and trough foul with sediment and sheep droppings; fifteen rails gone from the fence round sheep trough, and the wire broken, and two of the drum struts loose."

A. W. STILLWELL.

Sir,

Hay, 27 May, 1885.

I have the honor to acknowledge the receipt of your 85/1,081 tanks of the 9th May, with copy of report from Mr. Road Superintendent Stillwell, on the Holy Box Well, and beg to state that the well referred to in his report was never handed over to me by my superior officer, Mr. Inspector Gilliat. If it had I should have placed a man in charge of the works as caretaker, and you would have been made acquainted with the fact of my having done so.

I was under the impression that Holy Box Well was still in the hands of the Works Department, as the water in it was considered too salt, and not fit for stock purposes, in fact it was said to be poisonous. Then allowing that it had been passed and taken over by the Mines Department, why was I not instructed to put a man in charge, the same as had been done at other watering places in my district.

I should like to be informed who the person was that gave Mr. Evans, of Canoble Station, permission to water his sheep at the well, as Mr. Stillwell says in his report. At my last inspection I found a man of Mr. Evans', of Konoble Station in charge and watering the station sheep; then I think it was Mr. Stillwell's duty to have ascertained by whose authority the man was placed in charge, and reported the matter at once to the Department for enquiry.

Therefore under these circumstances I consider it very hard, and fail to see why I should be held responsible for damages done through no fault or neglect on my part.

Mr. Yeo had every opportunity of inspecting and reporting on the works as they stood; he had his authority the same as was supplied me when appointed overseer of Public Tanks and Wells.

I have, &amp;c.,

J. A. KEIGHRAN.

The Chief Inspector of Stock.

Send Mr. Yeo, who has now taken this work over a copy of letters to Mr. Evans, to show him how the matter stands, and let him see that the repairs are carried out at once by them, or report.—A.B., 1/6/85.

Letter and copy of papers to Mr. Yeo.—2/6/85.

Sir,

Sir, Department of Mines, Stock Branch, Sydney, 2 June, 1885.  
 Herewith I forward you copy of letter and extract *re* Holy Box Well, sent to Mr. Evans, of Tanks, Canoble, on the 9th May last, to show you how matters stand, and I have to request that you will see that the repairs are carried out at once by him, or report. I have, &c., 85-1,327.

ALEX. BRUCE,  
Chief Inspector of Stock.

Mr. James Yeo, Overseer, Public Watering Places, Ivanhoe.

[Enclosure.]

Copy of letter and extract from report, sent to Mr. John Evans, Canoble, *via* Mossgiel, from the Chief Inspector of Stock, on the 9th May, 1885.

Report by Overseer Yeo, on the Holy Box Well, on taking delivery from Mr. Keighran. Tanks & Wells, 85-1,358.

State of Shaft.—In good order.

Whim, &c.—In good order, with the exception of two stays which want a bolt or large nail in each.

Ropes, buckets, &c.—Ropes in good order, the buckets were down the shaft, and could not see them.

Fencing round sheep troughing is in bad repair.

General remarks.—This well has not been used for a long while, the water being too salt for stock to drink.

Repairs required.—Cattle troughing has six panels missing, and the end post which will require to be replaced. The top wire on the sheep troughing is broken, and fence round sheep troughing wants 14 new panels and the wire to be mended.

JAMES YEO,  
Overseer, Public Watering Places.

Ivanhoe, 28th May, 1885.

Mr. Overseer Yeo to Chief Inspector of Stock.

Sir, Ivanhoe, 6 June, 1885.

With reference to yours of June 2nd, *re* Holy Box Well, I have already reported on its state of repair. Tanks & Wells, 85-1,420.

I intend going by way of Canoble on Tuesday next, and will then see Mr. Evans and know his intentions with regard to repairing Holy Box Well, and will report accordingly.

I have, &c.,  
JAMES YEO,  
Overseer, Public Watering Places.

Mr. Gilliat.—A.B., B.C., 9/6/85.

Reference to these papers shows that on the 29th November, 1884, I called attention to this well, and stated that it was impossible to put a man in charge without arranging to cart water for him. That the well being unfit for domestic use, no delay should be made in calling for tenders for its lease, and recommending that Mr. Evans of Canoble, should be informed.

My minute of 12th December, 1884, again recommends Mr. Evans to be informed. The present papers do not show any action between the Department and Mr. Evans, except that a letter was sent to him, 28th January, 1885, and a passage in Mr. Stillwell's undated report, that on a former inspection a man of Mr. Evans' was in charge. I am unable to make any recommendation on the subject until I am informed of the arrangements made as to Mr. Evans and his position with the Department.—H. Gilliat, B.C., 13/6/85.

Sir, Ivanhoe, 12 June, 1885.

By your request I have visited the Holy Box Well and find that no repairs have been done. Tanks & Wells, 85-1,498.

I have also seen Mr. Evans, and he informs me that he does not intend doing repairs beyond the two stays on the whim. Mr. Evans also informs me that he does not hold himself responsible for any charge of this well.

I have, &c.,  
JAMES YEO,  
Overseer, Public Watering Places.

The Chief Inspector of Stock.

Mr. Evans has not replied to letter of 28th January last, but appears to have taken possession of the tank, which is confirmed by the fact that he informed Mr. Overseer Yeo he would repair the stays on the whim.

No tender having been received from Mr. Evans or any one else, it appears necessary to make some fresh arrangements, and to ask the Works Department to make the slight repairs which are required.—A.B., 20/6/85. The Under Secretary for Mines. Submitted.—G.E.H. (for the U.S.), 2/7/85. Approved.—J. P. ABBOTT, 3/7/85.

Sir, Canoble, Mossgiel, 17 June, 1885.

I have received two letters from you in reference to the Holy Box Well, and in reply beg to state that I have never been the lessee of it, and am, therefore, not responsible for the present state of the fences, troughing, &c. Tanks & Wells, 85-1,594.

I presume you are aware that the well has been abandoned for some years, and that there was nothing to prevent any swag-man using the timber for firewood.

If you wish me to take charge of the well I am willing to do so, providing you have it put in repair, and allow me to water the stock at it.

I will not bind myself to keep a man always at the well, as the man in charge of the paddock lives at the Oat Swamp out station, which is 5 miles distant, but will supply travelling-stock with water on receipt of not less than twelve nor more than twenty-four hours' notice. I may add that I do not think the well is good unless it is worked continually.

I have, &c.,  
JOHN EVANS.

The Chief Inspector of Stock. Report

## Report by Mr. Overseer Yeo on the Holy Box Well.

Ivanhoe, 1 August, 1885.

Tanks & Wells,  
85-2,046.

State of Shaft.—Appears to be in good order.

Whim, &amp;c.—Two stays want repairing.

Rope, Buckets, &amp;c.—In good working order.

Fencing.—Fencing rounding troughing very much out of repair.

General Remarks.—Nothing has been done with regard to any repairs at this well since my last report.

State of Supply Tank.—In good order.

Troughing.—In very bad repair.

JAMES YEO,  
Inspector of Stock.*Précis.—Re Holy Box Well.*

85-1,594.

24 Sept., 1884.

29 Nov., 1884.

28 Jan., 1885.

5 May, 1885.

9 May, 1885.

9 May, 1885.

27 May, 1885.

2 June, 1885.

12 June, 1885.

2 June, 1885.

Date of letter,  
17 June.

In September last the Works Department asked that this well be again resumed by us.

This it appears was done, and Mr. Gilliat suggested that instead of placing a caretaker in charge it be leased.

Mr. Evans, of Canoble Station, was asked that as we believed he was to tender for this well, that he would take charge of it until it was handed over to him as lessee, in event of his tender being the highest.

This letter was never acknowledged until his attention was called to notice in *Gazette* of 1st May, calling for tenders, and he was asked if he was still desirous of obtaining a lease of this well.

The well having been reported by Mr. Road Superintendent Stillwell, as out of repair, and that when he visited it he found a man of Mr. Evans' in charge and watering the station sheep.

Mr. Evans was informed that as the Government allowed him to have charge of the well, he would have to put it, and keep it in good order.

Mr. Keighran was also informed of the damage and told that he was held responsible for it.

He replied that it was never handed over to him by Mr. Gilliat, and that he was under the impression that it was still in the hands of the Works Department.

The tank having in the meantime been put under Mr. Yeo's charge, the case was reported to him, and he was asked to see that the repairs were carried out at once by Mr. Evans. He replied that he had seen Mr. Evans, who informed him he did not hold himself responsible for the charge of this well.

As Mr. Evans had not, up to this date, replied to letter of 28 January, it was submitted, that as no tender had been received from Mr. Evans or any one else, fresh arrangements be made, and the Works Department asked to make the slight repairs needed. This was approved by the Honorable the Minister on the 3rd inst. While this was under submission, a letter was received on the 24th June from Mr. Evans, acknowledging letters, and stating that he had never been the lessee of this well, and was therefore not responsible for the present state of it, but offering to lease it under certain conditions.

S.A.M., 9/7/85.

Mr. Evans letter of the 17th ultimo, with Mr. Stillwell's memo. May last, and Mr. Overseer Yeo's letter of the 12th ultimo, show that although Mr. Evans made use of the well he refuses to make the slight repairs necessary, and only offers to rent the well on his own terms. *Vide* his letter of the 17th ultimo, 85/1,594, Tanks. A.B., 13/7/85.

Mr. Gilliat, B.C.

Sir,

Holy Box Well, Ivanhoe, 10 August, 1885.

Tanks & Wells,  
85-3,202.

I visited this well to-day; found no one in charge, the service-tank empty, six of the rails over cattle-trough missing, and also 19 fence rails from the sheep troughing enclosure. Three of the cage struts of whim are also loose.

The Mines Department appears to have abandoned this work to its fate. Their local Inspector says that the water is reputed unfit for stock, but last summer Mr. Evans, of Kanoble Station, used it for his sheep.

The fencing in of the special lease here is let, and will shortly be in hand.

I have, &amp;c.,

The Commissioner for Roads.

A. W. STILLWELL.

Telegraph to Mr. Stillwell to appoint a caretaker. Make copy of this and re-submit when Mr. Wood is in office.—W.C.B., 14/8/85. Telegram sent.—14/8/85.

The attention of the Mines should be drawn to this, and the question of water settled finally. In November last it was arranged that this work should be taken over, and I was under the impression that a caretaker had been appointed. Before fencing is carried out and repairs effected, there should be a distinct understanding that the well will be worked.—A.W.P., 15/8/85.

There is a sample of this water in this office—it is perfectly good; the bad water referred to by officers of Mines Department must have been drawn after the shaft had been lying unused for some time, as stated. It is desired to economize, and not have unnecessary outlay in sinking tank when well should answer. It is no use referring to analysis, for chemists would condemn most of the well water in the interior, though used for years by cattle and men with impunity.—W.C.B., 15/8/85.

The Under Secretary for transmission to Mines. Forward to Mines.—F.A.W., 24/8/87. Under Secretary for Mines.—J.R., B.C., 25/8/85. Mr. Gilliat.—A.B., B.C., 28/8/85.

Referring to my previous minute, 13/6/85, T.W., 1,420, I recommend that Mr. Overseer Yeo may at once make arrangements to put a caretaker in charge of this well. The man will have to provide himself with a horse and harness to work the whim, and some sort of vehicle to cart water for his own consumption. The slight repairs, a handy man can make without any trouble. Especial care should be taken that Mr. Evans' sheep do not interfere with the grass or water on this reserve.—H. GILLIAT, 9/9/85., B.C. Submitted for approval.—A.B., 10/9/85.

Submitted.—H.W., 17/9/85. Approved.—J. P. ABBOTT, 18/9/85. Inform Mr. Yeo. Mr. Yeo informed.—21/9/85.

Holy

Holy Box Well.—Referring to my report of 16th August, is it advisable to fence lease area? Hay, 21 Oct., 1885.

Tanks & Wells,  
85-3,950.

The Commissioner for Roads.

A. W. STILLWELL,  
Assistant Engineer.

Mr. Wood.—W.C.B., 2/10/85. Paper transmitted to Mines, 15/8/85, requesting a definite understanding regarding this well—fencing can stand over pending their reply.—A.P.W., 21/10/85. Desirable that a definite reply be obtained from Mines in reference to paper 85/1,384, sent to that office.—W.C.B., 22/10/85. Under Secretary for Mines.—J.R., B.C., 24/10/85.

The extension of tenants' leases, approved by the Honorable the Secretary for Mines, is in the case of this well to 640 acres, but should not, I think, be permitted to interfere with the completion of fencing previously arranged for by the Department of Works, especially as our survey cannot now be completed this year. The Department of Works may perhaps be informed that a caretaker is in charge, and that this Department has no wish to delay the completion of the fencing or repairs.—H. G., 29/10/85.

The Under Secretary for Mines.—Approved, H.W., 29/10/85. Inform the Works Department.—H.G., 29/10/85. Works informed.—31/10/85.

Extract from Monthly Report of T. Pollard, caretaker of Holy Box Well, for month of January, 1886.

Fence over cattle troughing too low, and is continually being broken while stock are watering.

P.W.P.,  
86-493.  
86-1,173.

T. POLLARD,  
Caretaker.

Mr. Overseer Yeo, for report.—B.C., 6 February, 1886. To be returned.—H.G.

The fence over cattle troughing has been in a very indifferent state of repair for some time. The caretaker, by my instructions, has repaired it at different times with some saplings, but he could only make a temporary job of it, which I have stated in a previous report.—J. YEO, 12/2/86.

Are not the repairs to this well being carried out by the Works Department at the present time?—H.G., B.C., 16/2/86. Mr. Yeo.

The repairs which were carried out by Department of Works were repairing buckets, whim, sheep troughing, and bottom of cattle troughing, but nothing was done to the rail over cattle troughing. Nothing is being done in this well by Department of Works at present time.—J. YEO, Overseer, P.W.P., 3/3/86.

This may perhaps be forwarded to the Department of Public Works, with the view of having such repairs as may be found necessary effected.—H.G., 11/3/86. The Under Secretary for Mines. Approved.—H.W., 12/3/86. The Under Secretary for Works.—H.W., B.C., 12/3/86. Roads.—J.R., B.C., 15/3/86. Mr. Wood.—W.C.B., 15/3/86.

This, a report for January, is rather late; we have a report from the local officer, dated 12th inst., stating that well and troughing have been repaired by the travelling mechanic. I may add that had not this well been condemned by the Department of Mines, on the ground of bad water, the top works would have been in better order. I may also add, as a corollary to this, that the last report referred to above, states that the water is better than that of the Jumping Sand-hill, which has been used for human consumption for years.—A.P.W., 15/3/86.

Under Secretary for transmission.—W.C.B., 15/3/86. The Under Secretary for Mines.—J.R., B.C., 18/3/86. Mr. Overseer Yeo, for report on Mr. Assistant Engineer Wood's minute, B.C., 20 March, 1886. To be returned.—H.G.

Re Mr. Assistant Engineer Woods Minute.—The top rail of cattle troughing has not been repaired since I last reported. The water has slightly improved since it has been regularly baled, but it is not fit for human consumption. At the present time the caretaker in charge carts water for his own use a distance of three miles. I may also add that drovers with stock avoid watering their stock at this well on account of the saltiness of the water, and in no case do they water stock unless they are perishing.—J. YEO, 1/4/86.

Have a copy prepared for transmission to the Works Department.—H.G. Copy to Works.—19/4/86.

Sir,

Department of Mines, Stock Branch, Sydney, 21 September, 1885.

Tanks,  
83-3,202.

I have the honor to inform you that you may at once arrange and put a caretaker in charge of Holy Box Well; he will have to provide horse and harness to work the whim, and some sort of vehicle to cart water for his own consumption. Please report date of engagement and rate of wages.

The slight repairs required at this watering place, a handy man can make; he should take especial care that Mr. Evans' sheep do not interfere with the grass or water on this reserve.

I have, &c.,

ALEX. BRUCE,  
Chief Inspector of Stock.

Mr. J. Yeo, Overseer, Public Watering Places, Ivanhoe.

Sir,

Department of Mines, Sydney, 3 October, 1885.

Tanks,  
85-3,950.

With reference to your blank cover communication of 24th instant, 83-8,917, respecting the fencing in of the lease area at the Holy Box Well, I am directed to state that the lease area has been extended to 640 acres, but this need not interfere with the completion of the fencing previously arranged, especially as the survey of the increased area will not be made for some time.

I may add that a caretaker is in charge, and this Department has no wish to delay the completion of the fencing or repairs.

I have, &c.,

HARRIE WOOD,  
Under Secretary.

The Under Secretary for Public Works.

Mr.

Mr. Assistant Engineer Stillwell's Report on Holy Box Well, in reply to complaints by Mr. Yeo, Inspector of Stock.

P.W.P., 86-2,515. THE whim, well buckets, and troughing have recently been repaired by the travelling mechanic. As it is purposed shortly to renew the troughing, any direct outlay upon this portion of the work is not justifiable. The repair of the trough nails from time to time in the interim (a slight matter) is quite within the power of the caretaker. As to the quality of the water:—On 7th March last I saw Mr. Yeo in Ivanhoe, and he then informed me that baling had greatly improved it, rendering it quite fit for stock. On the following day I visited the well, when the caretaker more than confirmed this—saying, horses drank it well, and that it was generally reputed better than the Jumping Sand-hill water. This I have heard repeated since by people travelling the road. As to the caretaker not using it—neither does the caretaker at Jumping Sand-hill. He carts all the water for his own consumption. I could not distinguish any difference in the waters to the taste.

A. W. STILLWELL,  
14/5/86.

I recommend this copy of report be transmitted to Mines for the Chief Inspector, Watering Places.—W.C.B., 17/5/86. The Under Secretary. The Under Secretary for Mines.—B.C., 18/5/86. J.R.

There is a remarkable discrepancy between these statements. It will be advisable, I think, to send a gallon carefully corked and sealed for analysis; the vessel should be absolutely clean. Be good enough to give me categorical reply to Mr. Stillwell.—H.G., 5/6/86.

Mr. Overseer Yeo for report.—B.C., 5 June, 1886. Contents noted; water and reply forwarded.—J. YEO, 24/6/86.

Sir,

Ivanhoe, 24 June, 1886.

P.W.P.,  
86-3,199.

Referring to your memo of 5th June, *re* giving a categorical reply to Mr. Stillwell's report *re* Holy Box Well, Mr. Stillwell is correct in his statement that the water had slightly improved after baling, but he must have misunderstood me, because I never told him that the water was quite fit for stock. As regards the caretaker confirming the statement made by Mr. Stillwell, I consider the reason the caretaker makes out the water is better than it really is, is for fear that the well should be abandoned and he would lose his billet. With reference to its being better water than at the Jumping Sand-hill, I beg to state I am informed from good authorities that the Jumping Sand-hill water is much better than the Holy Box Well water; but from my own judgment, I am not in a position to say which is the best, for I don't know the qualities of the water at the Jumping Sand-hill. I might further state that the caretaker at the Holy Box Well has carted his water from the Mossziel Tank, which is 17 miles, rather than use the well water.

I have, &c.,  
J. YEO.

The Chief Inspector, Public Watering Places.

Resubmit when water arrives.—H.G., 29/6/86. Resubmitted.—C.H., 2/7/86. It is submitted that this water may be forwarded for analysis.—H.G., 2/7/86. The Under Secretary for Mines. Approved.—H.W., 7/7/86. The Geological Surveyor.—H.W. Send for analysis.—C.S.W., 14/7/86. The Curator.

Sir,

Ivanhoe, 24 June, 1886.

P.W.P.,  
86-3,198

I have the honor to inform you that I have forwarded from Mossziel, per Cobb and Co.'s coach, addressed to you, a small case containing six bottles water from the Holy Box Well; I could not get a jar to hold a gallon of water, and as you requested me to forward a gallon of water, I considered the bottles would do as well. The water was taken from the well after the care-taker had been baling for a quarter-of-an-hour.

I have &c.,  
J. YEO.

The Chief Inspector, Public Watering Places.

Sent for analysis No. 909—J. E. C., 14/7/86. Result of analysis herewith—J.E.C. (for Geo. Sur.), 21/7/86.

Report on a sample of water received 15th July, from the Department of Mines.

909.—Six bottles of water for analysis.					
Total solids, grains per gallon	...	...	...	...	437.2
Soluble saline matter	"	...	...	...	408.4
Insoluble matter	"	...	...	...	55.2
Volatile at a red heat	"	...	...	...	3.3
<hr/>					
Total solids	"	...	...	...	437.2
<hr/>					
Chlorine	"	...	...	...	135.0
Saline ammonia, parts per 100,000	...	...	...	...	None
Organic ammonia	...	...	...	...	.002

Remarks.

Remarks.

This water when viewed through the standard two foot tube was clear and bright, but not free from suspended matter.

The organic impurity is very small indeed, and were it not for the abnormal quantity of saline matter, the water might be used for domestic purposes.

The solid saline matter however, is so great, that its use must be prohibited for drinking, either raw or as tea. It may be used for boiling vegetables and for washing. Distillation would be the only means of rendering the water drinkable.

WILLIAM M. HAMLET, F.C.S.,  
Assistant Government Analyst.

The Hon. The Minister for Mines.

Holy Box Well.—Analysis of Water.

This paper should be put away for reference, as the matter will probably be reopened.—H.G. 24 Aug., 1886. P.W.P., 86-3,643.

A copy of this might perhaps be forwarded for the information of the Works Department.—E. W. (for H. G.), 24/7/86. The Under-Secretary for Mines. Approved.—H.W., 24/7/86. The Under-Secretary for Works.—B.C., 24/7/86. To be returned.—H.W. Roads.—J.R., B.C., 28/7/86.—Mr. Wood.—W.C.B., 28/7/86.

This water is often used by humans without any ill effects.—A. P. W., 30/7/86.

No doubt much of the water used as stock water, and approved of by stock owners, would be condemned by chemists. I have a jar of this water in my room, which has been pronounced by experienced people as really good stock water. W.C.B.

Sir,

Hatfield, 9 December, 1886.

P.W.P.,  
86-5,967

Referring to the enclosed papers relative to the alleged saltness of the Holy Box and Dolmoreve Wells, I now have the honor to report that I visited the Holy Box, 22nd November, and found the caretaker baling; on two subsequent dates I passed the well, 30th November and 2nd December, and on each occasion the caretaker was drawing water. At my first visit I took my horse to it, thirsty, and he refused to drink it; I also tasted it myself, and I am of opinion that stock would be very hard pushed indeed to drink it. It is totally unfit for human consumption, and if, as the caretaker says, the quality is improving it must have been very bad indeed at first. I do not think baling can have much effect upon it. The Jumping Sand-hill and Lignum Hut Wells are far before this in quality. Having tasted them all I do not concur with Mr. Yeo's remarks, which are made from hearsay. Last season, a dry and bad one, the Ivanhoe Tank was not available, and stock had a long stage to travel from Boonoon to Mossiel, 55 miles, and only those who were compelled broke the stage at the Holy Box. In rough numbers, only half the stock watered at Boonoon were watered at Holy Box. I think this speaks for itself. I hear it is intended to renew troughing, &c., here. I would suggest that the outlay should be deferred until definite action is decided upon. The present troughs though old and worn are sufficient for all present requirements. A tank was commenced here in a good and large catchment, and after being sunk a few feet was abandoned. I think this is much to be regretted, as I am of opinion that for the use of travelling stock tanks are superior to wells.

In regard to Dolmoreve Well, the caretaker in three hours forks the well. The supply, so far as I could ascertain, is barely 6,000 gallons in 24 hours. The rope and runners, however, do not let the buckets to the bottom of the shaft. This water is, I think, freer from organic matter than the Holy Box—very clear and sparkling. It is, however, very salt and quite unfit for human consumption. Stock used to fresh water would, I think, hardly drink it; 8,000 sheep were lately watered there, and I understand from Mr. Lindsay, Til Til, two-thirds did not touch it, and on the other hand the caretaker says they drank fairly. The other mobs of the same owner (Chrystal) did not try it, but got permission to try the Station Well, 1/2-a-mile away. Mr. Lindsay's offer I can quite understand; he has the well 1/2-mile away somewhat similar in quality. His stock are bred on brackish water, and used to it; it would save him using his own well, and at the same time give him opportunity and excuse for eating down P.W.P. and T.S.R.

There is no doubt whatever that sheep used to this class of water can live on it, but they do not thrive or do so well, and stock from frontages or tanks will not drink it unless almost in extremis. Ireland used to take his horse 4 miles daily to fresh water. For station sheep, bred on and watering regularly, used to and broken into brackish water, these may be stock water wells, but for the general travelling stock I am decidedly of opinion that neither well yields stock water. A further trial of the baling might be made, and in the event of there being no improvement boring might be tried; three months more of regular baling would enable a better opinion to be formed before further expense is incurred.

I have, &c,

JAMES W. BOULTBEE,

The Chief Inspector, Public Watering Places.

Inspector, Public Watering Places.

## XVIII.

## Mount Manara Well.

Sir,

Hay, 18 June, 1878.

Public Works,  
78-3,677.

I have to report the completion of repairs at this well; the tank has been strengthened by stays and made thoroughly water-tight, so that a top ground water supply of 50,000 gallons may always be on hand. The whim and troughing has also been overhauled and put into repair, wanting only a pair of brasses on the spindle, which I cannot at present procure. I have at this well a portion of the wire rope purchased of McLean Brothers and Rigg working admirably, and one pair of buckets.

These repairs will obviate the necessity for attempting an increased supply, a step which I have always regarded as of uncertain success at this place. Though I should wish to see a deep bore started somewhere in the district, I could propose no special site at present; but I should be glad to receive instructions to make a barometric survey of the country north and west of the Darling as low as Menindie. This would take about a month, and would cost not less than £100.

I remain, &amp;c.,

W. H. HIGMAN,

Road Superintendent.

The Commissioner for Roads, Sydney.

I have asked the Department of Mines to attend to this.—W.C.B., 25/6/78. Mr. Higman, B.C.  
To be returned. Noted.—W.H.H., 10/7/78.

*Mr. Gilliat's report upon this well at time of transfer destroyed by fire at Garden Palace.*

## Mount Manara Well.

Sir,

Ivanhoe, 27 April, 1880.

Tanks & Wells,  
80-58.

I have the honor to inform you that I have received the following tenders for repairs to the Mount Manara well—

B. Ford	£260
W. R. Parker	£350

The supply from this well is so limited that I cannot recommend any further expenditure upon it. I would advise its being abandoned, the timber of whim and shaft, iron, &c., to be sold to the best advantage.

The immediate neighbourhood affords excellent situations for a tank, and I have the honor to recommend the construction of one at this place.

I have, &amp;c.,

HARRY GILLIAT,

Inspector of Tanks and Wells.

The Chief Inspector of Stock.

## Mount Manara Well.

Public Works,  
80-5,535.

I EXAMINED the well some eighteen months ago, and found then that the spikes holding the slabs were all rusted away, and the lining was giving way.

The depth of this well (240 feet) makes the cost of lifting the water very heavy and the watering of stock very expensive and tedious, besides which the supply is very limited.

Mr. Hay of the Mount Manara station has water in a well about half-a-mile away from the Government well, and in that he has a never failing supply at from 60 to 70 feet from the surface. The station well is fully 20 feet higher than the Government well; that should give us the water at from 40 to 50 feet from the surface, if we could cut the strata that supplies the station well.

I think that before any decision is arrived at with regard to giving up the well, we might try, by boring between the two wells, to see how near the Government well the reservoir that supplies the station well could be got to the Government well. If it is found that the distance is reasonable, a drive could be put from the Government well to meet the supply.

Until these experiments are tried I cannot recommend any definite action as to abandoning or repairing the well.\*

I may also suggest that boring from the bottom of the well may be tried, as we may thus tap a supply that may rise well up in the shaft.

The tank and troughing, as well as the whim, all requiring thoroughly repairing, I cannot well estimate the cost of repairing this well, as I have not been down it lately.

I have, &amp;c.

HENRY CAMBRIDGE.

The Commissioner for Roads, Sydney.

\* Memo. by Commissioner for Roads.—I concur.

## Mount Manara Well.

11 August, 1880.

MEMO.—

Tanks & Wells,  
80-168.

Mr. Commissioner Bennett here concurs in Mr. Cambridge's recommendation not to abandon this well in the meantime, but to make another attempt by boring and driving to secure a good supply of water.

If this course be taken, perhaps the Minister for Works might be moved to direct that Mr. Cambridge's recommendations may be carried out as soon as possible, at any rate in time to place the necessary amount on the Estimates for 1881, should new works be required here.

ALEX. BRUCE.

The Under Secretary for Mines.

Submitted.—H. W., 14/8/80. The Minister for Mines would like an expression of opinion from Mr. Gilliat.—H. W., 19/8/80. Mr. Bruce. Copy Mr. Cambridge's report on this well, and send to Mr. Gilliat for his opinion.—A.B., 21/8/80. Mr. Gilliat, for an expression of opinion on this report for the information of the Minister for Mines.—A.B., B.C., 21/8/80. Minute annexed.—H.G., 8/9/80.

Report

Report by Mr. Inspector Gilliat, as to improving the Water Supply at Mount Manara Well.  
Mr. Cambridge's Report.

Tanks & Wells,  
80-213.

MEMO.—

1. I thoroughly agree with Mr. Cambridge in respect to the tediousness and expense of lifting water from such a depth, more particularly with a limited supply.

2. Mr. Hay, of the Mount Manara Station, has obtained excellent water at the depth named by Mr. Cambridge, 60 to 70 feet, but I have no information to lead me to the conclusion that it is "a never failing supply."

Unless I am wrongly informed, Mr. Hay's well has been sunk since the last drought, and I cannot learn that its supply has ever been put to any severe test.

I am disposed to think that the supply to Mr. Hay's well is obtained from the strata of the adjoining ridges, known as Mount Manara, a low isolated range extending nearly east and west for 6 or 7 miles, and upon a shoulder of which the shaft is sunk.

The freedom of the water from any salts would support my inference that it is not from the same source from which the wells of the district usually derive their supply.

Water in these is obtainable at from 120 to 130 ft., and is more or less impregnated with salt.

If the supply to this well is from the strata, I fear it would fail in severe drought.

I would suggest that the opinion of the Government Geologist would be of great value on this point.

"Boring between the two Wells."

If it is decided that a sufficient supply is probable, I would support action being taken to test it, but I think a trial shaft could be put down here as cheaply as a bore.

Driving from the present well would, I think, prove a costly and tedious task, the bottom being of hard clay slate.

4. Boring from the bottom of the present shaft is open to the same objections, and has, I am informed, already been tried by an officer of the Works Department.

5. Troughing and supply tank are hardly worth repairing.

Remarks.—I am of opinion that if the Government Geologist considers the circumstances favourable for obtaining a permanent supply of water, the expense of a bore or trial shaft would be amply justified.

If the water was obtained, I would recommend putting down a permanent shaft, and erecting new whim and appliances.

I would not advise boring from the present well, taking into consideration the character of the bottom.

I may add that no point on this road affords better sites for tanks—should it be deemed inexpedient to sink a shaft—than this neighbourhood.

HARRY GILLIAT,  
Inspector of Tanks and Wells.

The Chief Inspector of Stock to The Under Secretary for Mines.

This report might perhaps be referred to the Government Geologist (as suggested by Mr. Gilliat, page 3) for his opinion as to the permanency of the supply of water obtained by Mr. Hay.

A. B.,  
20/9/80.

The Under Secretary for Mines. The Geological Surveyor.—H.W., 20/9/80.

If the drainage area above Mr. Hay's shaft be of considerable extent, say about five or six square miles, then I believe that the present supply of water in the well will be permanent, and it would therefore be advisable to sink a trial shaft as near as possible to Mr. Hay's, in order to trace the course of the fresh water-bearing strata.

I agree with Mr. Inspector Gilliat that it would be useless to sink a bore in the clay slate formation, for the water obtainable does not occur in quantity in that formation, but in the sandy drifts which have been deposited in hollows or depressions worn out in the slate formation by denudation. The slate may be considered the bed rock of the district.—C.S.W., 8/10/80.

Re Tank Site, Mount Manara.

Sir,

Mount Manara, 9 March, 1883.

I have the honor to inform you that the site recommended by me for the Public Tank at Mount Manara, is on water reserve 441, notified 9th February, 1880, Arlington Run B, about 300 yards south from the gate or the main road, in the boundary fence between Arlington Runs B and A.

The site was recommended on account of its excellent catch, and its being almost exactly half-way between the Boonoono and Twelve-mile Tanks.

I have, &c.,

HARRY GILLIAT,  
Inspector of Tanks and Wells.

Alex. Bruce, Esq., Chief Inspector of Stock, Sydney.

Original papers to U. S. Works, 17/2/83. Requested to return, 30/11/87.

10 May, 1884.

Mr. Gilliat will inform me whether it is true, as stated in the *S. M. Herald* of the 10th instant, that on Mount Manara an expensive well had been sunk, securing an abundance of good water for stock, that the well has been abandoned and allowed to go to ruin. If this is true why was it abandoned?

J. P. ABBOTT.

Mr. Inspector Gilliat,—A. B., B.C., 12/5/84. Memo. herewith.—H.G., B.C., 20/5/84.

Extract  
84-541, with  
Peri Springs  
papers.

In

Sydney, 20 May, 1884.

Tanks & Wells,  
81-584.

In reply to the minute of the Hon. the Secretary for Mines (Tanks and Wells, 540), with respect to the sinking of an expensive well at Mount Manara, I have to say that a shaft was sunk there some twelve or fourteen years ago by the Department of Public Works. When these works were transferred to the Department of Mines, I made a careful inspection of, and report upon it, and pointed out that owing to the small supply, 2,800 gallons per diem, the work, as a public watering place, was useless. This report, and my subsequent representations urging the importance of a public watering place at this point, induced a correspondence with the Department of Public Works, resulting in their consenting to construct a tank about 4 miles south of the old well.

At the time of its transfer, the well was in such a state of disrepair, that to utilize even the limited supply would have necessitated a considerable outlay, which appeared undesirable, anticipating the construction of a tank by the Department of Public Works, and as the travelling public, in ordinary seasons, were supplied with water by Mr. John Hay, the lessee, it was recommended the well should be abandoned.

The correspondent of the *Sydney Morning Herald*, of the 10th instant, has been misinformed with respect to the abundant supply. The papers in the records of this Department and that of the Public Works contain ample evidence in support of this.

The Hon. The Minister for Mines.

HARRY GILLIAT.

Submitted.—H. W., 19/5/84.

20 May, 1884.

This may be shown to the *S. M. Herald*, with a request that this report should be published, and inform that I am causing inquiries into the other matters of a most searching character.

J. P. ABBOTT.

Shown to *S. M. Herald*, 20/5/84.

## XIX.

## Boro and Bunghill Tanks.

Telegram from Mr. Road-Superintendent Adams to The Commissioner for Roads.

Walgett, 28 August, 1882.

Public Works,  
Tanks & Wells,  
82-702.

TANK at Boro Waterhole finished; going to make final measurement; Mr. Gilliat who is here should be instructed to take it over.

J. H. ADAMS.

Under Secretary B.C., for transmission to Mines.—W.C.B., 28/8/82. Under Secretary for Mines.—J.R., B.C., 29/8/82.

Mr. Gilliat is now on his way to Sydney and will not likely be at Walgett again for some time. Perhaps Mr. Inspector Doyle might be directed to take this tank over and place a caretaker in charge, till it can let. The nearest overseer is Mr. Hansen, at Bourke.—A.B., 4/9/82.

The Under Secretary for Mines. Submitted.—H.W., 5/9/82. Approved.—A.R., 6/9/82. Mr. Gilliat.—B.C., 8/9/82.

Mr. Bruce,—This work was inspected by me two days before the final measurements were made, and at the same time I made arrangements for placing a caretaker in charge as soon as the Department should be notified that the work was ready to be transferred. I consider that tenders should be called for as soon as the tank is ready for delivery by advertisements for one month in the *Walgett* paper.—H.G., B.C., 12/9/82.

Tenders called—*Gazette*, 21/9/82.

Tenders for Government Tank at Boro Waterhole on the road from Walgett to Bangate.

Dear Sir,

2, Spring-street, Sydney, 25 October, 1882.

P.W.P.,  
82-889.

We are desirous of leasing the abovementioned tank, subject to the conditions specified in the *Government Gazette*, and hereby beg to tender for leasing same at £50 per annum.

Yours, &amp;c.,

JOHN GORDON,

J. A. CAMPBELL,

Care of Australian Mortgage Land and Finance  
Company, 2, Spring-street, Sydney.

Guarantors:—W. A. Cotter, 2, Spring-street; G. N. Griffiths, care of Griffiths & Weaver, corner Hunter and George Streets.  
The Under Secretary for Mines, Sydney.

Telegram from The Chief Inspector of Stock to Mr. Inspector Gilliat, Bourke.

Sydney, 13 November, 1882.

MESSRS. GORDON AND CAMPBELL'S tender for Boro Waterhole Tank at £50, report on receipt as to whether it should be accepted.

ALEX. BRUCE,  
Chief Inspector of Stock.

Telegram

Telegram from Mr. Inspector Gilliat to The Chief Inspector of Stock, Sydney.

Cobar, 1 December, 1882.

Boro Tank; your telegram, Bourke, reached me by mail; strongly urge acceptance of Gordon & Campbell's tenders. Tanks & Wells,  
82-1,002.

H. GILLIAT.

Recommended.—A.B., 4/12/82. The Under Secretary for Mines. Submitted.—H.W., 4/12/82.  
Approved.—A.R., 4/12/82. Treasury informed.—6/12/82.

Gentlemen, Stock Branch, Department of Mines, Sydney, 6 December, 1882.

Referring to your tender to lease 200 acres of Crown Lands including the Boro Waterhole Tank on the road from Walgett to Bangate, I have the honor to inform you that your tender has been accepted, subject to your paying the amount mentioned in the margin into the Government Treasury, when an interim authority will be sent you to take possession forthwith. Annual rent,  
£50. Amount  
now called  
for, £50.

I have, &c.,

ALEX. BRUCE,

Messrs. Gordon & Campbell, 2, Spring-street, Sydney.

Chief Inspector of Stock.

Australian Mortgage, Land, and Finance Company (Limited),

2, Spring-street, Sydney, 15 December, 1882.

Sir,

I have the honor to acknowledge the receipt of your letter of the 6th instant (82-1,002 Tanks & Wells, 82-1,070.)

The Boro Waterhole Tank has been damaged by flood waters since date of tender, and Messrs. Gordon and Campbell stipulate that you have it placed in good order before they complete the matter.

I have, &c.,

W. A. COTTIE,

Manager,

Agent for Gordon & Campbell.

The Chief Inspector of Stock.

Minute of the Commissioner for Roads.

That Mining Department be requested to take charge of tank at Lightning Ridge, Walgett district.

Sydney, 7 December, 1882.

The local officer having reported that the tank at Lightning Ridge, on the road from Walgett to Bangate, is finished and full of water, I have to request that the Mining Department be requested to take charge of the work. Public Works,  
82-8,420.  
Tanks and  
Punts,  
82-394.  
Tanks & Wells,  
82-1,038.

I would also call the attention to the fact that, on the 28th August, notice was sent from this office of the completion of tank at Boro Waterhole, in same vicinity, and a request made that Mines would take charge. This has not been done, and this Department has been paying out of Capital Vote for a caretaker since that date. After the 1st of January there will be no funds for this purpose.

W.C.B., 7/12/82.

The Under Secretary for Public Works, B.C.

The Under Secretary for Mines.—J.R., B.C., 8/12/82. Mr. Inspector Doyle, Walgett, might perhaps be instructed to place a caretaker in charge, who would do any necessary work pending the leasing of this tank. Wages, £2 2s. a week.—A.B., 28/12/82. The Under Secretary for Mines. Submitted.—H.W., 29/12/82. Approved.—A.R., 30/12/82. Inspector Doyle, by telegram.—28/12/82.

Boro Tank, 82-8,420, Works.—Extract from 82-1,038 Tanks.

I would also call the attention to the fact that, on the 28th August, notice was sent from this office of the completion of tank at Boro Waterhole in same locality, and a request made that Mines would take charge. This has not been done, and this Department has been paying out of Capital Vote for a caretaker since that date. After the 1st of January there will be no funds for this purpose. Tanks & Wells,  
82-1,000.

The Under Secretary, B.C.

W.C.B., 7/12/82.

The Under Secretary for Mines.—J.R., B.C., 8/12/82. Ask Mr. Gilliat whether caretaker has been placed in charge; if so, when? Telegram, 11 December, 1882.

Telegram from Mr. Inspector Gilliat to Chief Inspector of Stock.

Mossgiel, 22 December, 1882.

Boro Tank was nearly completed when I saw it, but had not been delivered by contractor to Roads Superintendent. I think a telegram was sent to that officer with regard to a caretaker, but have had no intimation since. Tanks & Wells,  
82-1,087.

HARRY GILLIAT,

Inspector, Tanks and Wells.

28 December, 1882.

Mr. Doyle should place caretaker in charge, at salary of £2 2s. per week, and report. Inspector Doyle, by telegram, 28/12/82. Mr. Gilliat informed—29/12/82.

Sir,

Stock Branch, Department of Mines, Sydney, 29 December, 1882.

Referring to your telegram of 22nd instant re Boro Tank, I have the honor to inform you that Mr. Doyle, Inspector of Stock, has been instructed to place a caretaker in charge. Tanks & Wells  
82-42.

I have, &c.,

ALEX. BRUCE.

Mr. Inspector Harry Gilliat.

Mr. Bruce.—Was Messrs. Gordon and Campbell's tender declined for this tank?—H.G., B.C., 2/1/83.

Tanks & Wells,  
83-79.

Sir,

Walgett, 6 January, 1883.

I have the honor to acknowledge receipt of your recent telegram *re* the Lightning Ridge and Boro Tanks, and to report upon the same, having visited them in accordance with your instructions.

The Lightning Ridge Tank is in good order, but is capable of holding 3 feet of water more than is at present in it.

The Boro Tank, I regret to say, is very much damaged, owing to the recent heavy rains which fell about five weeks ago. I attribute the damage to the water finding its way along (outside) the pipe connecting the main and watering tanks. This caused the earth to give way and to fall into the tank, together with an immense quantity of the silt, that had been heaped upon it to such an extent as to choke the supply pipe, which I discovered by ordering the caretaker to turn the tap on, the supply tank being 2 feet lower than the main tank. Although the tap was open for 36 hours, no water passed through. The caretaker has so far repaired outward damages that to a casual observer the tank is in good order, but as I visited the tank just after the rains, I am of opinion that very serious damage has been sustained, though, owing to the presence of the water, it is difficult to say to what extent. I do not think any one would be found to lease it in its present state, or that with the appliances here available the damage can be repaired even sufficiently to allow the supply pipe to work, as there must be at least 17 feet of water or silt above the pipe in question. I have appointed caretakers at each tank.

The Chief Inspector of Stock.

I have, &c.,  
J. R. DOYLE.

Mr. Gilliat.—This report will enable you to see why a caretaker was necessary at the Boro Tank. Being out of repair through the damage caused by the flood water, the lessees will not take delivery till it is put in proper order. Nothing can, I suppose, be done in the case till the water subsides.—A.B., B.C., 19/1/83.

It might perhaps be advisable in the case of this tank and that of Lightning Ridge to authorize the caretakers to collect charges, if they are suitable men.—A.B., B.C., 20/1/83.

Nothing can be done to this tank until the water in the watering tank has gone down either by evaporation or by consumption. The embankment of the main tank was far too close, being only 6½ yards from the main excavation, and even closer to the watering tank. I have, however, communicated with Messrs. Gordon and Campbell's manager to inquire if any of their contractors will tender for the repairs. Before any considerable repairs are undertaken I wish to submit a report upon the way in which this tank has been constructed, and to suggest alterations in the method of admitting the water as well as adopting troughing and a double whip.—H.G., B.C., 14/2/83.

Mr. Bruce.—I have already submitted a recommendation that all caretakers should be authorized to collect rates. The men therefore should be carefully selected, and a close supervision kept over their accounts.—H.G., B.C., 14/2/83.

Sir,

Walgett, 26 February, 1883.

Tanks & Wells,  
83-330.

Referring to the Government tanks at Boro and Lightning Ridge, I have the honor to inquire whether travelling stock are to be allowed access thereto for the purpose of watering. Since visiting and reporting upon the first named tank on 6th January, I find that the water has fallen about 6 feet in the supply tank, and as the supply pipe will not act and admit of its being refilled from the main tank, a considerable amount of damage will be done by allowing stock (large stock more particularly) to water thereat. I would therefore suggest that some immediate steps be taken to put the supply pipe into working order, and that in the meantime the tank be closed against travelling stock.

The Chief Inspector of Stock.

I have, &c.,  
J. R. DOYLE.

The admission of stock to the watering tanks will, as Mr. Doyle points out, do great injury to the tanks; these are lined with stones, and stock walking down will push them into the bottom, and increase the accumulation over the supply tank. I cannot suggest any remedy, except what I have recommended of whip and troughing without delay.—H. G., B.C., 1/8/83.

Sir,

Walgett, 13 September, 1883.

Tanks & Wells,  
83-1,409.

I have the honor to enclose a letter just received from the caretaker of the tank at Boro. This letter shows clearly the necessity of having a fence erected round the tank as first mentioned in my letter to you of the 28th ultimo.

I would beg further to suggest that, should the fencing be approved of, the whole of the 200 acres reserved should be fenced in, as the cost would not be much greater than a fence which would include all the drains.

The Chief Inspector of Stock.

I am, &c.,  
J. R. DOYLE.

Mr. Gilliat.—A.B., B.C., 17/9/83.

Sir,

Boro Tank, 10 September, 1883.

I beg to call your earliest attention to the present condition of the tank at this place. There has no water come through the suction pipe from supply tank during the past four months. The water in drinking tank is 3 feet less than the supply tank. The stones all round the drinking tank are dropping down, having no foundation. Every morning for the past week I have pulled out from the drinking tank bogged and dead sheep.

Mr. Stock-Inspector J. R. Doyle.

I am, &c.,  
WILLIAM REGAN.

Mr.

Mr. Stock-Inspector J. R. Doyle's report.  
Lightning Ridge Tank.

Walget, 1 March, 1884.

THIS tank contains 15 feet of water at the end of the platform, being 3 feet below high-water mark thus showing that very little silt has found its way into this portion of the tank. This tank is in excellent order with the exception of a little caving in of the sides of the main tank caused by the rippling of the water. The drinking tank is also in good order, the paving stones round it have not been displaced to any extent, and the caretaker appears to devote a good deal of time in keeping his tank in repair; the water is sweet and wholesome and the supply pipe acts freely. As the tank seems to have been made after the same plan as the others, I attribute its present good condition to the fact of its having been filled gradually and stock not being allowed to use it until there was a sufficient supply of water to enable them to drink, without crushing down into the drinking tank. This tank also requires fencing, but the caretaker is not so much annoyed by stray stock, as the other caretakers, because the lessees' paddocks do not open to this tank. A hut also is required here.

Tanks & Wells,  
84-292.

J. R. DOYLE.

Mr. Gilliat.—A.B., B.C., 6/3/84. Memo. herewith.—H.G., B.C., 10/3/84.

Although this tank has not suffered yet from the caving in of the steep batters, it will undoubtedly do so, and the same stoppage of the connecting pipe sooner or later occur.

It is very urgent that troughing, &c., should be placed at all the public watering places.

H.G., B.C., 10/3/84.

Mr. Stock-Inspector J. R. Doyle's report on Bunghill Tank.

Walget, 1st March, 1884.

I FOUND this tank contains 12 feet of water, taking the depth from the end of the platform, as shown in the accompanying sketch; the water is 3 feet below the top of the tank, and allowing the tank to have been 18 feet deep this shows a silting up of about 3 feet. I fancy the silt has accumulated more at the mouth of the roadway. This tank sustained a considerable amount of damage at the first rush of water after its completion; it carried away part of the brake between the silt tank and the main tank (shown in the sketch.) The water is sweet and wholesome, but the supply pipe from the main tank to the drinking tank acts very feebly, doubtless on account of the silt in the drinking tank choking up the mouth of the pipe. In consequence of the steepness of the batter in the main tank the ripple of the water has undermined a considerable quantity of earth at the edges, and caused it to cave into the tank. The drinking tank cannot be said to be in good order; the rough paving stones that were placed on the sloping surface of the sides and end have become very much displaced, and a great number of them have slipped in towards the bottom of the tank; it would, in my opinion, be advisable to have the stones broken into ordinary-sized metal, so as it would mix with the earth and form a more solid foundation for stock. The silt tank into which the drains empty is filled up to within 2 feet of the top with silt; this should be cleaned out, and, in my opinion, instead of allowing the water to enter the main tank as it does at present, it should be conveyed from the silt tank by means of a wooden flume sufficiently long enough to carry the water clear of the bottom of the batters; this would prevent a very large quantity of silt from finding its way into the main tank. I have inspected several large private tanks in the neighbourhood, and find that they are all supplied by this means, and I am told they all answer well. The fence round the main tank is in good order. I would strongly recommend that the drinking tank be also fenced and fitted with gates for the entrance and exit of stock, as half the caretaker's time is taken up in endeavouring to prevent stock, the property of lessees and others, from using the tank, but it is impossible for him to do so, for, though driven away in the day time, they return at night. It would also be desirable to erect a suitable hut for the caretaker, as it is a matter of great difficulty to get competent and trustworthy men as caretakers unless provided with a weather-proof hut to live in.

Tanks & Wells,  
84-294.

J. R. DOYLE.

Mr. Gilliat.—A.B., B.C., 6/3/84. Memo. herewith.—H. G., B.C., 10/3/84.

The erection of troughing and pumps at this tank will be the only permanent remedy against the stoppage of the connecting-pipe between the main reservoir and the watering tank, and I am strongly of opinion that the embankment should be completed, and the flood-water admitted by a flume, similar to those I had made for the tanks in the south-west, and which I recommended to a former manager on the Llanillo station, near this work.—H. G., B.C., 10/3/84.

Mr. Stock-Inspector J. R. Doyle's report on Boro Tank.

THIS tank contains only 9 feet of water at the end of the platform, and is 5 feet below high water mark, thus showing an accumulation of 4 feet of silt, allowing the tank to have been 18 feet deep. The water in the main tank is sweet and wholesome, but in the drinking tank it is quite green and unfit for use. The supply pipe does not act, and there are no present means of remedying it. The paving stones round the drinking tank are very much displaced; a great number have been forced down into the bottom of the tank. It is dangerous to drive stock promiscuously to water at this tank on that account. I would recommend that all the available stone be broken into ordinary-sized metal, and laid around the sides and end of the drinking tank. As this tank is in a very desirable position, and absolutely necessary for stock travelling this route, I would recommend that prompt steps be taken to supply troughing to enable the caretaker to water stock, but as this will necessarily take a little time, I could at a slight cost, if instructed, take a couple of blackfellows out with me, and got them to dive down to the mouth of the pipe and clear away the silt, now that the water is tolerably low, and thus enable stock to get water until a pump and troughing could be provided. The silt tank is nearly full of silt, and I have directed the caretaker to clean it out. I would strongly recommend that the same means of feeding the main tank be employed, as suggested in my report on Bunghill Tank. This tank requires fencing immediately, as the caretaker is all his

Tanks & Wells,  
84-293.

his time endeavouring to keep lessees' sheep from using the tank, but notwithstanding his endeavours they come at all hours during the night and consume the water, and, as they are in such a weak state, they bog and die round the tank. The lessee informs me that he has tanks in the same paddock, but cannot keep his sheep from trespassing at the Government tank. A hut is also required. The caretaker has a most wretched hovel to live in, and in wet weather he has to cover his books and papers up in a bucket or camp-oven in order to keep them dry. The banks of the main tank have caved in to a greater extent than any of the other tanks, but it may be owing to the soil being of a more crumbling nature. I have ascertained the opinions of a number of gentlemen in the district, and they all agree that 1 to 1 batter is far too steep for these tanks. As the supply pipe at this tank acted slightly four months ago, there cannot be a very large quantity of silt accumulated since that time. I would like to get your instructions to endeavour in the manner suggested to get this pipe to act, if only temporarily, as it is a great boon to the public to keep this water fit for use. Teamsters have now to water their stock out of buckets. It would also be advisable to have an additional drain to this tank, as the caretaker informs me that the main tank was originally filled by water coming from a different direction to that followed by the present drains.

J. R. DOYLE.

Mr. Gilliat.—A.B., B.C., 6/3/84. Memo. herewith.—H.G., B.C., 10/3/84.

The damage at this tank is even greater than at the Bunghill. I inspected it the day it was completed by the contractor, and the workmanship was excellent, but from the design I predicted exactly what has occurred.

The only remedy in my opinion is troughing and pump, and admitting the flood-water by flume, and completing the embankment.

H.G., B.C., 10/3/84.

My dear Sir,

Dungalar, 4 June, 1883.

According to promise I saw Regan about the state of the pipes in tank. He had the valve turned on for thirty-six hours, and can get no water into tank. At present they are useless. I believe the quantity of earth that has gone into main tank will render the pipes useless. Any further information I can obtain I will be most happy to furnish you with.

Yours, &c.,

A. M'CLYMONT.

Mr. Inspector Doyle.

Minute of Mr. Inspector Gilliat.

Boro, Bunghill, and Lightning Ridge Tanks.

Department of Mines, Stock Branch, Sydney, 10 March, 1884.

Tanks & Wells, 84-319. WITH reference to Mr. Overseer Doyle's reports upon the condition of the three tanks between the Barwon and the Narran Rivers, I beg leave to point out that at the time the arrangement between this Department and that of Public Works was made with regard to carrying out the repairs and alterations required from time to time at public watering places, I recommended that in cases of emergency the Inspector of Public Tanks and Wells might effect repairs to an amount not exceeding £50 sterling at any one work.

This was objected to by the Department of Public Works, and not confirmed. I think the arrangement then made should be maintained, and the undivided responsibility rest with the one Department; and especially as the Department of Public Works has resident officers in each of the districts to perform these duties, the interference of this Department in opposition to the existing arrangement appears to me undesirable.

I would therefore recommend for the consideration of the Honorable the Secretary for Mines that Mr. Doyle's reports upon the state of these works, which merely confirm my own knowledge of them, should be forwarded for the information of the Department of Works, with the suggestion that, if unable, from the severity of the drought, to immediately undertake their permanent refit, such temporary repairs may be made as to enable stock to water.

I would again call attention to the urgent importance of fencing the special leases with as little delay as possible.

HARRY GILLIAT.

Mr. Gilliat.—Could you not suggest, for the consideration of the Works Department, some temporary arrangement by which stock could be watered at these tanks, pending full necessary repairs being made and permanent appliances fitted?—A.B., 12/3/84.

With two single and a snatch-block, a few poles, rope, canvass for a bucket, and a few sheets of iron, a single whip could be rigged. The caretaker with a horse could lift the water from the main reservoir and run it back into the silt tank, from which, pending repairs, permission might be given to water stock.—H.G., B.C., 14/3/84.

The temporary mode of supply here suggested by Mr. Gilliat, might perhaps be brought under the notice of the Works Department.—A.B., 18/3/84. The Under Secretary for Mines. Submitted.—H.W., 19/3/84. For Works Department.—J. P. ABBOTT, 22/3/84. The Under Secretary for Works.—H.W., B.C., 25/3/84. Roads.—J.R., B.C., 1/4/84.

Telegram from Mr. Road-Superintendent Adams to Commissioner for Roads.

Goodooga, 14 April, 1884.

Tanks and Punts, 84-355.

EIGHT feet of water in Boro, about twelve in Lightning Ridge; both tanks are working well; traffic would be suspended between Barwon and Narran Rivers only for them.

J. H. ADAMS.

Mr. Wood with reference to complaints as to these works.—W.C.B., 15/4/84.

Telegram

Telegram from Mr. Road-Superintendent Adams to The Commissioner for Roads.

Walgett, 3 April, 1884.

Was at Boro and Lightning Ridge tanks twice last month; saw mob of cattle watering at Boro; waited till they finished and got out of drinking tank; water appeared in good condition; then asked caretaker how valve was working; he said all right. Drank at Lightning Ridge; water could not be better; works seemed in good order save a few stones loose at Boro tank, which I ordered the man to put right, and reported him to Mr. Doyle for allowing such things. Have heard no complaints from travellers; shall visit again soon.

J. H. ADAMS.

No report as to Bunghill; Mr. Wood, telegraph again.—W.C.B., 3/4/84. Telegram sent.—A.P.W., 3/4/84.

Telegram from Mr. Road-Superintendent Adams to The Commissioner for Roads.

Walgett, 7 April, 1884.

Just returned from Bunghill; about 12 feet of water in main, and drinking tank-water very good, only gets foul when a mob of cattle rushes through it. Valve working well and tank generally in serviceable condition; considered great boon by travellers.

J. H. ADAMS.

Mr. Wood.—See me with papers.—W.C.B.

Minute by Mr. Assistant-Engineer Wood.

Reports of Stock Inspector on Tanks in Walgett District.

Sydney, 17th April, 1884.

BUNGHILL TANK.—Mr. Doyle, the Inspector under the Mining Department, reports that the supply pipe connecting the main and drinking tanks acts very feebly, that the pitching of slopes is much displaced, and that the works generally have been considerably injured by the action of the water. Our local officer, Mr. Adams, in telegram attached, reports that the supply pipe is working well, and the tank generally in serviceable condition, and a great boon to travellers.

Tanks & Wells, 84-495.

Boro Tank.—Mr. Doyle reports that the supply pipe at this tank does not act, that the water in drinking tank is green and unfit for use, and that the pitching on the drinking slopes is very much displaced. Mr. Adams reports that the caretaker stated to him that the supply pipe was working alright; that the water appeared in good condition; that he saw a mob of cattle water there; that a few stones were loose which should have been attended to by caretaker, and for which negligence Mr. Adams reported him to Mr. Doyle. In a subsequent telegram (attached) he reports this tank as working well, and that, but for it and Lightning Ridge Tank, all traffic between Barwon and Narran Rivers would be suspended.

Lightning Ridge Tank.—In regard to this tank Mr. Doyle's and Mr. Adam's reports are the same—the tank being in good order, with a plentiful supply of wholesome water. It appears strange that there should be such discrepancies between the reports sent in by the Mines officer and Mr. Adams as to the first two tanks; and without wishing to in the slightest degree impute any wilful misstatement to Mr. Doyle, I still think that Mr. Adams' opinion is the more reliable, and must, until proved incorrect, be accepted by this Department.

As regards the design of these tanks which Mr. Gilliat objects to, and has on several previous occasions objected to, I am not prepared to make any defence beyond that which has been constantly urged to these complaints—that it was adopted at a time when funds were short and when it was considered advisable, in the face of the fate that attended our earlier works with separate drinking appliances, to make these works as simple as possible. This department has never upheld this design, and all our later works have been on the separate drinking system, and the drinking-slope tanks are being converted as rapidly as possible to the same system. In the face of these facts, I cannot see that any good result is to be attained by so constantly drawing our attention to defects which have been readily acknowledged, and which are being remedied as rapidly as possible. Great allowances should be made on account of the seasons, which have been exceptionally severe, and have very considerably hampered our operations.

ARTHUR P. WOOD.

The Commissioner for Roads.

I have nothing to add to what Mr. Wood has stated, except that the Mines Department first neglect the works, and then complain.—W.C.B., 17/4/84. Under Secretary, B.C. Forward to Mines.—F.A.W., 27/4/84. The Under Secretary for Mines.—J.R., 23/4/84., B.C. Submitted.—A.B., 25/4/84. The Under Secretary for Mines. Do not the complaints of this Department refer to the construction of the works?—H.W., 28/4/84. Yes. Submitted.—H.W., 7/5/84. These papers may go to Mr. Doyle for his report.—J. P. ANNOTT, 8/5/84.

Re Mr. Doyle's Report on Bunghill Tank.

Sir,

Roads Office, Walgett, 25 April, 1884.

Mr. Doyle's report on the present state of the Bunghill tank is a very fair one. It is true that the first rush of water after its completion did a lot of damage to the apron of inlet, uprooting the stone pitching at the entrance, and scouring the bed beneath, the abrading action continuing until it was destroyed by meeting the water in the main tank. I may mention that the work was subjected to an unusually severe trial on this occasion, as 5 inches of rain fell in that storm. The wonder therefore is, not that it did damage, but that it had done so little. Mr. Doyle states that the supply pipe from the main to the drinking tank acts very feebly. I am at a loss to understand this expression, or why the statement was made; for, as a matter of fact, the valve has never failed to keep the supply tank full, which, I submit, is all that it is expected to do, and as long as this goes on there should be no cause for complaint.

Tanks and Pumps, 84-302. Works Dept. Tanks & Wells, 84-602, Mines Dept.

In another part of the report it is urged that, in consequence of the steepness of the batter in the main tank, the ripple of the water has undermined a considerable quantity of earth at the edges and caused

caused it to cave into the tank. Now, while not defending the batter in any way, I may state that this is a perfectly natural result to expect from the unprotected sides of a reservoir; for, besides the tendency of earth to fall down by the effect of gravity, there is also a full abrasive action of the water exercised beneath the dry portion of the slopes, and this will go on, no matter what their ratio may be, unless puddled or stone-faced, neither of which could the Department afford to do.

The report goes on to say that the drinking tank could not be said to be in good order, because some of the rough stones placed on the sloping surface of the sides had become very much displaced and had slipped in towards the bottom of the tank, &c. I think this is too bad that such a state of things should exist where a caretaker is regularly employed and has very little else to do but to see that these trifling repairs are attended to. If he only gave the slightest attention to his work he could easily re-set any stones that may have got displaced after the passage of cattle over them. I have already reported this man for being drunk and away from his work, but it would seem that little notice has been taken of it, for he is in charge of the tank still. What can I expect under such circumstances but that the work will be neglected. During my late visit I found the silt tank full of perfectly dry silt. I asked Mordaunt (caretaker) why it was he had not cleaned it out, he said because he had no plank to wheel on. I ordered him to go and split a slab if he could not find one, and not make such idle excuses as that. He promised to do so.

I wish it to be understood that I conferred with Mr. Doyle before giving orders to the caretakers *re* keeping their tanks in order, he fully concurring that during my visits I should instruct them as regards repairs; but I think my hands should be further strengthened by the Department in this particular, as it is but fair to myself to see that the works are kept in repair when the cost of doing so takes but little labour. It is too bad that risks should be incurred through the indolence of men who have not two days' work to do in a month. The valves, imperfect as they are as regards position, should work for years if they had received that daily attention from caretakers which it is necessary should be paid them. I agree with Mr. Doyle that a wooden flume would be a better arrangement for conveying the water into the main tank than the present stone apron. This principle is fully understood by the Department, and if Mr. Doyle noticed the drawings that were exhibited here for the Narran Tank he would see it embodied. It is to be adopted when the pumping gear is erected; but when the present tank was designed, now some four years since, there was very little money at my disposal, so that every item had to be cut down to the utmost. I think, under the circumstances, the works must be considered satisfactory, for they never once failed throughout the present prolonged drought in supplying the wants of the district with good water. How long this may last it is impossible for me to say.

The report further recommends that the drinking tank be fenced in, as at present it is impossible to keep stray stock away from the water. I may say, in reply to this, that the matter has already been dealt with, and that tenders have been invited for the work.

Mr. Doyle concludes his report by further recommending that a suitable hut be erected for the caretaker. I quite concur in this, as it is most desirable to have respectable men in charge (and married ones if possible), because, as it sometimes happens when the men are forced to go some distance for meat, &c., there would in their absence be someone on the works to prevent trespass. I think, in order to induce family men to take employment of this kind, a suitable cottage should be erected at each tank, say of four rooms for the family, and a store-room for tools and material.

The arrangement I think should be as follows, viz.:—Living room, 11' x 12'; parents' bed-room, 11' x 10'; boys' room, 7' x 10'; and tool-room, 6' x 7', all to be 8' high to the wall-plate, with galvanized iron roof, and built of pine timber, to be contracted for by Hudson Bros. or some firm of that kind, to be put together at the works in Sydney, marked and numbered, and transmitted here by train and teams, with a man to put them up at the respective sites. This, in my opinion, would be the best and most economical way of getting the work done, as the rate of skilled labour here (when you can get it) is excessively high and the cost of material equally so.

The necessity for decent houses at the works need hardly be urged, for I feel sure they will induce industrious and steady men to seek employment, and so enable the Government to get rid of the worthless fellows now engaged. There is also another advantage that may be expected, and that is that the tanks are much more likely to be let by tender when it is known that such important advantages as a good cottage and well-fenced paddock are to be acquired, and there can be very little doubt but that a person once settled there will be most anxious to retain and improve them.

I have, &c.,  
J. H. ADAMS.

The Commissioner for Roads.

Minute by Mr. Assistant Engineer Wood on portion of report marked.

PLANS will be prepared for huts with two rooms, which is all that can be expected to be provided. Designs will be prepared for huts built of pine logs, weatherboards (pisé), and galvanized iron. The cost of carriage will in most cases prove prohibitory.

Mr. Wood,—See mc.—W.C.B., 30/4/84. Should be copied and sent to Mines. I have nothing to add beyond the opinions expressed in my minutes on papers 84-391 and 393.—A.P.W., 30/4/84.

Tanks & Wells,  
84-602.

I recommend that this copy of report from Road Superintendent Adams be sent to Mines.—  
W.C.B., 16/5/84. Under Secretary, B.C. Forward to Mines.—F.A.W., 20/5/84. The Under  
Secretary for Mines.—J.R., 21/5/84, B.C. Copy to Mines, 16/4/84. File.—W.C.B., 16/5/84.

Re

*Re Mr. Doyle's Report on Boro Waterhole Tank.*

Sir,

Walgett, 25 April, 1884.

I consider this a most extraordinary report of Mr. Doyle's, because if such a state of things as Tanks & Wells, 84-603. it has disclosed existed, I feel that I should have been communicated with at once by the Inspector in such a vital matter as the non-action of the inlet valve, instead of what the first intimation I received about it was a telegram from the Department on the 3rd instant, probably some weeks after the report had been written. Fortunately, it found me at home, which enabled me to take prompt action by starting the maintenance man off at once with instructions to clear the valve—myself following after, wondering at the sudden collapse of work that I had inspected 20 days before, and was informed then by the caretaker that everything was all right—in fact this has been the report received from him every time I visited the work. I was therefore surprised to receive the telegram; on my arrival at the tank I was informed that there was nothing wrong with the valve. This I could see was correct, the water being on the same level in both tanks, and very good; but the man informed me that it was not always so in the drinking slopes, for after cattle had drunk and waded through, it became very muddy and bad. This I could easily understand; the wonder would be if it were not so, as the accumulated silt of two years was there, in addition to the usual excrementitious deposits of the stock that had watered there during the time; but notwithstanding these drawbacks (common to tanks on this system) the water was good, the supply from the main tank no doubt keeping it so. I can only account for Mr. Doyle's statement *re* the valve on the supposition that he framed his report on information received from the caretaker, who is a thoroughly worthless man, and one whom I had to report on several occasions for not keeping his tank in order. This is the only explanation I can give for the statements in the report. I have been to the tank every month regularly, and have always been informed by the caretaker that the valve was working well, and this was borne out by my seeing the drinking tank well supplied. Yet Mr. Doyle has informed me that he told him it was not working right. I must again give it as my opinion that Mr. Doyle has been deceived by the caretaker, who, probably through ignorance of the valve action, had reported it would not work, when most likely the water had attained the same level in both tanks. I wish here to say that I am not defending the position or action of the valve in any way, nor attempting to prove that it may not become choked at any moment, but merely stating what I found on inspection and by report to be true. Before finishing with this portion of the report, I would like to add that I have always received the assistance of Mr. Doyle to the fullest extent in all matters relating to the tank service, and believe him to be thoroughly conscientious and painstaking, hence my strong belief in the theory of his being misinformed. The fact that the paving stones round the drinking tank were loose only confirms my opinion of the caretaker, that he is thoroughly useless; the few stones that are likely to get displaced after cattle watering could soon be put right by a slight expenditure of labour; but if neglected they quickly develop into serious defects. I have ordered my maintenance man to remain, and help to do all necessary repairs. As to the danger of driving stock promiscuously to water at this tank, I can safely say that no such risk exists, for even supposing the pitching got displaced, the ground beneath, from the water line upwards, is always safe. As to the recommendation of breaking the pitching up into metal, I cannot say whether it would be an improvement or not; but I propose to lay out a small portion and see how it will act. As to the recommendation contained in the report that the tank should be fenced, I have to state that the question of doing so has already been considered by the Department, and that tenders have been invited for the same.

I agree with Mr. Doyle that the caretaker has a very wretched place to live in, and would recommend that a cottage be erected at an early date.

Mr. Doyle further on remarks that the banks of the main tank have "caved" in more than any of the others; this I think is correct and may have been caused through the greater porosity of this ground, or probably by the first rush of water over the berm causing injury to the slopes in several parts, and this, I maintain, would have happened no matter what their batter had been.

Mr. Doyle goes on to suggest that a couple of blackfellows be engaged to dive down to the pipe and clear away the silt and so get the pipe to act, if only temporarily. Now supposing this was necessary (which up to the present has not been the case), it is hardly the expedient I should resort to with my present knowledge of the blackfellows of this district, who, I find, are not fond of water, and even if they were would find something more congenial to their tastes than to go diving in the manner suggested.

Mr. Doyle concludes his report by recommending that an additional drain be cut to this tank, this is simply an echo of an order of mine given to the caretaker months ago, in order to employ his leisure time in a profitable way, but it has not been done. Mr. Doyle has been misled by the caretaker in stating that the water that had filled the tank had come from a different direction to that of the drains. This is a very stupid statement, for how could the water enter the tank except through the drains led into the silt tank. I have seen the locality under the most favourable conditions for judging of these matters, and have been over the ground when the heaviest of the rain fell which enabled me to have the drains placed in the best position; as already stated, the catchment can be considerably improved by increased drainage if found necessary, but as the tank got full before, so it will again with those in present use. In conclusion, I would like the Commissioner to understand that I am not defending my work, or the principle of these tanks in any shape; they were made in the most economical manner, and in the simplest way, in order that they might be finished for the sum voted; plans could have been prepared for a similar class of work just as easily which would have prevented the caving in of banks and the feebleness of pipes, but where was the money coming from? I had to do the best I could with the amount at my disposal, and consider I have done so.

The Commissioner for Roads.

J. H. ADAMS.

I recommend that this copy of report of Road-Superintendent Adams be forwarded to Mines.—W.C.B., 16/5/84. Under Secretary, B.C. Forward to Mines.—F.A.W., 20/5/84. The Under Secretary for Mines.—J.R., B.C., 21/5/84. Mr. Inspector Gilliat.—A.B., B.C., 22/5/84. Before dealing with these reports, I think they should be sent to Mr. Overseer Doyle for any remark he may have to make upon them.—H.G., B.C., 27/6/84. Mr. Inspector Doyle.—A.B., B.C., 30/6/84.

Sir,

Sir,

Walgett, 13 May, 1884.

Tanks & Wells,  
84-574.

I have the honor to acknowledge the receipt of your B.C., 9/5/84, enclosing papers for report. In reply, I beg to state that my reports upon the tanks in the Walgett district are strictly true, and have not been overrated in any way. With regard to Bunghill Tank, the supply pipe, I was informed by the caretaker (an intelligent man), only acted feebly, and at times not at all. The pitching on the slopes of the drinking tank was very much displaced, but by my instructions the caretaker has been engaged in replacing the stones as opportunities presented themselves. I still maintain that the works generally did receive considerable injury from the first rush of water, augmented by *permitting the stock to use the drinking tank* long before it contained a sufficiency of water to enable them to drink without crowding, and thus displacing the stones on the slopes. I quite agree with Mr. Adams that the tank is a great boon, and still serviceable, as it contains a large supply of good wholesome water. It would be a hard matter indeed if this tank was rendered useless at this early date; but I contend that unless some substantial form of inlet be adopted, to prevent the silting up of this tank, it will become useless years before it should do. Since my report of March 1st, I have again visited this tank, and have no reason to alter my former opinions.

With reference to Boro tank I have no reason to alter my opinion, expressed in my report of January 6th, 1883, and March 1st, 1884, and I enclose you a letter from Mr. M'Clymont, then of Dunglear. I may state that I was present when the valve was turned on, but not having time at my disposal to wait and see the result, I arranged with Mr. M'Clymont to report the effect to me. The pitching on the drinking slopes was very much displaced at the time of my report, so much so that carriers and others deemed it unsafe to turn their horses loose to drink, but preferred to lead them or water them in buckets. Mr. Adams did report the caretaker, W. Regan, to me for neglecting to replace the stones; but as the greater portion of the displacement was under the water, and many of the stones very heavy and embedded in mud, I consider it was beyond the power of any one man to remedy this. I still maintain that the water in the drinking tank was green and unfit for use. My own horse refused to drink it after I had ridden him 20 miles. In one of the several conversations I have had with Mr. Adams with regard to this pipe not working, he seemed to repudiate the idea that either the caretaker or myself could form any correct estimate of the respective depths of the water in each tank without proper instruments, and hinted at the probability of the water being on a level in each tank when the valve was turned on; but as the upright posts which support the platform in the main tank clearly show the high-water mark, and the fencing posts in the drinking tank also show the high-water mark, it is a safe conclusion to draw that if the water is 2 feet below the mark in the main tank, and 6 feet below the mark in the drinking tank, that a difference of 4 feet exists in the level of the two waters. On more than one occasion when visiting Boro Tank, I have been accompanied by H. G. Crombie, Esq., Dunglear, and on a recent occasion also by R. W. Chase, Esq., Llanillo, who will doubtless, if necessary, verify what I have stated. Mr. Adams recently sent a maintenance man out to Boro tank to assist the caretaker in repairing the works, and who reported that there was 7 feet of silt in the drinking tank.

I note a memo. by the Commissioner for Roads, that the Mines Department first neglect the works and then complain; but the chief damage sustained by these tanks was done by the first rush of water, the state especially of Bunghill tank having been well known and a by-word in the district, and this long before they were handed over to the Mines Department.

In conclusion, I may say that I can quite understand how a casual observer can be deceived with regard to the water in the drinking tanks, particularly when it has not been disturbed for two or three days. It then looks clear and in good condition, but when it is stirred up by thirsty stock rushing into it, as they always do, it becomes black and emits a very unpleasant odour, caused by the stirring up of the putrid matter that has found its way into this tank.

I have, &amp;c.,

J. R. DOYLE,

Inspector of Stock.

The Chief Inspector of Stock.

Mr. Adams for report, with all the papers. Very urgent.—W.C.B., 11/7/84. To be returned at once. Mr. Adams,—B.C., 12/7/84. Herewith.—J.H.A., 29/7/84.

Minute by The Commissioner on portion marked.

By whom was this permitted?—W.C.B. By the so-called caretakers.—J.H.A. See report on separate paper herewith.—J.H.A. The Commissioner for Roads,—B.C. Mr. Gilliat, B.C., 17/8/84.—A.B.

Memo. by Mr. Inspector Gilliat.

27 May, 1884.

Tanks & Wells,  
84-616.

THE minute of the Commissioner and Engineer for Roads and Bridges attached to Mr. A. P. Wood's memo on the Boro, Lightning Ridge, and Bunghill tanks. I have nothing to add to what Mr. Wood has stated, except that the Mines Department first neglect the Works and then complain, appears to me sufficient justification to submit, for the consideration of the Honorable the Secretary for Mines, a brief review of the position with regard to these works.

From the date of my first inspection of the public tanks, I have been reluctantly compelled to report both verbally and in writing to the Under Secretary for Mines and the Chief Inspector of Stock, that the construction of these works was so defective that I saw no prospect of the Department being able to maintain them, except by carrying out extensive alterations and repairs; and I believe I may say it was chiefly owing to the fact that the cost of the repairs and alterations deemed urgently necessary to maintain the works in order, amounting to so large a sum, besides being so widely distributed, that the staff at the disposal of the Mines Department was not able to supervise its expenditure, that the recommendation was made to remit the repairs to the Constructing Department. I was not aware that the defects in these works had been readily acknowledged by the Department of Public Works, as here stated by Mr. A. P. Wood, except in his present memo, and once formerly with reference, I think, to some particular tank; but at the same time I fail to see how its admission affects the question, or how my reports for the information of the Secretary for Mines are to be prepared without allusion to the defects in works this Department is to maintain, and for which it became an important part of my duties to submit remedies.

That

That this Department has reiteratedly urged attention to the condition of works requiring repair is true; but the attention of the Mines is as frequently directed to the delay in effecting what are admittedly urgent repairs, and these are forwarded for the information of the Department of Public Works, at the same time that allowance has been made for the severity of the season is shown in my memo. attached to these papers.

I cannot, however, agree with Mr. A. P. Wood, that shortness of funds is a legitimate defence for defective design or faulty construction. I quite agree with this.—J.P.A.

In view, therefore, of Mr. A. P. Wood's statements in the paper to which this minute is attached—that he is not prepared to make any defence of the design of these works beyond want of funds; that his Department has never upheld the designs, and has readily acknowledged their defects; and finally, his complaint that the attention of the Department of Public Works has been so constantly directed to these things by myself, I beg to submit, for the consideration of the Honorable the Secretary for Mines, that the minute of the Commissioner and Engineer for Roads and Bridges, coming from an officer of such high standing, conveys an undeserved censure upon myself.

With regard to the works particularly referred to in these papers, I can confirm, from my own observation, Mr. Doyle's statement concerning the Bunghill tank—that it was seriously damaged before being transferred to this Department; and I informed Mr. Adams, the constructing officer, of it at the time.

A private letter from H. G. Crombie, of Dungalear, received more than a year ago, confirmed all that Mr. Doyle had stated in his reports upon the Boro tank.

In fact, the damage at each of these works is the necessary consequence of their defective design.

The point of difference between Mr. Doyle and Mr. Adams appears to be in the working of the connecting pipes between the main and drinking tank at Boro and Bunghill.

Each of these has, or had, steep 1 to 1 batters. These have fallen in and filled, more or less, the bottom of the main tank, and must interfere with the discharge of the connecting pipe sooner or later. Mr. Doyle, in January, 1883, found this pipe choked. Mr. McClymont, late overseer at Dungalear, confirms his statement, and says that after the valve was open for thirty-six hours no water could be had in the drinking tank.

Mr. Adams recently sent a maintenance man to remedy this. No doubt he probably by some means freed the inlet pipe and temporarily restored the connection; but that it is liable to be choked again at any moment, no one knows better than Mr. A. P. Wood and Mr. Adams.

I have very great confidence in Mr. Doyle's ability and experience, and believe him to be a thoroughly reliable officer. I also know Mr. Adams intimately, and I am equally sure that he could not be guilty of a wilful misstatement; but these works were constructed by him, and he is naturally enough not disposed to judge them as critically as a less interested observer will do.

The only remedy for these works is, I consider, the one I have already submitted—the erection of troughing and pumping gear as soon as the season will admit.

HARRY GILLIAT.

Submitted.—A.B., 24/5/84. The Under Secretary for Mines. Submitted.—H.W., 30/5/84.

Mr. Gilliat's actions are so prominently before me in the performance of his duties, and always meeting with my approval, I do not think he need concern himself about the censure or praise of Mr. Wood of the Works, who seems to delight in reporting in an antagonistic spirit towards Mr. Gilliat. I do think it is not just to myself for Mr. Bennett to make the remarks he has upon Mr. Wood's report. There was the less cause for his doing so, because I have endeavoured to make the two Departments work harmoniously, and Mr. Bennett is well aware of the fact.—J. P. ABBOTT, 30/5/84.

The Under Secretary for Public Works.—H.W., B.C., 4/6/84. Roads.—J.R., B.C., 5/6/84.

#### Minute by The Commissioner for Roads.

I must disclaim, in the most earnest way, any intention to attribute neglect to the Honorable the Minister for Mines, but I would respectfully point out that from the very beginning these works have been neglected, and such neglect has resulted in the state of things described in Mr. Gilliat's first report. The Galathra and Boggy Creek tanks were not what they should have been, but the other later works were, when completed, what they were intended to be, in order to avoid cost and injury from neglect, and were no more imperfect in design than an ordinary road can be called imperfect in design, because it is not a railway. I attach Mr. Adams' report. I am doing all that can possibly be done to carry out the more expensive works now determined on properly. W.C.B., 8/8/84.

Under Secretary.—W.C.B., B.C., 8/8/84. Submitted.—A.B., 15/8/84. The Under Secretary for Mines. Submitted.—H.W., 15/8/84. Seen.—J. P. ABBOTT, 6/9/84. Mr. Gilliat.—A.B., B.C., 6/9/84. Seen.—H.G., 8/9/84.

#### Having further reference to Tanks.

Sir,

Roads Office, Walgett, 29 July, 1884.

In obedience to your minute of the 11th instant (*see* papers 709, and Mines 574) herewith, I beg to report that I have only returned from an inspection of the tank on the Llanillo Road, and am pleased to say found them pretty well full of water, and in good serviceable order. The caretakers, on being asked by me, state that the valves are working well. In the face of this, I feel rather surprised at the report of Mr. Doyle, for one or two things must have happened—either that the men in charge are untruthful, or that Mr. Doyle expects some wonderful degree of perfection from common earthwork reservoirs. I think, if any engineer were to examine these tanks, he would say that they are doing their duty well. It has been hinted that because I constructed them, I am therefore not disposed to judge them as critically as a less interested observer would do. I absolutely deny that any notice of the kind would influence me, for I have stated over and over again that I never claimed any merit for them save that of cheapness and simplicity, and have always pointed out what appeared to me to be their inherent defects long before Mr. Gilliat came to the district. I

I recommended that pumps and troughing should be substituted when the season and other circumstances permit, and at the present time I have pumps and horse-gear ready to erect when there is a chance of getting the work done; for hitherto it has been almost impossible to find men to tender for anything here, in consequence of the drought and its effects on stock and carriage; but this state of things, I trust, will soon pass away and permit the work to be done.

I think I need not follow Mr. Doyle through his report very minutely, as the statements therein are merely repetitions of those already replied to. It is urged that unless some substantial form of inlet be adopted to prevent the silting up of Bunghill Tank it will become useless years before it should do. I may say in reply to this that there is no form of inlet that will prevent silting; all that can be done is to provide pits as at present, and catch all we can by precipitation—for, in the absence of costly and extensive filter-beds, that is all we can hope to do. The storms here are of short duration and far between. It is therefore imperative to catch them as quickly as may be, and at all risks silt therefrom is inevitable. It is intended, however, to put in a wooden flume 5 feet wide when the pumping-gear is being erected.

The statement about the stones on the drinking slopes getting loose only proves that the caretakers neglected their duty. I pointed this out to Mr. Doyle from time to time; in fact, the men were perfectly useless when I last visited Bunghill. I found the silt-tank full of sand, and quite useless; if that was not neglect, I don't know what is. I ordered the man to clean it out at once. On several occasions I found the berm of the tanks damaged through the silt from the embankment being allowed to collect, and so conduct the water over the slopes, causing dangerous scour. These and other points caused me to engage a maintenance man who would be under my full control, as I really felt afraid that some serious accident would happen to the earthwork through carelessness and neglect. I was most reluctant to incur this expense, as I felt the caretakers should suffice; but proving their worthlessness, and knowing that they did not consider themselves under my orders, I could not see any other alternative. It was for this reason that in a previous report I asked that my hands should be further strengthened in this respect, for although Mr. Doyle in every instance concurred in my instructions, still I felt the men did not regard me as having any authority over them. They have since been dismissed, and I hope those now engaged will pay more attention to the works, and so prevent much trouble and annoyance. I am sorry Mr. Doyle misunderstood my remarks about the possibility of the caretaker being mistaken in the height of water when trying the valve—this man always stated to me that the valve was in good order. I think I merely said that care was required to get the difference of level between the two tanks. The Bunghill Tank was in good order when handed over to the Mines, the slight damage it sustained at the mouth of the inlet being put in first-rate repair by the contractors. I cannot compliment Mr. Doyle on his statement that this tank is a "by-word in the district," as I think the expression unnecessary, and not a fact—the tank being ever full of water, and doing good work. I venture to assert that this tank, if spoken of at all, will have the name of being one that will never go dry, and as being a boon to the country. I do not think I need say any more, beyond that I am doing my best to preserve the usefulness of these works, and if Mr. Doyle will only assist by causing his men to exercise greater vigilance and industry, the Public Service will be better served, and my duties made much lighter.

I have, &c.,

J. H. ADAMS.

The Commissioner for Roads.

Forward to Mines. The Under Secretary for Mines.—J.R., B.C., 11/8/84.

Sir,

Walgett, 15 August, 1884.

Tanks & Wells,  
84-1,042.

In compliance with the memo. of Mr. Inspector Gilliat, *re* Tank at Boro, No. 603, 22/5/84, I enclose a letter which I received from Mr. Chase, of Manillo, 21/5/84, and I would remark:—

1. That the batter would not have caved in so much if it had been less steep.
2. That the first rush of water found its way alongside of the supply pipe as well as through it.
3. The accumulation of 7 feet of silt can be accounted for by the earth washed away along the outside of the supply pipe.
4. That the earth washed out from under the embankment caused the sinking of embankment and solid earth between the two tanks.
5. That the promiscuous entrance of horses caused injury to the drinking tank.
6. I have seen sheep jammed between the stones and bogged in the drinking tank.
7. I do not think that one man unassisted could have remedied the damage done to the work or replace the paving stones.
8. I have known the supply-pipe refuse to act, and remedied by probing with an iron bar to remove the silt which had accumulated at its mouth.
9. I have known the water in the Boro Tank to be unfit for use.
10. I have given my opinion in a former report that Regan was feeble, and physically incapable of performing the duties.
11. That the Dungalcar lessees tendered for Boro Tank, but did not undertake the care of the tank because their manager reported that it was in a dilapidated condition.
12. I am of opinion that, after 1 inch of rain, by extra drains cut in another contrary direction to those now in use, the supply of water to this tank would be doubled.
13. I would respectfully submit that the levels should be taken and the line of drains pegged out, to show where the caretaker could expend his labour most profitably in cutting drains.

I enclose you the return of rainfall near the Boro Tank, or within a mile thereof. A very few of these showers have increased the water in the Boro Tank, while other tanks in the vicinity were filled.

I consider the country around Boro Tank admirably suited to make drains upon to keep the tank well supplied. Since my last report Mr. Adams has sent out a maintenance man to assist in repairing the tank, and has improved the drinking tank as far as the water would permit them to reach. There is no present inconvenience to the travelling stock, but when the water becomes low in the drinking tank it would require to be pumped out, the silt removed, and the stones securely fixed.

I have, &c.,

J. R. DOYLE.

The Chief Inspector of Stock.

Mr. Gilliat.—A.B., B.C., 22/8/84.

RAINFALL

RAINFALL within a mile of Boro Tank, Dungalear, from 1st January, 1883, to 30th June, 1884.

1883.				1884.			
January	4	...	10 points.	February	1	...	50 points.
February	10	...	36 "	April	19	...	16 "
"	14	...	6 "	"	25	...	128 "
"	27	...	35 "	May	12	...	12 "
"	28	...	30 "	"	22	...	24 "
March	20	...	98 "	June	10	...	25 "
"	28	...	10 "	"	14	...	46 "
April	1	...	63 "	"	25	...	80 "
"	5	...	15 "	July	2	...	144 "
"	8	...	26 "	"	4	...	10 "
May	7	...	62 "	"	15	...	22 "
"	14	...	90 "	"	23	...	42 "
"	15	...	8 "				
June	20	...	22 "				
July	20	...	20 "				
August	3	...	31 "				
"	21	...	52 "				
September	12	...	14 "				
"	19	...	8 "				
"	26	...	5 "				
October	4	...	38 "				
"	15	...	104 "				
"	16	...	24 "				
"	27	...	24 "				
November	4	...	31 "				
"	8	...	16 "				
"	10	...	29 "				
"	20	...	67 "				
Rainfall in 1883			968				

From register kept by the Manager of Dungalear Station, and furnished to Mr. Inspector Doyle, 25th July, 1884.

XX.

Day Dream Tank.

Sir, The Day Dream Tank, Silverton, Stock Office, 14 February, 1887.

On the 10th instant, I visited Wilson's reservoir and inspected it, also the tank at Purnamoota. The Purnamoota Tank is in good order, troughs, pump, and everything.

P.W.P., 87-767.

Wilson's reservoir on the contrary has nothing exactly right. There was a space of 20 feet between the end of the piping and the troughs. Every joint in the piping leaked, and in one place the contractor, instead of connecting the pipes by screwing on the coupling, had actually apparently put the coupling on an anvil, beaten out the thread, slipped it on, added a little red lead, and left it.

I took the caretaker from the Silverton Tank with me (he is a first-class man); he took the pump to pieces and did what he could, not leaving off until dark. On Sunday he went out again, took all the pipes asunder, and put the couplings on again, making a thorough job of them.

The horse was then put in, but he could only get the water to run in dribblets; he is going out again to-morrow.

It appears the works were not tried at all; I took the tank over, presuming all was right, but instead of that all was wrong. I shall have to drive Cole, the engineer, out to-morrow, which will cost 30s. There is luckily a little water outside the tank. The caretaker there, James Bolton, informed me the works had not been tested.

I have, &c., JAMES C. W. CROMMELIN.

The Chief Inspector of Public Watering Places.

Mr. Crommelin will please report at once if the requisite repairs to the Day Dream Tank can be made by him and the men in the employ of the Department, or if it will be necessary to refer them to the Department of Works.

He will also be good enough to furnish an explanation of his departure from his detailed instructions upon taking delivery of new works. (Section viii, clause 20, page 26, of "Instructions to Overseers.")

His careful observance and compliance with his instructions is requested in future.—H.G.

Sir, Department of Mines, Public Watering Places, Sydney, 28 February, 1887.

Referring to your letter of the 14th instant, re Day Dream Tank, and stating you took it over without a trial, &c., &c., I have to request that you will be good enough to furnish an explanation of your departure from your detailed instructions upon taking delivery of new works. (Section viii, clause 20, page 26, of "Instructions to Overseers.")

Your careful observance and compliance with your instructions is requested in future.

I have, &c., HARRY GILLIAT, Chief Inspector of Public Watering Places.

Mr. Overseer Crommelin, Silverton.

Telegram

Telegram from Mr. Overseer Crommelin to The Chief Inspector of Public Watering Places.

P.W.P.,  
87-822.

*Re* my letter of the 14th, cannot get pump to work; it will require to be taken up and the pipes under ground all looked to.

Silverton, 23 February, 1887.

JAMES C. CROMMELIN.

Since writing my minute of the 23rd instant, this telegram has been received from Mr. Overseer Crommelin. It will perhaps be desirable to forward a copy of his letter and telegram to the Works Department, that the repairs may be carried out without delay.—H.G., 24/2/87. The Under Secretary. Approved.—H.W., 24/2/87. Copies to Works, with letter.—J.W.B., 25/2/87.

Sir, Department of Mines, Public Watering Places, Sydney, 25 February, 1887.  
I have the honor to forward herewith copy of letter and telegram from Mr. Overseer Crommelin relative to the state of the Day Dream Tank for your information, with a request that the necessary repairs may be carried out without delay.

I have, &c.,

HARRIE WOOD,

Under Secretary for Mines.

The Under Secretary for Public Works.

[Enclosures.]

Copy of Overseer Crommelin's letter of the 14th February, 1887, to the Chief Inspector of Public Watering Places; and copy of telegram from Overseer Crommelin to the Chief Inspector of Public Watering Places, dated 23rd February, 1887.

Sir,

Silverton, Stock Office, 14 March, 1887.

In reply to your letter of the 28th ultimo, asking me to furnish an explanation why I took over the Day Dream Tank without first testing all the works, I have the honor to inform you that I find I made a mistake in so doing. It is no use making a lot of excuses when a man is in the wrong, and I shall take very good care in the future that it does not occur again.

I have, &c.,

JAMES C. W. CROMMELIN.

H. Gilliat, Esq., Chief Inspector of Watering Places.

I am very glad that Mr. Crommelin has replied in this straightforward way, and do not anticipate that I shall have to call upon him for further explanation.—H.G., B.C., 21/3/87. Mr. Crommelin. Noted with thanks. The Works Department are going to alter the pipes.—J. C. W. CROMMELIN, B.C., 26/3/87. H. Gilliat, Esq.

## XXI.

### Dolmoreve Well.

Telegram from Overseer McLeod to The Chief Inspector of Public Watering Places.

P.W.P.,  
86-876.

HAVE been asked by Mr. Assistant-Engineer Stillwell, of Hay, to say when it would be convenient to offer Dolmoreve Well, near Clare. Can I do so? Please reply by telegram to Balranald.

Euston, 25 February, 1886.

J. McLEOD.

Sir,

Department of Mines, Public Watering Places,  
Sydney, 27 February, 1886.

Referring to your telegram of the 25th instant, I have the honor to request you to arrange with Mr. Assistant-Engineer Stillwell a date for taking delivery of the Dolmoreve Well, and desire you will follow the instructions respecting taking delivery of new works.

I have, &c.,

HARRY GILLIATT,

Chief Inspector of Public Watering Places.

Mr. J. McLeod, Overseer of Public Watering Places.

P.W.P.,  
86-1,452.

Sir,

Stock Office, Euston, 23 March, 1886.

I have the honor to inform you that I did, by appointment, visit Dolmoreve Well, on the 11th instant, for the purpose of taking delivery of the works at that watering place.

The works were completed with the exception that the battens holding the slabs at bottom had not been properly nailed, and consequently interfered with the working of the bucket.

As one horse was not sufficient to relieve the well of enough water to allow the repairer to get at the work I could not remain until it was completed.

Mr. Lindsay was good enough to lend the repairer a horse, so that with the two horses there would be sufficient strength to keep the well free of water until the work was finished.

I presume there will be no necessity for me to go out again, as the work to be finished will be executed by a Government repairer.

I have, &c.,

J. McLEOD.

The Chief Inspector, Public Watering Places.

Mr.

Mr. McLeod,—It will be very necessary for you to personally inspect, test, and report upon this well. By reference to your instructions you will find how much stress is laid upon the personal inspection of the overseer, and although you will shortly receive a memo. directing you to take over a work even if not thoroughly in order, yet a subsequent report and inspection will be required. But in no case should you take over a watering place without the local officer of the Works Department being present to make the transfer, *i.e.*, in all cases you should make arrangements to meet the Works officer.—H G., B.C., 26/3/86.

I waited in Balranald a day for a reply to my telegram of the 25th February. Had I got it, I would have gone straight out and would have met Mr. Stillwell. My telegram was replied to by letter, which was sent to Euston. Will have pleasure in attending to instructions contained in your memo.—J. McLEOD, 30/3/86. H. Gilliat, Esq., Chief Inspector of Public Watering Places.

Overseer McLeod to the Chief Inspector of Public Watering Places, reporting on well recently constructed at Dolmoreve, near Clare Corner.—Road—from Balranald to Ivanhoe; distance from and name of post town—35 miles from Hatfield; reserve (nature, No., and date)—No. 60, date 9th February, 1886; parish—Cubarba; county—Manara.

P.W.P.,  
86-4,001.

Questions:—

1. Name of road and length? Ivanhoe Road, 95 miles from Balranald.
2. If near a town, give estimate of population that may be dependent on the watering place? Hatfield is the nearest town, 35 miles distant.
3. Estimate of traffic in stock and teams? It is a very difficult matter to give an estimate of the traffic on these roads, as it varies so much with the seasons. During the last four years the traffic has been a mere bagatelle. I would estimate the traffic in bad years such as the last four or five years:—Travelling sheep, 50,000; travelling cattle, 1,000; bullocks in teams, 800; horses in teams, 250. Very few more teams are required in good seasons, if any; but in travelling sheep and cattle the differences will be considerable, say 200,000 sheep and 10,000 head of cattle.
4. The traffic; by what roads; the destination? The principal traffic is by teams from the various stations between Ivanhoe and Balranald; all the wool and return loading (stores) is taken along this road; cattle and sheep from the Darling and surrounding stations also use the road.
5. Its distance from nearest watering place, or permanent natural water on each side? The nearest watering place on the south is Till Till Tank, distant about 20 miles, and on the north a tank distant about 21 miles.

*If a Well.*

8. Depth of well; depth and quality of water? The well is 125 feet deep with 27 feet of water. The water is of a very inferior quality, being very salt, and I consider unfit for stock. The water has the effect of giving the stock diarrhoea. When the tank at Till Till gets down to 6 feet it affects stock in the same way.

*Watering Appliances.*

13. Full description of watering appliances and delivery in gallons per hour? The Dolmoreve Well stands on an open salt-bush plain  $12\frac{1}{2}$  miles north from Till Till station, and  $7\frac{1}{2}$  miles south from Clare station, where there is a Police station, and a Court held every two months. The water is raised by a whim; the whim ring measures in diameter 46 feet 8 inches at bottom, and 30 feet on top. The span beam measures in length 30 feet, and is 17 feet high; the barrel is 8 feet in diameter with 120 feet of  $\frac{3}{4}$ -inch wire rope, and two galvanized iron cages each holding 50 gallons; the whim will lift 900 gallons per hour. The shaft is 5ft. 2in. by 2ft. 7 in. in the clear.
14. Supply tank; size, construction, capacity in gallons? The supply tank is 54 feet by 15 feet in the clear; depth 5 feet. The material is pine boards 6 inches by 2 inches, supported by  $4\frac{1}{2}$  feet uprights 6 inches thick, resting on sole plates 6 inches by 6 inches; the whole rests upon 14-in. sleepers bedded into the ground. The inside of the tank is lined with galvanized iron  $\frac{1}{4}$  of an inch thick.
15. Troughing; length, width, depth, material, and position? The troughing is 300 feet in length, 3 feet in width, and 10 inches in depth. The sides of the troughing are sawn pine lined with galvanized iron  $\frac{1}{4}$ -in thick, jointed, riveted, and tarred; the whole rests upon 9 in.  $\times$  9 in. sleepers, with timber guards. Railing for horses, cattle, and sheep  $4\frac{1}{2}$  feet high. The troughing points north from the tank.

*Fencing.*

16. Area enclosed; description; distance between posts; number and gauge of wires? The well is not enclosed.

*General.*

18. Probabilities of obtaining tenant and estimated rent? I do not think there is the slightest probability of obtaining a tenant so long as the watering place remains a well, the water being too salt for stock.
19. Area, position, and quality of land included or to be included in tenant's lease. Area notified for public watering place? The land included in the area is average salt-bush plain; there is 640 acres in the well reserve and  $516\frac{1}{2}$  acres adjoining it.
20. Caretaker's cottage and description? None, but much wanted, it being a very bleak spot.

J. McLEOD,

Overseer of Public Watering Places.

Euston, 12th August, 1886.

Sir,

Euston, 10 August, 1886.

I have the honor to inform you that I have taken over the Dolmoreve Well, Ivanhoe road, and near Clare Corner.

P.W.P.,  
86-3,871.

I have retained the services of Samuel Ireland, who was in charge of the well for the Works Department; his wages will be 10s. per day, including horse hire. Ireland's wages will commence on 1st August.

The

The Works Department gave him the above wages, which can be reduced when there is more grass. At present chaff is worth from 12s. to 14s. per bag, delivered at the well.

I am very much afraid this well will never be made use of, the water being very salt. I am of opinion that a tank should be put down on the opposite side of the road, where there is a good catching place.

A large tank is not required; one of 8,000 or 10,000 yards would answer all present requirements.

Should you think of taking any action in this matter it will require to be done at once, as I understand the contract is let for fencing in the reserve round the well, and the contractor has men at work getting timber for the purpose.

H. Gilliat, Esq., Chief Inspector, P. W. Places, Sydney.

I have, &c.,

J. McLEOD.

Authority is requested to the appointment of Samuel Ireland as caretaker of Dolmoreve Well, with wages at the rate of 10s. per day, commencing from the 1st August, 1886. Authority for Ireland to collect watering charges herewith for signature of the Secretary for Mines.—E.W. (for H.G.), 17/8/86. The Under Secretary for Mines.

Submitted for approval, but the Inspector of Public Watering Places should deal with this matter at once, as it would probably be a waste of public money to fence in a well if the water is not good.—H.W., 18/8/86. Approved.—J.F., 18/8/86.

Inform Treasury and Overseer Gilman.—19/8/86. Treasury,—C. S. Board and Overseer Gilman informed, and Overseer Gilman sent authority for Ireland to collect fees.—20/8/86.

A copy of Mr. Overseer McLeod's letter should perhaps be sent at once to the Works Department, with the view of their attention being directed to the alleged saltiness of the water.—H.G., 23 Aug., 1886. The Under Secretary for Mines. Approved.—H.W., 25/8/86. Letter and extract from Mr. McLeod's letter sent to Works Department, 26/8/86.

Sir,

Public Watering Places Branch, Department of Mines, 26 August, 1886.

P.W.P.,  
86-3,871.  
P.W.P.,  
86-4,317.

I have the honor to forward herewith a copy of an extract from a letter of Mr. Overseer McLeod, Euston, with a view to your attention being directed to the alleged saltiness of the water at the Dolmoreve Government Well, lately transferred to this Department.

I have, &c.,

HARRIE WOOD,

Under Secretary for Mines.

The Under Secretary for Public Works.

Copy of extract from communication received from Mr. Overseer J. McLeod, of Euston, by H. Gilliat, Esq., Chief Inspector of Public Watering Places, of 10th August, 1886, as to taking over Dolmoreve Well.

Sir,

I have the honor to inform you that I have taken over the Dolmoreve Well, Ivanhoe Road, and near Clare Corner.

I am very much afraid this well will never be made use of, the water being very salt. I am of opinion that a tank should be put down on the opposite side of the road, where there is a good catching place. A large tank is not required, one of 8,000 or 10,000 yards would answer all present requirements.

Should you think of taking any action in this matter it will require to be done at once, as I understand the contract is let for fencing in the reserve round the well, and the contractor has men at work getting timber for the purpose.

I have, &c.,

J. McLEOD,

Overseer, Public Watering Places.

H. Gilliat, Esq., Chief Inspector, Public Watering Places.

Roads.—J.R., B.C., 30/8/86. Mr. Wood.—W.C.B., 31/8/86.

Should be sent to Mr. Stillwell for report. Would it not be advisable to bore before abandoning, that is, if the water is not too strong to puddle back. Stanley, who has the deepening of the Willandra Well, might examine and make an offer.

A.P.W., 31/8/86.

The Commissioner for Roads.

Appd.—Mr. Stillwell.—W.C.B., 31/8/86. Mr. Stillwell, B.C.

I do not think that it has yet been by any means proved that this water is unsuitable. The well should be baled at rate of at least 5,000 gallons daily for a month, when it is possible much better water would be obtained than that now standing in the well or service tank. If no improvement resulted, boring, if practicable, for a fresh supply might be tried. It is quite premature to talk of abandoning the well and substituting a tank,—Holy Box case to wit.—A.W.S., 3/9/86. Mr. Wood.—W.C.B., 6/9/86.

Should be returned to Mines, with a request to have at least 5,000 gallons a day for a month baled from the shaft.—A.P.W., 6/9/86. Under Secretary for transmission.—W.C.B., 6/9/86. The Under Secretary for Mines.—J.R., B.C., 9/9/86. Mr. Acting-Overseer Gilman,—Your attention is called to section 11, clause 30, page 27, of your printed instructions. Have these instructions been carried out, and the baling been constant and regular; if not, please state the reason?—J.W.B. (for Chief Inspector P.W. Places), B.C., 14/9/86.

Sir,

Balranald, 30 October, 1886.

P.W.P.,  
86-5,173.

I now have the honor to write in reply to your B.C. memo. of 14/9/86, written on letter of correspondence on the subject of the Dolmoreve Well, and asking if my printed instructions had been carried out in regard to the baling of the water. Attached to this letter I beg to draw your attention to one from the caretaker of Dolmoreve Well, Samuel Ireland, in which he states that he has been baling according to the regulations, and the fact is borne out by the coach-drivers and the station-hands on Til Til, who have constantly seen Ireland drawing the water. The manager of Til Til also tells me that since Ireland took charge of the well he has greatly improved the horse walk by forming a raised embankment off the ground, it being before often under water this season, and thus unworkable.

I

I beg to report that all the woodwork of whim and troughing at Dolmoreve Well requires fresh tarring to stand the summer months; the contractors appear to have put on a very light coating, as it is already wearing off. Caretaker Ireland could gradually put on a coating of tar, if he may be supplied with tar and brushes.

Referring to Dolmoreve Well, my belief is that this water must have improved very much from constant baling and exposure to the air, for I found it by no means bad smelling, and although decidedly brackish it is not bad tasting or drinking water in its cold natural state.

I boiled some of the water and tasted it after it had become cold, also made tea of it; in each of these cases it was quite undrinkable. With constant baling, however, I cannot understand why it should be unsuitable for stock. I gave this as my opinion to Mr. Lindsay, the manager of Til Til Station, who informed me that some of the wells that their sheep watered at were no better, if even as good as the Dolmoreve, and that if the Government would let him water his stock at it, instead of baling and letting the water run to waste, he would gladly avail himself of it, and would not be afraid of his sheep being injured in any way from drinking the water. It is now nineteen years since I first went to the Kilfera back-blocks, where I remained for about two years, and was at the sinking of several wells, the water being quite as brackish as Dolmoreve Well, and decidedly worse smelling, yet the sheep drank freely of the water, and without any ill effects; in fact, some of this description of water at the Homestead Well (Kilfera) was condensed at the well by a condenser, and turned out quite drinkable for human beings, thus saving long cartage of water.

In reference to Dolmoreve Well, I would respectfully suggest that if the water as at present drawn is not considered by the general stock travelling public sufficiently good for watering purposes, that the well should be constantly baled dry, and boring-rods used to deepen the present shaft, on the chance of striking fresher water. Should the new supply turn out no better than the old, I would then respectfully suggest that trial bores be sunk in the vicinity of the Dolmoreve Well, so that, if successful in securing better water, the whole of the Dolmoreve whim plant may come in, with short distance carting, for the new well.

I have, &c.,  
R. J. GILMAN,  
Acting Overseer, Public Watering Places.

The Chief Inspector of Public Watering Places.

Mr. Inspector Boulthec for inquiry and report.—H.G., 12/11/86. Report herewith.—J. W. BOULTBEE, Hatfield, 9/12/86.

Sir,  
Dolmoreve Well, 14 October, 1886.  
I received from you per last mail my salary voucher from 1st October to 31st October. In filling it up you have omitted stating what month, so I think it best to send it on through you, so that if it wants correcting you will have an opportunity of doing so, or if you send another voucher I will sign it and sent it on, should you think it requires it. You write in your note that you wish me to bale 5,000 gallons of water per diem. I think the well is capable of giving that amount of water per 24 hours if the cages baled to the bottom of the shaft, but they don't. I have been carrying out the instructions I received until I got yours—that was, baling 6,000 gallons per week, or 120 tankfulls. I will draw as much as I can until you come up and report—that will be at the end of the month, you state.

I have, &c.,  
SAMUEL IRELAND,  
Caretaker, Dolmoreve Well.

Mr. Acting-Overseer Gilman, Balranald.

I have also received per same mail Forms H, envelopes, and paper, for which I am much obliged.—SAMUEL IRELAND.

Sir,  
Hatfield, 9 December, 1886.  
Referring to the enclosed papers relative to the alleged saltness of the Holy Box and Dolmoreve Wells, I now have the honor to report that I visited the Holy Box (22nd November), and found the caretaker baling. On two subsequent dates I passed the well (30th November and 2nd December), and on each occasion the caretaker was drawing water. At my first visit I took my horse to it, thirsty, and he refused to drink it. I also tasted it myself, and am of opinion that stock would be very hard pushed indeed to drink it. It is totally unfit for human consumption, and if, as the caretaker says, the quality is improving, it must have been very bad indeed at first. I do not think baling can have much effect on it. The Jumping Sand-hill and Lignum Hut Wells are far before this in quality, having tasted them all. I do not concur with Mr. Yeo's remarks, which are made from hearsay. Last season—a dry and bad one—the Ivanhoe Tank was not available, and stock had a long stage to travel from Boonoona to Mossiel (55 miles), and only those who were compelled broke the stage at the Holy Box. In rough numbers, only half the stock watered at Boonoona were watered at Holy Box. I think this speaks for itself. I hear it is intended to renew troughing, &c., here. I would request that this outlay should be deferred until definite action is decided upon. The present troughs, though old and worn, are sufficient for all present requirements.

P.W.P.,  
86-5,967.

A tank was commenced here in a good and large catchment, and, after being sunk a few feet, was abandoned. I think this is much to be regretted, as I am of opinion that for the use of travelling stock tanks are superior to wells.

In regard to Dolmoreve Well, the caretaker in three hours forks the well. The supply, so far as I could ascertain, is barely 6,000 gallons in 24 hours. The rope and runners do not, however, let the bucket to the bottom of the shaft. This water is, I think, freer from organic matter than the Holy Box, very clear, and sparkling. It is, however, very salt, and quite unfit for human consumption. Stock used to fresh water would, I think, hardly drink it. Eight thousand sheep were lately watered there, and I understand from Mr. Lindsay, Til Til, that two-thirds did not touch it, and on the other hand, the caretaker says they drank fairly. The other mobs of the same owners did not try it, but got permission to try the station well half-a-mile away. Mr. Lindsay's offer I can quite understand; he has the well half-a-mile away, somewhat similar in quality; his stock are bred upon brackish water and used to it; it would save him using his own well, and at the same time give him an opportunity and excuse for eating

P.W.P.

P.W.P. and T.L. There is no doubt whatever that sheep used to this class of water can *live* on it, but they do not thrive and do well on it, and stock from frontages and tanks will not drink it unless almost *in extremis*.

Ireland used to take his horse four miles daily to water.

For station sheep, bred on and watering regularly, used to and broken into brackish water, these may be "stock-water" wells, but for the general travelling stock I am decidedly of opinion that neither well yields stock-water.

A further trial of the baling might be made, and in the event of there being no improvement boring might be tried. Three months more of regular baling would enable a better opinion to be formed before further expense is incurred.

JAMES W. BOULTBEE.

The Chief Inspector of Watering Places.

P.W.P.,  
87-2,240.

Sir,

Dolmoreve Well, 22 May, 1887.

This morning while baling the rope broke near to the bucket, so it is at the bottom of the shaft. Now that the rope is broken it can be seen that the mineral in the water has eaten through it. All the country about here is covered with water. I have written by this mail to Mr. Engineer Stillwell and Mr. Overseer M'Leod.

I have, &c.,

SAML. IRELAND,

Caretaker.

The Chief Inspector of Public Watering Places.

Telegram from the Chief Inspector of Public Watering Places to Mr. Overseer M'Leod, Euston.

Sydney, 1 June, 1887.

PLEASE report what action has been taken to recover bucket at Dolmoreve Well.

HARRY GILLIAT,

Chief Inspector of Public Watering Places.

Telegram from the Chief Inspector of Public Watering Places to Mr. Overseer M'Leod, Euston.

Sydney, 25 June, 1887.

My telegram of 1st June about bucket at Dolmoreve Well not answered. Please reply at once.

HARRY GILLIAT,

Chief Inspector of Public Watering Places.

Mr. M'Leod has been more than a month in making this reply. I shall be glad to learn the cause of the delay.—H.G., B.C., 2/7/87.

P.W.P.,  
87-3,223.

Sir,

Stock Office, Euston, 10 July, 1887.

In reply to your memo., asking what action had been taken to recover the bucket at Dolmoreve Well, I have now the honor to inform you that I returned from the well in question on the 7th instant. On my arrival at the well I found Repairer Flynn there for the purpose of recovering the bucket. He is delayed from want of sufficient power to reduce the water. Upon the return of Mr. Lindsay, of Til Til, from Melbourne, which was expected every day, he would no doubt get what horse-power he required, and would at once proceed with the work.

The break in the wire-rope was caused by its rusting, through coming in contact with the salt-water. The delay in reply to your memo. was caused by being absent from Euston from 31st May to 9th June, and not being able to leave for the well until the 22nd June. I was also greatly delayed in going out, and, on my return, through the continuous rain and boggy state of the country.

I do not think that water will be required from tanks or wells for some considerable time, there being such quantities in all directions.

I have, &c.,

J. M'LEOD.

Inquire from caretaker if bucket has been recovered. The paper may then be forwarded to Mr. Inspector Low. Such a delay in the recovery of a bucket requires investigation and explanation.—H.G., 22/7/87. Mr. Inspector Low, B.C. Memo. received, 11/8/87, from caretaker, replying bucket has now been raised, 6/8/87 (87-3,834, P.W.P.).—J.W.B. Memo. to caretaker Ireland, 27/7/87.

P.W.P.,  
87-4,364.

Report by Inspector Low on the Dolmoreve well, road from Balranald to Ivanhoe, in charge of Samuel Ireland, for 6th September, 1887.

State of shaft.—Cannot give report; no rope or fittings to go down.

Whim, &c.—In good order; lately been tarred by caretaker.

Rope, buckets, &c.—Only one bucket here, other bucket taken to Hay by travelling mechanic, Works Department, to be repaired.

#### Watering Appliances.

State of supply tank.—In good order; about 3 feet of water; lately been tarred by caretaker.

Troughing.—In good order; lately been levelled by travelling mechanic, Works Department, and tarred by caretaker.

#### Paddocks and Fencing.

State of fencing.—Nil; about one mile of pine posts erected but not bored; no wire on ground.

State of gates.—Nil.

Remarks.—The bucket here was lost 22nd May; travelling mechanic arrived 20th June, and levelled troughing, but owing to wet weather, could not touch well; left 27th June; returned 13th July; got up buckets 23rd July; left on 28th July, taking bucket, which was smashed, to Hay, to be repaired.

There is no rope here, only one bucket, and no bumpers for valves of buckets.

Rates

Rates collected since last report.—Months ending April, May, June, 1887—Nil.

Traffic since last report.—Months ending April, May, June, 1887—Nil.

Weekly depth of water since last report.—Weekly report shows 24 feet.

*Caretaker's Work.*

Work done by caretaker.—Baling every day until rope broke, and general duties.

Work laid out for caretaker.—15th January, 1887.—Inspected this Dolmoreve well to day. Baling of the water has been kept up, and is to be continued. Outlet for getting away of water of trough has not been undertaken by caretaker S. Ireland, as the Government repairer is daily expected, and will do such work, Ireland not having suitable tools. 2nd July.—Inspected works at this watering place. Baling to be continued when the buckets are found and put in working order, also any new work done by the repairer to be tarred. Repairer Flynn, at present preparing to raise buckets. Books incorrectly kept; should such a thing occur again, will be immediately reported to head quarters. 6th September, 1887.—Examined books and found correct. Caretaker will assist repairer on his arrival to get everything in order, after which he will empty supply tank, and continue baling until it is filled, also bale every day.

Remarks and recommendations.—Caretaker here explains accounts referred to as wrong (Mr. J. M'Leod, 2nd July) was owing to him having no receipt-book, hence he was unable to give receipts for money drawn. The error complained, which would have been more satisfactory had it been entered in a more definite form. Caretaker at present gets 8s. per day. The work here I should say is never likely to be heavy, and drawings small, if any. So soon as T.L. fence is completed I consider 6s. 6d. per day is quite sufficient. Caretaker an old man, and quite unfit for doing any work about a well should anything go wrong. I would recommend that caretaker's cottage be erected about 3 chains west of well, and inside T.L. No timber or scrub on this T.L. I would here strongly protest against wire-ropes being used at wells, and recommend 5-in. Manila. I have not met one practical man in this district who will use wire-ropes.

JOHN LOW,

Inspector of Public Watering Places.

Balranald, 6 September, 1887.

The Chief Inspector of Public Watering Places, Mines Department, Sydney.

Telegram from Mr. Inspector Low to The Chief Inspector of Public Watering Places.

Ivanhoe, 9 September, 1887.

P.W.P.,  
87-4,592.

DOLMOREVE Well still without rope, and one of the buckets in Hay. Protest against wire ropes. Recommend 5 inch Manila.

JOHN LOW,

Inspector of Public Watering Places.

Sir,

Department of Mines, Public Watering Places, Ivanhoe, 19 September, 1887.

P.W.P.,  
87-4,849.

Referring to your B.C. document, 22/7/87, and accompanying papers, *re* Dolmoreve Well, herewith returned, I have the honor to report that, when bucket was lost through wire rope breaking, several of the runners and some of the centre were knocked out. When employé of Works Department arrived and tried to get up bucket the rope broke, and thus the other bucket was lost.

The shaft has been repaired, but as yet there is no rope, neither has one of the buckets, which was taken to Hay for repairs by employé of Works Department, been returned.

The rope at present shows signs of being much rusted, and I should imagine, had the caretaker carefully examined it, he would have seen long ere the accident happened signs of its being unsafe, although I can in no way discover that he is to blame for the long delay and the well being still useless, so far as drawing water is concerned.

The delay entirely rests with the Works Department.

I may here enter my strong protest against wire ropes being used, for the reason they break suddenly and without showing the slightest signs of decay, and in this I am borne out by every practical man in this district. Indeed I have met several who distinctly state that they would not go down a well with a wire rope that has been any time in use and coming in contact with the water here. I would recommend that a 5 or 6 inch Manila rope be used, and were this put on drum of whim, one from top and other from bottom, in other words, a double rope, judging from my past experience of wells, I think this would be found quite as lasting and much more safe.

Caretaker Ireland is too old to have anything to do with wells, and since inspecting, Mr. Hudson, Overseer, Kilferia, informs me he has several times seen Ireland drunk in Clare. I have therefore to recommend that his services be dispensed with.

I have, &c.,

JOHN LOW,

Inspector of Public Watering Places.

The Chief Inspector of Public Watering Places.

Urgent.—As water may soon be required upon this road, the Works Department may perhaps be asked if they intend to supply the rope, or if the duty shall be undertaken by us.—H.G., 27/9/87. The Under Secretary.

Approved.—G.E.H. (for U.S.), 27/9/87.

Sir,

Department of Mines, Sydney, 29 September, 1887.

Mr. Inspector Low having reported that there is no rope at Dolmoreve Well, neither has one of the buckets (which was taken to Hay for repairs by an employé of your Department) been returned, I have the honor to request that you will be good enough to inform me, with as little delay as possible, if your Department intend to supply the rope, or if the duty shall be undertaken by this Department.

I have, &c.,

HARRIE WOOD,

Under Secretary.

The Under Secretary for Public Works.

Telegram from The Chief Inspector of Public Watering Places to Mr. Inspector Low, Ivanhoe.

Sydney, 27 September, 1887.

BE ready to supply a rope to Dolmoreve, in case water should be urgently required at short notice before the Works Department do so. Report to me whether the gin wheels will carry 6-inch Manilla.

HARRY GILLIAT,

Chief Inspector, Public Watering Places.

Telegram from Mr. Inspector Low to The Chief Inspector of Public Watering Places.

Ivanhoe, 28 September, 1887.

P.W.P.,  
87-5,009.

THINK I can get rope, if required for Dolmoreve, at Til Til. Will inquire when there, and measure wheels; also put Malarkey in charge of Clare.

JOHN LOW,

Inspector of Public Watering Places.

Sir,

Ivanhoe, 28 September, 1887.

P.W.P.,  
87-5,090.

I have the honor to acknowledge receipt of your telegram of 27th instant *re* Dolmoreve well. Should water be urgently wanted before Works Department send rope, I think I shall be able to get one from Mr. Lindsay, manager, Til Til, and shall see him on the 3rd proximo, when I intend placing Od'ell in charge of this well.

When wiring you, I stated that I would measure wheels. If, in report, I have stated wheels to be of this size ("9 inches"), I think I must have made a mistake. Would it not be "gin" wheels.

I have, &c.,

JOHN LOW,

Inspector, Public Watering Places.

The Chief Inspector of Public Watering Places.

Sir,

Ivanhoe, 6 October, 1887.

P.W.P.,  
87-5,288.

Referring to your telegram of 27th ultimo *re* securing rope for Dolmoreve well, I have the honor to report that Mr. Waugh, of Clare, upon application of caretaker, will, for this well, supply rope should it any time be required before Works Department do.

I have further the honor to report that gin wheels are 2 ft. in diameter, groove 2½ in. wide and 2 in. deep, being quite large enough for a 6-in. Manilla rope.

I have, &c.

JOHN LOW,

Inspector, Public Watering Places.

The Chief Inspector, Public Watering Places.

Sir,

Department of Mines, Sydney, 29 September, 1887.

P.W.P.,  
87-5,362.

Mr. Inspector Low having reported that there is no rope at Dolmoreve Well, neither has one of the buckets (which was taken to Hay for repairs by an employé of your Department) been returned, I have the honor to request that you will be good enough to inform me, with as little delay as possible, if your Department intend to supply the rope, or if the duty shall be undertaken by this Department.

I have, &c.,

HARRIE WOOD,

Under Secretary.

The Under Secretary for Public Works.

Roads.—J.R., B.C., 7/10/87. Mr. Wood. Urgent.—W.C.B., 10/10/87. Mr. Stillwell, wired *re* bucket; the Mines should deal with the renewal of rope.—A.P.W., 10/10/87. The Mines might be referred to paper 87-656 of August last, in which Mr. Stillwell reported that the caretaker was at fault and the author of the damage.—A.P.W., 10/10/87.

#### Dolmoreve Well.

Copy of Tanks and Punts 87-656.

Sir,

Hay, 8 August, 1887.

Appendix to  
P.W.P.,  
87-5,362.

The travelling mechanic, on going to this well to modify the gins, &c., found the well-rope broken, the centering below water level forced out by fall of the bucket, the bucket (still attached to the rope) caught below the displaced centering, and the bucket detached when rope broke at bottom of well.

He had to obtain use of horses and canvas buckets, with two men to assist, from Til Til station, to lower the water and effect repairs. This has been done and new rope and bucket sent out. The rope broke close to the bucket, and apparently from effects of being left under water in the well.

The bucket which fell was much damaged, and has been brought into Hay.

A. W. STILLWELL.

The Commissioner for Roads.

Mr. Wood.—W.C.B., 10/8/87. This should be sent to Mines, calling their attention to the necessity of having the buckets swung out of water when not in use.—A.P.W., 10/8/87.\*

Under Secretary, for transmission to Mines.—W.C.B., 10/10/87. Under Secretary, B.C., forward to Mines Department. The Under Secretary for Mines.—J.R., B.C., 11/10/87. Mr. Low should be instructed to obtain this rope, reporting price, without delay.—H.G., 17/11/87. The Under Secretary. Submitted.—H.W., 18/11/87. Approved.—F.A., 19/11/87.

Telegram

\* Referring to the marginal note above, initialled A.P.W., and dated 10/8/87, I might be permitted to state that neither the original nor any copy of it was received at this office before this copy, which was received on 12th instant with 87-5,362, to which it was attached.—R.W.G., 13/10/87

Telegram from The Chief Inspector of Public Watering Places to Mr. Inspector Low, Ivanhoe.  
Sydney, 24 November, 1887.

OBTAIN rope for Dolmoreve well, and report price without delay.

HARRY GILLIAT,  
Chief Inspector, Public Watering Places.

WITH respect to Mr. A. P. Wood's minute, 10/10/87, referring to an extract from Mr. Stillwell's report, I submit that Mr. Stillwell's report does not justify Mr. Wood's conclusion. There is nothing to show that the caretaker had disobeyed his departmental orders by leaving the bucket in the water, but it appears to have been taken for granted on the statement of the travelling mechanic.

H.G., 25/11/87.

The Under Secretary. Submitted.—H.W., 29/11/87. Approved.—F.A., 30/11/87.

Telegram from Mr. Inspector Low to The Chief Inspector of Public Watering Places.

Wilcannia, 2 December, 1887.

CARETAKER, Dolmoreve well, informs me Works Department have supplied rope and bucket. Everything there is now in good order.

P.W.P.,  
87-6,499.

JOHN LOW,  
Inspector, Public Watering Places.

In connection with Mr. A. P. Wood's minute of 10/10/87, it is desirable to call attention that after we have arranged for the supply of a rope, in accordance with the wish there expressed, I am now informed by the Inspector that the Works Department have forwarded a rope to the well. Mr. Inspector Low may perhaps be directed to cancel the arrangements made.—H.G., 2/12/87. The Under Secretary.

Submitted.—H.W., 5/12/87. Approved.—F.A., 6/12/87.

Telegram from The Chief Inspector of Public Watering Places to Mr. Inspector Low, Silverton.

Sydney, 10 December, 1887.

WORKS Department having supplied rope to Dolmoreve, please cancel any arrangements made by you.

HARRY GILLIAT,  
Chief Inspector of Public Watering Places.

## XXII.

### Fencing Papers.

Mannum Well Fence.

Baradine, 2 November, 1886.

THE local Superintendent of Works has asked me to take delivery of paddock at Public Watering Place, Mannum. What stock should this fence be proof against? Please instruct me.

P.W.P.,  
86-5,159.

ARTHUR MACKIE,  
Overseer, Public Watering Places,  
Coonabarabran.

The fence would not be of much service unless sheep-proof, but take delivery and forward a careful report. If you consider it not suitable it can be referred to the Works for alteration.—H.G., 4/11/86. Mr. Horne,—Send telegram. Telegram sent, 4/11/86.

Sir,

Coonabarabran, 11 November, 1886.

I have the honor to forward you herewith my report on the Mannum Public Watering Place for the months of September and October, 1886. I beg to state that, as the local Superintendent of Works was not present when I inspected the paddock fence, I did not take delivery as instructed by you.

P.W.P.,  
86-5,356.

I have, &c.,  
ARTHUR MACKIE,  
Overseer, Public Watering Places.

The Chief Inspector of Public Watering Places.

Mr. Mackie will please arrange with local Works officer for a day on which they can meet, and make the transfer. After this is done a full report must be submitted.—H.G., 17/11/86. Informed.—18/11/86. Mr. Mackie's report on fence now received.—H.G., 17/11/86.

Report

Report by Arthur Mackie on the Mannum Well, road from Coonabarabran to Gunnedah, in charge of Thomas Hook, caretaker, for September and October, 1886.

P.W.P.,  
86-5,357.

State of shaft.—Good.  
Whim, &c.—In good order.  
Rope, buckets, &c.—All in good order.

*Watering Appliances.*

State of supply tank.—Water-tight.  
Troughing.—Water-tight.

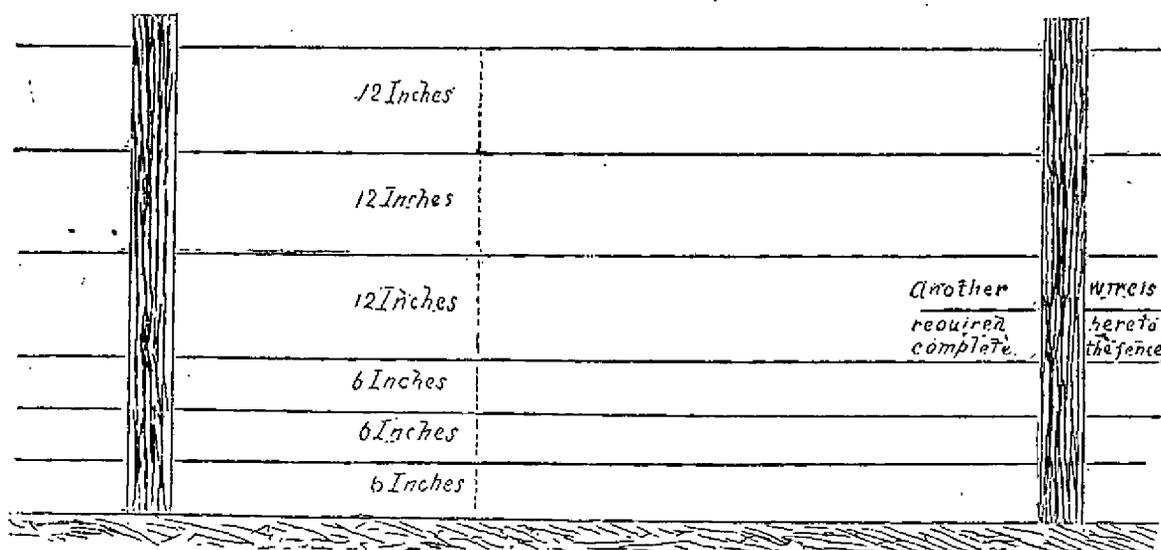
*Paddocks and Fencing.*

State of fencing.—It is erected with good ironbark timber and six wires,—top wire, No. 4, other wires, No. 7; corner posts and gate posts, 10 feet long, will average about 15 inches in diameter; strainers, 9 feet long, will average 12 inches in diameter; struts, 6 inches by 4; split posts, 7 feet 6 inches long will average fully 7 inches by 3½.

State of gates.—A slip panel 12 feet wide; six pine rails, 3 inches in diameter, with iron bar and padlock; also a double gate of sawn timber 12 feet wide; six bars, 3 inches by 1½ of hardwood.

Remarks.—The paddock fence, and gates above described have been completed since my last visit. All the timber is very good, but the fence will not keep sheep or goats; deficient, one wire (see sketch of gauge attached.)

Sketch showing gauge of wire fence at Mannum Well.



*Collections, Traffic, Work, &c.*

Rates collected since last report.—Month ending 30th September, 1886: Nil; month ending 31st October, 1886: Nil.

*Traffic since last report.*

Month ending 30th September, 1886: Nil; month ending 31st October, 1886: Nil.  
Weekly depth of water since last report.—50 feet 4 inches.

*Caretaker's Work.*

Work done by caretaker—Satisfactory.  
Work laid out for caretaker.—Burning off and ringbarking trees until my next visit.

Remarks and Recommendations.—I should recommend another No. 7 wire to be put in paddock fence, in order to prevent sheep and goats from trespassing.

ARTHUR MACKIE,  
Overseer of Public Watering Places.

Coonabarabran, 10th November, 1886.  
The Chief Inspector of Public Watering Places, Sydney.

Mannum Well.

Telegram from Mr. D. L. Wilson to The Commissioner for Roads.

Coonabarabran, 1 November, 1886.

P.W.P.,  
86-5,239.

Mr. Stock-Inspector Mackie declines to take over Mannum fencing without being instructed through his Department.

D. L. WILSON.

Mr. Wood.—W.C.B., 1/11/86. Should be forwarded to the Mines in order that the Chief Inspector of Public Watering Places may instruct the Overseer of Public Watering Places to meet the Local Board Superintendent, and take over the fencing of a special lease area of 200 acres at the Mannum Well.—A.P.W., 1/11/86. The Under Secretary for Mines.—J.R., B.C., 4/11/86. Ask Mr. Mackie by memo. the action taken.—H.G., 12/11/86. Asked, 12/11/86.

Sir,

Sir,  
 I have the honor to acknowledge your memo. of the 12th November, 1886, asking what action I had taken *re* your telegram of 4th November, 1886, and in reply I beg to state that the local Superintendent of Works did not accompany me when I inspected the fence at Mannum, consequently no transfer was made.

Coonabarabran, 7 December, 1886.  
 I have, &c.,  
 ARTHUR MACKIE,  
 Overseer, Public Watering Places.

The Chief Inspector of Public Watering Places. P.W.P.,  
86-5,090.

Sir,  
 I have the honor to acknowledge your letter of the 18th November, 1886, relative to taking delivery of the Mannum Paddock, and in reply beg to state that I shall attend to your instructions.

Coonabarabran, 7 December, 1887.  
 I have, &c.,  
 ARTHUR MACKIE,  
 Overseer, Public Watering Places.

The Chief Inspector of Public Watering Places. P.W.P.,  
86-5,091.

Sir,  
 Referring to your letter of 12th November, No. 86-5,356, *re* taking delivery of paddock at Mannum Well, I have the honor to say that the local Superintendent of Works, Mr. D. L. Wilson, called on me yesterday evening, and asked me for a receipt for the paddock at Mannum Watering Place, inspected by me on the 5th November, 1886, and reported to you on the 11th, but as I am under the impression that a receipt cannot be legally given unless both parties concerned were on the ground at the time of delivery, and as Mr. Wilson said he would not go out to the works I refused to give a receipt until I referred the matter to you. I would also submit to you that the manager of Ulamambria Station informs me that the land enclosed by this fence embraces certain improvements belonging to the owner of Ulamambria Station, and that he should claim compensation for them. I therefore thought it advisable to ask for your further instructions before taking delivery. Kindly reply by wire.

Coonabarabran, 22 December, 1886.  
 I have, &c.,  
 ARTHUR MACKIE,  
 Overseer, Public Watering Places.

The Chief Inspector of Public Watering Places. P.W.P.,  
86-5,926.

If you are satisfied with the substantial character of the improvements to be transferred to this Department, I do not think it is necessary for Works officer to be on the ground. Of course you will carry out your instructions with respect to transfer papers. You will please report fully upon the nature and value of the improvements alleged to belong to the station in your letter of 22nd instant, and inform me if they are upon travelling stock reserve.—H.G. Letter to Mr. Mackie, 19/1/87.

Sir,  
 I have the honor to acknowledge your letter of 19th January, 1887, No. 87-5,926, relative to taking delivery of the paddock at Mannum Public Watering Place, and reporting on the improvements claimed by the lessees of Ulamambria Run, and, in reply, I beg to state that I shall carry out your instructions.

Coonabarabran, 24 January, 1887.  
 I have, &c.,  
 ARTHUR MACKIE,  
 Overseer of Public Watering Places.

The Chief Inspector of Public Watering Places. P.W.P.,  
87-458.

Sir,  
 I have the honor to forward herewith extract from report of Mr. Overseer Mackie on Mannum Well, on road from Coonabarabran to Gunnedah, *re* fencing around paddock, for the information of the Commissioner and Engineer for Roads and Bridges.

Department of Mines, Sydney, 22 November, 1886.  
 I have, &c.,  
 HARRIE WOOD,  
 Under Secretary.

The Under Secretary for Public Works. P.W.P.,  
87-614.

Extract from 86-5,357, Mr. Overseer Mackie's report on Mannum Well.

State of fencing.—It is erected with good ironbark timber and six wires top—top wire No. 4, other wires No. 7; corner-posts and gate-posts, 10 feet long, will average about 15 inches in diameter; strainers, 9 feet long, will average 12 inches in diameter; struts, 6 inches by 4; split posts, 7 feet 6 inches long, will average fully 7 inches by 3½.

State of gates.—A slip-panel, 12 feet wide; 6 pine rails, 3 inches in diameter, with iron bar and padlock; also a double gate of sawn timber, 12 feet wide; 6 bar, 3 inches by 1¼, of hardwood.

Remarks.—The paddock fence and gates above described have been completed since my last visit. All the timber is very good; but the fence will not keep sheep or goats. Deficient one wire (see sketch of gauge attached).

Recommendation.—I should recommend another No. 7 wire to be put in paddock fence, in order to prevent sheep and goats trespassing.

Roads.—J.R., B.C., 23/11/86. Mr. Wood.—W.B., 24/11/86. Mr. Wilson for report.—A.P.W., 10/12/86. Is not this the same as at Baradine, which has been accepted?—W.C.B., 10/12/86. Mr. Wilson, B.C.

Fence enclosing special lease area, at Mannum Well, differs somewhat from that erected at Baradine, in terms with circular, dated 22nd January, 1884, No. 4 wire being substituted in lieu of a top rail. A six-wire fence, with gate, &c., enclosing paddock for use of caretaker's horse, has been faithfully erected, and paid for by the Commissioner. Whereupon Mr. Overseer Mackie, under telegraphic instructions from his Department, inspected the fence in question on 5th of last November, on which day he handed the keys of the gates to the man in charge of the well.

I

I have on several occasions asked Mr. Mackie for a receipt for this fence, which he was by telegram instructed to give me, and I delayed returning these papers until I had the receipt for the fence to annex thereto; but on each occasion he has made some trivial excuse,—that he thinks he must re-inspect the fence; that he hears that somebody has told somebody else that portion of the fence is on the Ulamambria Run, that it should have an extra wire to be goat-proof, &c. How an extra wire will achieve this I am at a loss to know; in fact, it is evident to me he does not know what he wants, and I think a receipt had better be obtained from some other source.

The Commissioner for Roads.

D. L. WILSON, 11/1/87.

Mr. Wood.—W.C.B., B.C., 14/1/87. Mr. Wilson should state definitely whether the fence is sheep and goat proof or not;—he will forward a sketch showing the gauging of the wires.—A.P.W., 14/1/87. Mr. Wilson.—W.C.B., 14/1/87.

Posts are 10 feet apart; top wire No. 4 gauge, others No. 7. Sheep owners to whom I have submitted the question pronounce the fence sheep-proof, though certainly not goat-proof. The caretaker and family are the only persons living within several miles of the well, and are the owners of the goats now running there. To make this a goat-proof fence would involve great expense. It will be remembered that fresh tenders were invited for this fence, the specifications in the first instance being thought too heavy for fencing in a paddock for the caretaker's horse.—D. L. WILSON, 24/1/87. The Commissioner, B.C.

Mr. Wood.—W.C.B., 28/1/87. As the caretaker at this well is the only owner of goats the fencing is required to be proof against, and as it is already sheep-proof, I would recommend that the question of alteration be referred back to the Mines Department before any action is taken.—A.P.W., 7/2/87.

I recommend that paper be returned to Mines. It is not desirable to incur extra outlay to prevent the caretaker's goats trespassing.—W.C.B., 7/2/87. Under Secretary, P.W.O., 9/2/87. The Under Secretary for Mines.—J.R., B.C., 10/2/87.

For Mr. Overseer Mackie's perusal and any remarks he may wish to make with respect to the fence or Mr. Wilson's statements.

He will please report the number of goats running at the well belonging to the caretaker, and whether he gave permission for their agistment and watering.

Mr. Overseer A. Mackie.

H.G., B.C., 14/2/87.

Mr. Wilson was given a decided answer by me when he asked for a receipt for the paddock, and if he knew anything about a fence he would not be at a loss to know how an extra wire would improve it.

Perhaps Mr. Wilson might be asked to furnish the names of the sheep owners who pronounced the fence in question sheep proof. With reference to the goats, the caretaker informs me that he has fourteen, ten of which he will remove. I have not given permission for their agistment and watering.

ARTHUR MACKIE,

The Chief Inspector of Public Watering Places.

Overseer, Public Watering Places, 4/3/87.

Sir,

Coonabarabran, 18 February, 1887.

P.W.P.,  
87-829.

I have the honor to inform you that in accordance with instructions contained in your letter of 19th January, No. 87-5,926, I have given a receipt for the public well paddock at Mannum to Mr. D. L. Wilson, local Superintendent of Works, and have also taken one from Thomas Hook, caretaker. Duplicate herewith.

I inspected the improvements on the 12th instant made by the lessees of Ulamambria Run, on the Public Watering Place Reserve No. 107, and they consist of the following:—1½ miles of wire fencing, value £57; ringbarking about 400 acres, value £25; well, 22 feet deep, value £25; total amount of improvements, £107.

I have, &c.,

ARTHUR MACKIE,

The Chief Inspector of Public Watering Places.

Overseer, Public Watering Places.

Mr Mackie will please reply to the question in my letter, 19/1/87, whether these improvements were on the travelling stock reserve; and he will also please inform me, if so, whether they were made before the notification of that reserve.—H.G., B.C., 18/3/87.

The improvements are not on travelling stock reserve, No. 1,550, but are within water reserve No. 892, notified 16th July, 1875. Well sunk previous to this date.—ARTHUR MACKIE, 24/3/87.

Public Watering Place Act of 1884.—Receipt on delivery of Public Watering Place.

I, the undersigned, have this day taken delivery from Mr. D. L. Wilson, Superintendent of Roads, acting on behalf of the Honorable the Secretary for Mines, of the public paddock known as the Mannum Public Watering Place Paddock, and acknowledge it, and all its appurtenances and appliances, as per statement and list at back, signed as relative hereto, to be in good order and condition,—but it is not sheep or goat proof.

Witness—

ARTHUR MACKIE,

D. L. WILSON, dated 2nd February, 1887.

Overseer, Public Watering Places.

Statement and list of works, appurtenances, and appliances at the Public Watering Place at Mannum, Coonabarabran, handed over by Mr. D. L. Wilson, Superintendent of Roads, to Arthur Mackie, Overseer, Public Watering Places, Coonabarabran, on the 2nd day of February, 1887:—

A wire paddock enclosing about 200 acres. Fence consisting of six wires and good ironbark timber of the following dimensions, viz., corner posts, and gate posts, 10 feet long, will average 12 inches in diameter; strainers, 9 feet long, 4 feet in ground, will average 12 inches in diameter; struts, 6 inches by 4; split posts, 7 feet 6 inches long, 2 feet 6 inches in ground, will average fully 7 inches by 3½; slip panels, 12 feet wide, six pine rails, 3 inches in diameter, iron bar and padlock to secure them; a double gate of sawn timber, 12 feet wide, 6 bars, 3 inches by 1½ of hardwood, padlock, and chain.

ARTHUR MACKIE,

Witness—

D. L. WILSON.

Overseer, Public Watering Places.

Subject:—

*Subject*:—Fence at Mannum Well.

Department of Mines, Public Watering Places, Sydney, 18 March, 1887.

The gauge of this fence appears sufficient to show that it is not sheep proof, and Mr. Overseer Mackie's memo. upon it may perhaps be forwarded for the information of the Works Department.

P.W.P.,  
87-1,306.

No objections have been made to caretakers running a few head of stock to conduce to their comfort, and I have indeed encouraged them to do so, and there is no reason why they should not be admitted to the paddock.

The objection that Mr. Mackie, I think, very properly takes to the fence, is that it is not proof against trespass from travelling or station sheep. As provision has been asked on this year's Estimates to enable this Department in future to carry out its own fencing, it will perhaps, until the decision of Parliament is known, be unnecessary to ask the Works Department to undertake any alteration.

HARRY GILLIAT,

Chief Inspector of Public Watering Places.

Submitted for approval.—H.W., 19/3/87. Approved.—F.A., 22/3/87. Copy to Works in terms of minute, 1/4/87.

Sir,

Stock Office, Euston, 18 March, 1887.

In reply to your letter, 87-940, of the 3rd instant respecting the trespassing of Glen Emu sheep on Box Creek Reserve, I am very glad to find that steps are about to be taken to have the tank reserve fenced.

P.W.P.,  
87-1,228.

I am not aware that any contract for the fencing of the above tank has been let, but will make inquiries.

The Chief Inspector of Public Watering Places.

I have, &c.,

J. M'LEOD.

Sir,

Hatfield, 10 December, 1886.

I have the honor to report for your information that the fencing of the tenants' leases on the Hay to Mount Manara road, and Ivanhoe to Balranald road, is in a very backward state, and in a season like the present it appears to me inexplicable that the contractors are not bound down to time or at any rate urged to greater expedition. It is a serious loss to the Department that so much delay has occurred, and a very great hardship to those tenants who have leased a public watering place.

On the Hay to Mount Manara road the fencing is pretty much in the same state as when I inspected last April. The Wooloondool tenant's lease has been fenced with six wires of barbed wire, and which I referred to in my report on that public watering place.

At the One Tree and Quondong the fencing is *in statu quo*, meanwhile travelling stock are running over them and giving the caretaker extra work in warning them off.

At Til Til, I am informed, the station makes a regular roadway of the public watering place, taking their sheep into the shed, and has killed the dog used by caretaker in keeping sheep off.

At Ivanhoe a most important paddock is still unfenced and over-run by township and travelling stock. The contractor for this work has, I understand, also the contract for Mount Manara tenant's lease, at which his men are now working. He himself is, I was told, away wool carting. The Ivanhoe fence he has sub-let to Elliot, who is also wool carting. Elliot has sub-let to Anderson, who is building for Villa & Rossi, Ivanhoe. He has also sub-let. I heard the price given was £120 per mile, but of this I have no authentic information, at any rate a price has been given, out of which four contractors hope to make money. I think it is only right that your attention should be drawn to this.

On the Ivanhoe to Balranald road the fencing was let, I believe, twelve months or more ago to Mr. Casey, who has since gone insolvent, and nothing has been done. In May last I drew your attention to the dangerous state of the Clare Tank, there being no fence round it, and I find it in the same state now. A few posts are erected, but the men have been removed elsewhere.

There is no fencing at any tenant's lease on this road yet, and the case of M. Guerin, who leased the Youhl Plain Tank for £40 a year, is a hard one. The only return expected is from the use of the paddock. His intention was to lay a portion down under crop. He has lost a most favourable season, and his return from travelling stock is almost nil.

I am furthermore of the opinion that the fences erected, *i.e.*, posts and wire, are unnecessarily heavy and expensive, especially in country where there is a dearth of timber. Pine posts are very generally used, and are in nearly all cases charred, a practice that cannot be condemned too much since it deprives the wood of its best preserver the resin. A fence, such as I described for the Colombo Dam Public Watering Place, would, I venture to think, be ample for all requirements, it being almost identical with the fence erected for police paddocks. That, at Mossgiel, in a country devoid of timber being erected, I think, for £70 per mile, almost half that paid by the Works Department, if my information is correct, and a high price at that.

The use of a larger gauge of wire than No. 8 is, I think, to be avoided since a caretaker cannot restrain it single handed. I would again urge that some action be taken to expedite this matter.

I have, &c.,

JAMES W. BOULTBEE,

Acting Inspector, Public Watering Places.

The Chief Inspector of Public Watering Places.

I may mention that in some cases straining posts are not utilized in the fences enclosing tanks, and in cases round tenant's lease wherever a length of wire ends, there it is strained. This is a concession made by Mr. Stillwell to the contractors, and it must fail to bring about a good result.

Memo. by The Chief Inspector of Public Watering Places as to fencing tenants' Leases.

With reference to the complaints that are made of the trespass of station sheep upon the watering place reserves, and more particularly upon the tenants' leases, that have not been fenced, it may perhaps be undesirable to deal with them as trespass cases until the watering place has been duly notified as such.

But

But as the destruction of the feed upon the tenant's lease will enta forage allowance for the caretaker's horse, it is urgent that steps should be taken to complete the fencing with as little delay as possible.

The fencing by the Department of Works proceeded so slowly that a sum was placed upon our Estimates for this year to enable the work to be carried on under the supervision of our own officers, pending its approval by Parliament. It may perhaps be of advantage if the overseer should be directed to furnish the number of tenants' leases in each district which require fencing, those at which contracts have been taken by the Works Department, but are yet uncommenced or incomplete, the class of gauge of fence they recommend, and a careful specification and estimate of the cost per mile at which they can obtain tenders in their districts. If the money is voted by Parliament, tenderers should be informed that no delays will be allowed in payments if the work is according to the specifications, and that 25 per cent. will be paid upon approval of 50 per cent. of each contract; 50 per cent. upon approval of 75 per cent., and the balance immediately the work is approved.—H.G.

Attach papers and reports on fencing to this before copying.—H.G.

Copy of circular sent to Overseers of Public Watering Places by The Chief Inspector.  
Sir, Department of Mines, Public Watering Places Branch,  
Sydney, 2 April, 1887.

I have to request that you will be good enough to inform me of the amount of fencing required to complete each public watering place in your district.

Specifications should state number and brand of wire, dimensions of posts, distance from each other centre to centre, and distance apart of strainers, and depth of each in the ground, that you would recommend.

Your estimate should state the cost of each item separately, with cost of carriage and erection added.

I have, &c.,

HARRY GILLIAT,  
Chief Inspector, Public Watering Places.

Sir, Stock Branch Office, Bourke, 12 April, 1887.

P.W.P.,  
87-1,682.

In reply to your letter of 2nd instant, No. 87-1,228, I have the honor to enclose specifications for fencing special lease, as used by Works Department, which contains the information asked for.

The price per chain paid by the Works Department for the fence at the Goonery artesian bore was 21s. 6d. per chain. The contract price for the fence now in course of construction at Mulga, No. 5 Tank, Byrock and Gougolgan road, is 18s. 9d. per chain, gates, &c., included.

£86 and £75  
per mile  
respectively.

I have, &c.,

JAS. MALLON.

The Chief Inspector of Public Watering Places.

Sir, Branch Stock Office, Coonamble, 30 May, 1887.

P.W.P.,  
87-2,333.

Herewith I have the honor to forward you an estimate as near as I can, of the cost of fencing for Bullagreen Tank. Fencing is being done close to the Bullagreen at, as I mentioned in a former letter, from £18 to £20; but being a Government job, they generally ask a higher price, as they say it must be stronger and more particular, and though I have asked two or three about here, their prices are higher than my estimate—but if let by tender, may be done about the price I mention.

I have, &c.,

THOS. W. MEDLEY,  
Overseer of Public Watering Places, Coonamble.

The Chief Inspector of Public Watering Places.

Specifications of post and seven (7) wire fence to be erected at Bullagreen Tank.

Posts to be of split pine 6' 6" long, 8" x 4"; the heart not to be taken out if split on the quarter; the large end to be put in the ground 2 feet deep.

Strainers of round pine 7' 6" long, not less than 3 feet in the ground—the large end being downwards; to measure not less than 8 inches at small end in diameter.

Each post to measure not less than 10 feet long, or more than 10 feet from centre to centre, and a strainer to be put in every 25 panels.

The whole to be erected, bored, and wired, and strained in a workman-like manner, posts being thoroughly rammed; the wire to be knotted with the telegraph knot; the holes to be bored with a 7/8-inch bit, and all wires to be pegged in each straining post with hardwood pegs; holes for wires to measure from the ground 6, 5, 5, 5, 5, 7, 12, all posts to be bored through the centre.

The contractor to place every necessary on the line, wire being placed at the Bullagreen Tank for him, he finding all tools and plant.

Estimated cost of fencing in Bullagreen T.L. of 640 acres, being about 4 miles and 25 chains—  
at per mile.

	£	s.	d.
506 split posts @ 16/- per 100	4	1	0
Cartage do.	4	1	0
22 strainers do.	0	3	0
Cartage do.	0	3	0
Boring and wiring @ 20/- per wire per mile	7	0	0
Erection @ per mile	8	0	0
	£23	8	0

Cost

Cost of Wire in Sydney.

No. 8 of 6 wires, 26, 2, 2, @ £9 5s. ... ..	£11 6 8
No. 6 of 1 wire, top 5, 1, 7, @ same ... ..	2 4 9
Carriage of wire from Sydney to Nevertire, 341 miles, 1st class, £4 10s. 10d.	6 15 10
Carriage per ton from Nevertire to Bullagreen Tank, 1½ ton, @ £2 10s.	
per ton ... ..	3 15 0
	£47 10 3

I believe the steel wire can be supplied by Andrew Rowen & Co. at the above price.

Sir,

Stock Office, Wilcannia, 9 March, 1887.

I have the honor to acknowledge the receipt of your communication of March 2nd, No. 87-291, re specifications for construction of caretakers' huts, &c. This will be attended to at once, and I am confident a saving of 50 per cent. can be effected in the erection of these huts and sheds, as well as in the fencing of T.L.'s. Engine-sheds sufficiently substantial and commodious should not cost more than £20, and fencing sufficiently substantial should not cost more than from £55 to £65, according to distance of carriage of material. Of all these I will forward specifications, &c., as soon as I possibly can.

P.W.P.,  
87-1,195.

I have, &c.,

MARK J. C. TULLY.

The Chief Inspector of Public Watering Places.

This may be connected with the specifications and estimates as received.—H.G., 16/3/84.

Sir,

Stock Office, Wilcannia, 19 March, 1887.

I have the honor to forward herewith plan and specifications of fencing which I consider suitable for fencing the tenants' leases at Public Watering Places in this district, and which can be erected at about £50 to £55 per mile, thus:—Wire delivered anywhere within 100 miles of Wilcannia, £20 per mile; furnishing posts and erecting, £30 per mile. This is very high. If a supply of the wire required were purchased *privately*, it could be delivered here under £14 per ton; at least the stores offer to supply it at that price, and carriage is very low at present.

P.W.P.,  
87-1,374.

I have, &c.,

MARK J. C. TULLY.

Specifications of Fencing suggested as suitable for enclosing Tenants' Leases at Public Watering Places in the Wilcannia District.

Timber.—No sapling gum nor round belar will be admitted, nor any timber which in the opinion of the officer superintending the work may be considered of a perishable nature.

Posts.—To be 5 feet 11 inches long, not less than 6 inches in diameter, if round, nothing under 8 inches in diameter to be split (*mulga only* will be allowed not less than 5 inches in diameter, and nothing under 7 inches to be split); all properly squared at both ends, placed 12 feet apart from centre to centre, and sunk two feet in the ground well and firmly rammed, every twentieth (20th) post to be a *straining post*, not less than 8 inches in diameter, and sunk 3 feet in the ground.

At every corner and angle struts will be placed on both sides, as shown on figure 3 of plan; the struts being bored to receive the wire same as posts.

Boring.—Holes not more than ½ inch in diameter to be bored through the centre or thickest part of the post, and according to the gauge shown in figure 1 on plan.

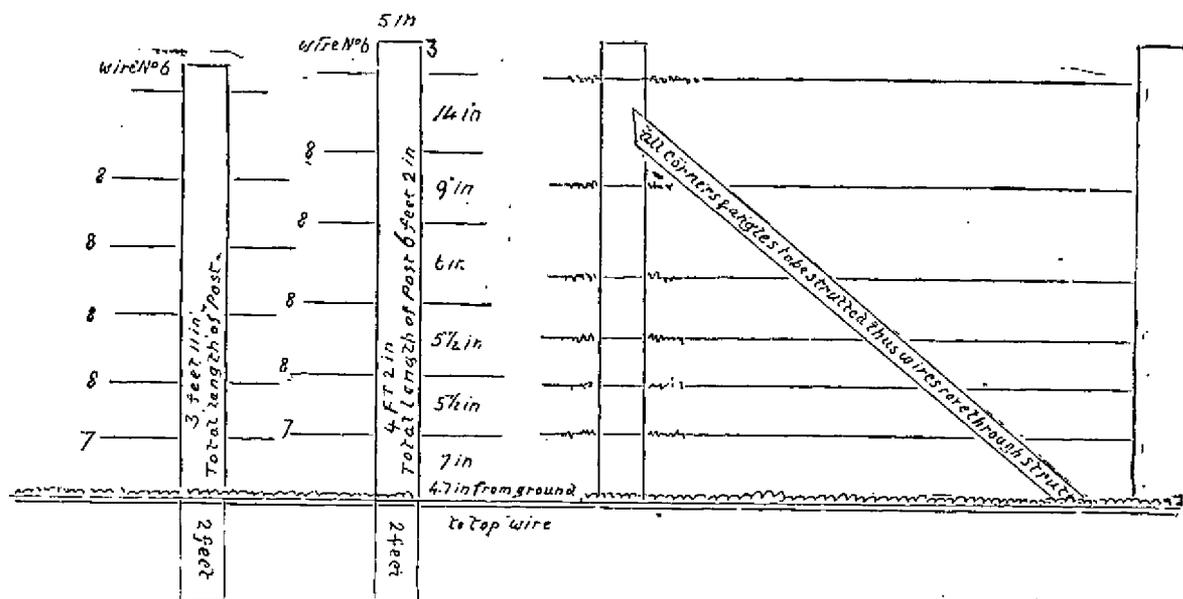
Wiring.—Top wire to be No. 6, bottom wire to be No. 7, all the rest No. 8 best iron annealed (or steel if considered advisable).

Note.—Galvanized wire should be used at all places subject to inundation, and this will apply to nearly every Public Watering Place in this district; some will require one half, others one third or one fourth galvanized wire.

Posts might be placed 10 feet apart, which will make a stronger fence.

MARK J. C. TULLY.

[Plan of fencing for T.L. at P.W.P.'s, Wilcannia District.]



Copy of Telegram from Overseer Tully to Inspector J. W. Boulton.

11 May, 1887.

FERGUSON supplies wire on commission only, No. 8 best brands steel, £13 5s. per ton landed at Wilcannia, in bond; no No. 6. If could be sent from Sydney, care of George Ferguson & Co., Adelaide, can you let me know if this will be done? Am just in from the 70-mile.

M. J. C. TULLY.

P.W.P.,  
86-5,442.

Extract from Mr. Inspector Boulton's report on One-tree Tank for 16th November, 1886.

Fencing enclosing tank has been raised and moved out, is very badly strained—left so by contractor—wire is strained from corner to corner.

J. W. BOULTBEE.

Original, with  
papers re One-  
tree Tank.

Caretaker Young's declaration *re* fence at One-tree was handed to the Minister, and all trace has been lost.

Estimated cost of fencing T.L.'s at per mile, and at which price Overseers are prepared to get work done:—

District.	£	s.	d.	
Narrandera ... ..	55	0	0	per mile.
Narrandera, let ... ..	44	0	0	„
Corowa ... ..	58	4	0	„
Albury, approximate ... ..	70	2	5	„
Wilcannia „ ... ..	40	0	0	„
Cobar ... ..	38	0	0	„
Cobar ... ..	45	0	0	„
Coonamble ... ..	47	10	0	„
Walgett ... ..	57	0	0	„
Deniliquin ... ..	63	13	4	„
Narrabri ... ..	61	14	0	„
Dubbo ... ..	56	10	0	„
Condobolin ... ..	39	19	0	„
Ivanhoe ... ..	54	0	0	„
Silverton ... ..	75	0	0	„
Balranald ... ..	35	10	0	„
Coonabarabran ... ..	42	1	0	„

An average of about £52, but it is to be noted that the estimates sent in, and the specifications accompanying them, were upon a most liberal scale, and capable of very great reduction and modification.

Copy of telegram from Inspector Low to Chief Inspector of Public Watering Places.

18 November, 1887.

P.W.P.,  
87-6,240,  
6,241.

BEVAN, original contractor for fencing Boonoon and Mount Manara, told Stewart, hotel-keeper, Ivanhoe, the price was £120 per mile. Bevan has lately been erecting 10 or 12 feet swing gates there, for which his men informed caretakers he was getting £15 per gate.

J. LOW.

Original, with  
papers re cost.

Copy of telegram from Inspector Low to Chief Inspector of Public Watering Places.

PLENTY of bejar within 5 miles of Boonoon, and pine within 5 miles Mount Manara Tanks, for fencing.

J. LOW.

NOTE.—This refers to query *re* fencing at these tanks, and to show timber did not require to be carted far, and is in addition to my telegram of 18/11/87, giving prices paid for fencing.—J. Low.

Report by Inspector Low on the Mount Manara Tank or Dam, road from Booligal to Wilcannia, in charge of John Murray, caretaker, for 24th November, 1887.

P.W.P.,  
87-6,586.

State of drains.—In good order, showing good attention on part of caretaker.

Silt tanks.—One on east side of main tank lately been cleaned out by caretaker. One on north side of main tank dry, and silted up to within 2 feet of surface.

Inlet or flume.—One on north side iron pipe. One on east side open; both in good order.

Main tank.—In good order; batters slightly water-washed; no depth indicator; upright carrying suction valve only requires figuring for this.

Embankments.—In fair order, but much burrowed by rabbits; caretaker is doing his utmost to protect these. A good deal of herbage and natural grasses; couch sown in April, but none appearing.

#### Watering Appliances.

State of supply tank.—Full of water, in good order, and now being tarred by caretaker; concrete pillars lately been repaired by Works Department, and now seem all right.

Troughing.—In good order; timber requires tarring; all stock drink fairly well at this.

Machinery.—In first rate order, well kept, works steadily, giving full supply of discharge pipe.

#### Paddocks and Fencing.

State of fencing.—In good order; not yet transferred. This has lately been erected by Works Department at £120 per mile, is of pine about half split, and balance young round pine, with no straining posts. The round pine will last only a few years. None of the timber had to be carted 5 miles.

State of gates.—In good order; not yet transferred; lately erected by Works Department at £15 per gate.

Remarks.—Caretaker Murray informs me Mr. Superintendent Stillwell, in August, told him not to interfere with silt tank, as he would get it cleared out. Engine shed erected by one man in four days, for which he got £10. Mr. Hay, Mount Manara Station, contracted to excavate tank at 1s. 4½d.; he sub-let to Fred Hardie, who did the work at 1s. per cubic yard.

Examined books and found correct, but Treasury receipt for October drawings not yet received.

Weekly depth of water since last report.—Last depth, 13 ft. 6 in.

Caretaker's

*Caretaker's Work.*

Work done by caretaker.—Cleaning out silt tank, cleaning drains, cleaning and painting engine and pump, scrubbing, repairing embankments, tarring supply tank, assisting Works Department employé repairing pillars, and general duties.

Work laid out for caretaker.—12/1/87: Work laid out—lower rail of troughing, and leave a space of 9 inches between rail and edge of trough, and let rail incline inwards; clean silt out of silt tanks when sufficiently dry, keep drains clean, get firewood, and general duties.—J. YEO. 4/3/87: Keep drains clean, sow couch grass on embankments, and rake it in, on receipt of it from Ivanhoe; after rain keep machinery clean, cut burrs, and general duties.—J. YEO. 13/5/87: Clean silt tank when sufficiently dry, repair batters and ends of drains, keep drains clean, cut scrub, and general duties.—J. YEO. 29/7/87: Continue clearing scrub on reserve, clean silt out of silt tank, keep machinery and drains clean, and general duties; fix rain-gauge on receipt, according to instructions forwarded.—J. YEO. 5/11/87: Caretaker will tar supply tank, troughing fence, and railing, cut up burrs and black thistles, and open the mouth of small silt tank as instructed. I have authorized caretaker to obtain tallow for engine from Mr. Ward, and to send account to me.—E. PROCTOR. 24/11/87: Examined books and found correct, but no Treasury receipt for October drawings yet received. Caretaker will watch carefully for and destroy any rabbit burrows near supply tank or embankments, continue tarring supply tank, tar timber of troughing and fluming, get nine sheets of iron from old troughing, Mount Manara well, and make shoot to prevent wash in eastern silt tank, and general duties.—J. LOW.

Remarks and recommendations—I would recommend that caretaker's cottage be erected at south-east corner of T.L. There is plenty of pine within 5 miles of this tank suitable for horizontal buildings. This reserve is simply alive with rabbits, and in my opinion it is only waste of time and money to attempt to keep them down, as they come from the stations for feed and water. Were it fenced with iron netting something might be done. Caretaker Murray is one of the best I have yet seen—understands his duties, and willingly performs them.

Ivanhoe, 24th November, 1887.  
The Chief Inspector of Public Watering Places.

JOHN LOW,  
Inspector of Public Watering Places.

Report by Inspector Low on the Boonoon Tank, road from Booligal to Wilcannia, in charge of Frank Kellick, for 14th November, 1887.

State of drains.—In good order, and show good attention on part of caretaker.

Silt tank.—Almost dry, and full of silt to within 3 ft. of surface; requires cleaning out.

Inlet or flume.—All under water, iron pipe closed, but evidently in good order; ground much washed from some of the posts of open flume from water overflowing; open flume requires enlarging by raising depth of sides 6 inches for about 40 feet; timber requires tarring.

Main tank.—Full of water and overflowing; no depth indicator, but upright for M'Comas' water lift frame only requires figuring to do for same; is at present used as such by caretaker.

Embankments.—In good order and show signs of considerable attention; couch sown in March last, but none appearing; little or no vegetation on these.

*Watering Appliances.*

State of supply tank.—Full of water; paint peeling off; requires tarring; otherwise in good order.

Troughing.—In good order, but requires tarring. This has originally been badly constructed, being wedged on both sides between frame and posts of fence, with 1 inch boards to keep it straight, and is carried by support or cross pieces being bolted to posts of fence.

Machinery.—In good order; lately been painted and packed by caretaker; gives a steady and full supply of discharge pipe.

*Paddocks and Fencing.*

State of fencing.—In fair order; not yet transferred; lately erected by Works Department at £120 per mile.

State of gates.—In good order; lately erected by Works Department at £15 per gate; not yet transferred.

Remarks.—Much water in swamp, which is lower than in main tank; cattle can have been watering in this for some time without damage to anything; it is far too boggy for sheep. Caretaker seems willing and anxious to perform his duties. About 200 acres enclosed here; very scrubby; ought to be all ring-barked, and small scrub cut down.

Collections, Traffic, Work, &c.—Examined books and found correct.

*Caretaker's Work.*

Work done by caretaker.—Cleaning drains, painting pump and horse works, packing pump, leveling embankments, clearing scrub.

Work laid out for caretaker.—14/1/87: To lower rail of troughing and leave a space of 9 inches between rail and edge of troughing, pump water, keep drains clean, clean silt tank when sufficiently dry, and general duties.—J. YEO. 5/3/87: Clean drains and silt tank, sow couch grass on embankment, and rake it in after shower, keep machinery clean, and general duties.—J. YEO. 11/5/87: Repair embankments, clean drains, cut burrs and weeds inside embankments, clean silt tank when sufficiently dry, put silt on either side of fluming, put post behind gate to prevent it opening round and breaking the hangings, paint cover of horse works, and general duties.—J. YEO. 28/6/87: Inspected tank to-day, and laid out repairs—filling water course, and repair embankments of drains where broken away during late rains.—J. YEO. 27/7/87: Complete repairing embankments, keep drains clean, ring and cut scrub on reserve, if time keep machinery clean, and general duties.—J. YEO. 4/11/87: To clean away all grass from supply tank, fluming and troughing, tar all wood work about same, also tar supply tank when provided with same, and general duties.—E. PROCTOR. 14/11/87: Examined books to date, and found correct, but no Treasury receipt for October yet received. Caretaker will carry out Mr. Overseer Proctor's instructions, also level embankments and excavate three silt pits in drains 10 ft. x 3 ft., and get material ready for rectifying flume.—JOHN LOW.

Remarks

P.W.P.,  
87-6,311.

Remarks and recommendations.—I would recommend that caretaker's cottage be erected about 20 chains west of main tank. There is plenty of ballah suitable for horizontal work within 5 miles from this, and I shall endeavour to get some one to tender for erection of this. Open flume requires increasing in size at end nearest to silt tank where it is very level and has formerly overflowed. This can easily be done with old material of troughing. I have instructed caretaker to select sufficient material to enlarge this by raising sides 6 inches for about 40 feet, also to heighten logging from silt tank about 40 ft. 9 in., and  $\frac{3}{4}$  in. coach screws will be required for this, and 4 lbs.  $1\frac{1}{2}$  in. clouts, and these I have asked Mr. Proctor to have forwarded. Silt tank: I am endeavouring to get some one to clean out, and owing to small job consider it worth 1s. per cubic yard. Tar: I have arranged with Mr. Webb, Kilfera, to cart from Mt. Manara where there is plenty.

Ivanhoe, 14th November, 1887.  
The Chief Inspector of Public Watering Places.

JOHN LOW,  
Inspector of Public Watering Places.

Report by Inspector Low on the 35-Mile Tank, road from Booligal to Wilcannia, in charge of J. W. Carne, caretaker, for 26th November, 1887.

P.W.P.,  
87-6,588.

State of drains.—Much silt in these in swamp near silt tank.

Silt tank.—Full of water; this was partly cleaned out by Works Department in May, 1886, but owing to getting filled with water was stopped; it is unfenced at two ends, and stock in paddock watering at it.

Inlet or flume.—Old and worn out; 90 feet 12-inch iron pipe here intended to be put in by Works Department.

Main tank.—Full of water; depth indicator requires refiguring.

Embankments.—No signs of waterwash, but uneven, owing to much of spoil from excavation being stone.

#### *Watering Appliances.*

State of supply tank.—Full of water, in good order, and lately been painted by caretaker.

Troughing.—Some of the timber in this is getting old and rotting; requires tarring.

Machinery.—In good order, works well and steadily, giving full discharge of supply pipe. Top of pump leaking; pump requires painting and facings polishing; suction valve not fixed to end of pipe. Mr. Superintendent Hanna has promised to supply the necessary pipe for this, caretaker informs me.

#### *Paddocks and Fencing.*

State of fencing.—In good order; not yet transferred; this has been erected at £95 per mile none of the timber was carted over 4 miles.

State of gates.—In good order; lately painted by caretaker; caretaker has kept no diary of his work; he has been allowing horses and cattle to be put in paddock, but says he got nothing for that. He appears to be a fair caretaker, and could, I think, were the material supplied, erect his own cottage.

Remarks.—The paddock here is quite overrun with kangaroos and rabbits.

Collections, traffic, work, &c.

Examined books and found correct, but no receipt for sum 4d., which caretaker states he remitted to Treasury. Treasurer's receipt for October, £2 16s. 5d., not yet received.

#### *Caretaker's Work.*

Work done by caretaker.—Painting pump, flooring engine-shed, cleaning machinery, painting gates, cleaning drains, and clearing up embankments.

Work laid out for caretaker.—5/3/87: Examined books and works, and found all in order; work for caretaker to repaint tank and give boiler a second coat of tar, also the woodwork of troughing, also clean up inside embankments.—M. J. C. TULLY.—9/5/87. M. J. C. TULLY.—10/7/87: Inspected.—M. J. C. TULLY. 14/11/87: Inspected books and tank; to finish tarring trough, clean up embankment, and kill rabbits which are over-running the country.—M. J. C. TULLY. 26/11/87: Examined books and found correct to date, but no receipt for June drawings, 4d., and October drawings, £2 16s. 5d. Caretaker will clean out and keep clean all drains, tar timber of troughing, paint pump dark green, polish facings and pump tap, keep diary of work in journal, allow no strange stock in paddock, apply to Mr. Overseer Tully for tar, 2 lbs. dark green paint, small paint brush, 1 doz. sheets emery paper.

Remarks and recommendations.—I would recommend caretaker's cottage be erected about 10 chains south of main tank and near present camp. Caretaker has six horses and five cattle in this paddock. Engine-shed was erected by Works Department, and cost £50. The troughing here, now that the paddock is fenced in, is next to useless, so far as watering cattle is concerned—that is, if a big mob or wild. I would recommend 300 feet steel troughing be erected. The present troughing will last for not more than another year, and the expense of removing fence would go towards paying for new troughing. Owing to not knowing where this troughing is to be procured, I am unable to give estimate of cost. Silt tank has been left open at Mr. Road-Superintendent Hanna's special request, in order that he might have it cleaned out when dry.

Wilcannia, 26 November, 1887.  
The Chief Inspector of Public Watering Places.

JOHN LOW,  
Inspector of Public Watering Places.

Report by Inspector Low on the 43-Mile Tank, road from Booligal to Wilcannia, in charge of Robertson and Wagner, Tenants, for 27th November, 1887.

P.W.P.,  
87-6,533.

State of drains.—In fair order, but much water washed in front of silt tank, where fall is sudden.  
Silt tanks.—Both full of silt and dry; contract has just been let by Works Department to have these cleaned out.

Inlet or flume.—Under water, and much silt about them.

Main

Main tank.—Full of water; depth indicator water-washed; requires refiguring; lessces report this to be quite half full of silt.

Embankments.—In fair order but uneven, owing to stock having gained admittance at one time.

*Watering Appliances.*

State of supply tank.—Full of water; requires painting; never been painted since erection.

Troughing.—In good order; has lately been repaired by lessces; timber requires tarring.

Machinery.—In good working order, but requires tarring, painting, and facings polishing.

State of fencing.—Not yet completed. This is of split ballah, none of it being carted more than 5 miles. Contractor would not tell price, but told me it was between £90 and £100 per mile.

State of gates.—Old and worn out, but has been repaired by lessces.

<i>Rates collected since last Report..</i>						£	s.	d.
Month ending	January, 1887	...	...	...	...	8	2	4
"	February	"	...	...	...	0	14	10
"	March	"	...	...	...	0	1	0
"	October	"	...	...	...	0	9	6
"	November	"	...	...	...	6	14	7
						£16	2	3

*Traffic since last Report.*

Month ending	January, 1887	...	Horses.	Cattle.	Sheep.
"	February,	"	276	436	8,000
"	March	"	24	130	.....
"	October	"	6	.....	.....
"	November	"	57	.....	.....
"	November	"	98	1,335	700

Work done by caretaker.—9/5/87: Inspected.—M. J. C. TULLY.

Work laid out for caretaker.—27/11/87: Inspected this Public Watering Place to-day, but leave no instructions till I see Mr. Overseer Tully.

Remarks and recommendations.—Mr. Road-Superintendent Hanna, of Works Department, informs me all painting and tarring referred to in this report was to be done by Works Department, and that he had let contract for same. He also informs me that he intends enlarging silt tank, so as main tank can be emptied and cleaned out. Mr. Overseer Tully endorses lessces' statement that Works Department were to paint, &c., and give everything over in good order.

JOHN LOW,  
Inspector of Public Watering Places.

Wilcannia, 27 November, 1887.

The Chief Inspector of Public Watering Places.

Report by Inspector Low on the 26-Mile Tank, road from Booligal to Wilcannia, in charge of John Balfour, for 26th November, 1887.

State of drain.—In fair order; very well laid out, but don't cross main road, thus allowing water to spread and find its own way to silt tank.

Silt tank.—Almost full of water and no sign of silt.

Inlet or flume.—In good order.

Main tank.—Batters much cut up from cattle watering at this; this tank has not previously held the water well, and all stock have been allowed to water at it; no depth indicator, and nothing in tank to make one.

Embankments.—All trodden by stock, but droppings well cleaned off by caretaker; one angle-shoot at north-east corner required here which would carry off all storm water; no vegetation.

P.W.P.,  
87-6, 585.

*Watering Appliances.*

State of supply tank.—In good order; full of water; lately been tarred by caretaker.

Troughing.—In good order; lately tarred by caretaker.

Machinery.—Well kept, but could not be tested, owing to caretaker fixing pipe to supply tank; also fixing suction valve and lengthening pipe for same.

State of fencing.—Finished, and in good order. This is of ballah, lately erected at £95 per mile; strainers every fifteen panels.

Remarks.—Caretaker has been taking stock on agistment, and says he has drawn about £2 10s., and was unaware he had not power to do so; he seems a good man, and ought, if possible, be retained as caretaker when this tank is transferred; he has not been supplied with books or copy of regulations, and no P.W.P. notice exhibited.

<i>Rates collected since last Report.</i>						£	s.	d.
Month ending	June, 1887	...	...	...	...	2	15	6
"	Sept.,	"	...	...	...	3	10	5
"	Oct.,	"	...	...	...	33	15	7
"	Nov.,	"	...	...	...	15	5	4
						£60	6	10

*Traffic*

*Traffic since last Report.*

Month ending	Horses.	Cattle.	Sheep.
June, 1887	.....	666	.....
September, 1887	.....	845	.....
October	239	6,558	15,600
November	144	3,376	.....

Remarks and recommendations.—The drains here in first instance were let at 4s. 6d. per chain, and afterwards sublet at 3s. 6d. to man who did the work. These are quite equal to drains at Ivanhoe tank. Caretaker is here erecting weatherboard cottage, three rooms, 20 x 12 x 8. I would strongly recommend that cattle be prohibited from watering at this tank, but sheep might be allowed until the cutting by the cattle is levelled, which would improve the tank. This tank has not yet been transferred. Mr. Overseer Tully hopes it will be in about a month from now. June drawings, £2 15s. 6d., were remitted with 35-mile drawings for that month to Treasury. Mr. Overseer Tully has since received £50 9s. 11d. which he will remit to Treasury with 35-mile tank drawings for this month, leaving a balance of £7 1s. 5d., in caretaker's possession at my inspection.

Wilcannia, 26 November, 1887.  
The Chief Inspector of Public Watering Places.

JOHN LOW,  
Inspector of Public Watering Places.

Sir,

Stock Office, Ivanhoe, 17 May, 1887.

Stock Branch,  
87-4,726.

I herewith beg to apply for information *re* T.S.R. through the township of Ivanhoe, for, as far as I can obtain information, there has been no provision made.

The township allotments, &c., with the T.L. at the Ivanhoe Government tank, take up the whole half-mile on the east side of the road, and on the west side of the road I am informed that the land is freehold; consequently the travelling stock have to pass through the main street, which is a very difficult thing to get the Queensland cattle to do.

The township people are complaining that stock are allowed to pass through the main street.

I might mention that the main street is about 3 chains wide.

I have, &c.,

JAMES YEO,

Inspector of Stock.

The Chief Inspector of Stock.

Mr. Leigh,—Please prepare tracing if there is no map.—A.B., 20/5/85. Mr. Yeo,—A tracing is herewith, showing the various reserves.—E.W. (for A.B.), 24/6/87. Tracing received.—J.Y., 27/6/87.

Sir,

27 June, 1887.

Stock Branch,  
87-5,712.

I have the honor to acknowledge tracing of reserves and T.S.R. through and around the township of Ivanhoe.

I find that the travelling stock, according to the tracing, will be compelled to go through the main street, unless a lane or roadway is opened at the back of the Government tank, and run through a corner of the T.L., which has already been suggested to the Chief Inspector of Public Watering Places.

I have marked in blue pencil the places where the lane should run through reserve 457. I might mention that the Government tank is on reserve 457.

This lane would be no disadvantage to stock having access to the troughing at the tank, as the lane would pass in close proximity to it.

The Chief Inspector of Stock.

I have, &c.,

J. YEO.

Will the Chief Inspector of Public Watering Places please say what action has been taken in regard to Mr. Yeo's suggestion?—A.B., B.C., 4/7/87.

An Inspector will, it is anticipated, be stationed at Ivanhoe within a few weeks, from whom a report will be at once obtained. If it sustains Mr. Yeo's recommendation, steps will be at once taken to have the fence set back.—H.G., B.C., 12/7/87. The Chief Inspector of Stock.

This matter was brought under the notice of the Hon. the Minister for Mines at Ivanhoe yesterday.—E.W., 13/8/87.

Mr. Inspector Low,—If the proposed alterations can be made without interfering with the efficiency of the tank or paddock, the caretaker can be put at it, or you may report what assistance he will require, and the cost.—H.G., B.C., 23/8/87.

Extract from P.W.P., 87-208, Report by Mr. Overseer Yeo, Ivanhoe, on Ivanhoe Tank.

P.W.P.,  
87-514.  
State of fencing.

In course of construction; but I would again suggest that, before the fencing is completed, a roadway should be left at the back of the tank to allow stock to pass that way, instead of going through the township.

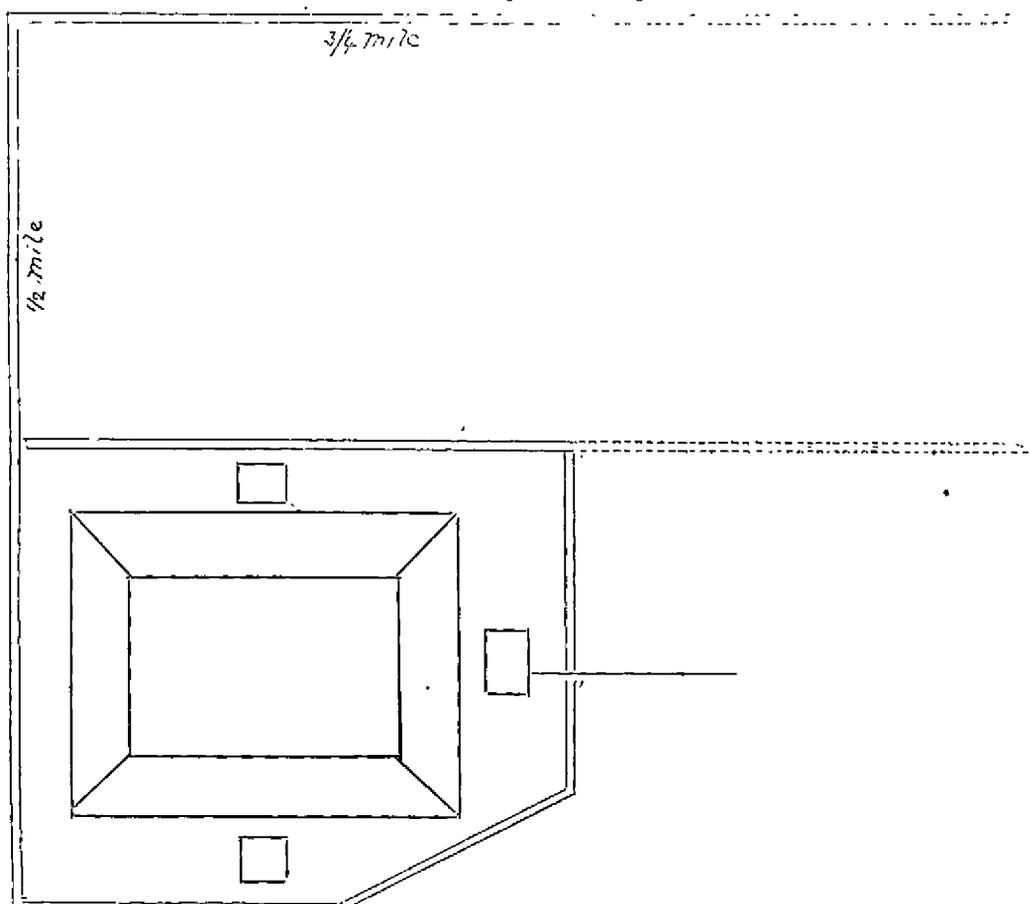
Ivanhoe, 10/1/87.

JAMES YEO,  
Overseer, Public Watering Places.

Mr. Yeo,—Is this fence completed, or is the contractor at work upon it?—H.G., 14/2/87. The fence is not completed, with the exception of portion shown, on rough sketch attached, by red lines. The sub-contractor is at work upon it, with two men assisting him.—J. YEO, 21/2/87.

Rough

Rough sketch showing state of fencing towards completion at Ivanhoe Tank.



The double lines show fence completed. Lines marked thus ===== is the portion of fence where posts are put in but not wired yet.

I do not anticipate that any good would result from forwarding this to the Works Department. If the Draft Estimates are passed by Parliament, the fencing in future will be provided for in that Vote, and the required alterations may be made by our own officers. The case had perhaps better await the passing of the Estimates.—H.G., 16/3/87. The Under Secretary.

Submitted for approval.—H.W., 21/3/87. Approved, F.A.—22/3/87.

Sir,

Stock Office, Ivanhoe, 24 September, 1887.

I have the honor to inform you that I have been making inquiries and trying to obtain prices *re* alterations in fencing at Ivanhoe tank, but to date I have not been able to get an offer for it, owing to the scarcity of men at present; but I am of opinion that within the course of a few weeks, when the shearing is completed, there will be plenty of men who will be glad to get it to do at a reasonable price.

I will still continue to make inquiries, and will communicate with you as soon as I can get a reasonable offer.

I have, &c.,

JAMES YEO,

Overseer, Public Watering Places.

The Chief Inspector of Public Watering Places.

P.W.P.,  
87-4,996.

Sir,

Department of Mines, Public Watering Place, Ivanhoe, 28 September, 1887.

In reply to yours of the 19th inst. *re* fencing at Ivanhoe tank, I have the honor to inform you that, although I have made every possible inquiry, I have as yet been unable to get anyone to tender for this work.

This is, I think, partly owing to shearing time, and the high wages earned by others rabbiting.

I shall continue my inquiries, and hope ere long to hear of some one.

I have, &c.,

JOHN LOW.

The Chief Inspector of Public Watering Places.

Memo. by The Chief Inspector of Public Watering Places.

Ask Mr. Inspector Low to report by wire with respect to alteration of fencing at Ivanhoe tank for convenience of stock passing through township. Inform Geo. Williamson, Esq., J.P., that Inspector Low has been directed to report by wire, and that alteration will be made as soon as Minister's approval received.

Wired.—T.H.S., 29/8/87.

P.W.P.,  
87-4,223.

H.G., 29/8/87.

Copy of telegrams from Inspector J. Low, Ivanhoe, to The Chief Inspector of Public Watering Places.

Ivanhoe, 30 August, 1887.

LETTER posted with details of alteration of Ivanhoe fence; think new fence worth £70 per mile; old fence removing, under twenty-five; am allowing higher rates, owing to small job; Brougham Ticehurst agrees with me as to figures.

JOHN LOW.

P.W.P.,  
87-4,291.

Ivanhoe,

Ivanhoe, 30 August, 1887.

P.W.P.,  
87-4,200.

RECOMMEND lane 5 chains wide, north-easterly Ivanhoe tank, if troughing left unfenced; 13 chains present fence to be shifted, and  $4\frac{1}{2}$  chains new fence required if troughing fenced; 8 chains present fence to be shifted, 22 chains new fence required; fence not yet transferred from Works; caretaker cannot do this; workmen about want £100 per mile for new, £80 per mile for shifting—too much.

JOHN LOW.

See if you can define this in pencil upon plan.—H.G., 30/8/87. Mr. Higinbotham.

The plan of the T.L. does not show the troughing, and the tank is merely sketched in. The survey has not yet been approved of or charted; the information cannot therefore be shown on it.—W.C.H., 30/8/87.

Wire request to Mr. Low to forward detailed report by post with careful estimate of the actual cost of fencing.—H.G., 30/8/87. Wired.—T.H.S., 30/8/87.

Sir,

Department of Mines, Public Watering Places, Ivanhoe, 30 August, 1887.

P.W.P.,  
87-4,202.

Referring to B.C. and accompanying documents herewith returned, relative to alteration of fence at Ivanhoe tank, and thus allow travelling stock to water without going through township, I have the honor to enclose three tracings.

No. 1 shows present position of fencing; dotted lines, proposed new fence. No. 2 shows proposed lines of fences, should it be decided that troughing be fenced in, and which I would strongly recommend. Owing to this tank being almost in middle of township, in hot weather stock will be continually hanging about the troughing, and should it be left unfenced there will be no end of disputes *re* watering stock. In the recommendation of this, I am fully borne out by Mr. Overseer Yeo. I have allowed 5 chains for lane, so that stock will have lots of room and little chance of their rushing fence, even if wild or thirsty. No. 3 shows proposed position of fence, should it be so decided to leave troughing unfenced; dotted lines, present fence. This, although less expensive for the present, would, I feel certain, require soon to be altered to No. 2, in which case it would then be replacing fence already up, but of course it could be much quicker done.

I enclose proposed style of new work for your approval (the posts, owing to being almost a tank fence, and where a rush might take place, should, I think, be 2 feet in the ground), and estimate by sub-contractor who erected present fence, which I consider much too high; but, owing to high prices paid by Works Department, it is difficult to get contractors to understand that they ought not to get about double price because it is Government work. Of course a small job like this is worth more per chain than were it a large one. Mr. Overseer Yeo and I shall endeavor to get some other offers and forward to you.

The fencing here has not yet been transferred from Works Department, neither is it finished, no gates being up. Is it desirable to interfere with it before transfer? In no case will any stock water at this tank for say six weeks.

I have written all the above under the impression that this road was applied for, for the convenience of stock getting easier access to public watering place, but have just had an interview with Mr. Williamson, who informs me this is wanted for all travelling stock—in fact, become a travelling stock road. Were a travelling stock road made between T.L. and tank, how would this affect reserve? If so, would it not require to be accurately surveyed before any fencing is erected? No doubt it would be a great convenience for all travelling stock to go along this proposed road, instead of having to go as at present.

I have, &amp;c.,

The Chief Inspector of Public Watering Places.

JOHN LOW.

Extract and inform inspector and overseer that no interference can be permitted until transfer is made, and the transfer must be made in terms of recent instructions.—H.G. Informed, 19/9/87.

#### Alterations proposed in Fencing at Ivanhoe Tank.

Tracing No. 2.—8 chains present fence to be taken down and erected on line shown.

22 chains new line of fence, pine or ballah, post 8 in. × 4 in., 2 ft. in ground, 4 ft. 6 in. above ground; strainers 9 in. in small end, 3 ft. in ground, every 18 panels, same wire and gauge as in present fence.

Two gateways, 12 ft. wide, each having four gates 6 ft. 6 in.

Gate posts 3 ft. 6 in. in ground, 5 ft. above ground, 12 in. small end.

Gates 4 ft. 6 in. × 6 ft. 6 in., heads 4 × 3, rails 4 × 1½, braces 4 × 1, one brace to each gate, 4 rails to each gate, fastened at ends with  $\frac{3}{4}$  in. bolts; distance from bottom between each rail, 9 in., 8 in., 9 in., 12 in.; each gate two single strap iron hinges, 2 ft. 6 in. × 2 in. ×  $\frac{3}{8}$  in., fastened with  $\frac{5}{8}$  in. bolts,

Appendix E.

bolts, eye 1 in. wrought iron; crooks 1 in. through gate-post, fastened by nuts and screws; two iron hasps for fastening with 1/2 in. bolts.

Tracing No. 3.—13 chains of present fence to be taken down and erected on line shown.  
4 1/2 chains new fence, same gauge and style of present fence, with 9 in. strainers in small end, 3 ft. in ground, every 18 panels.

Appendix E.

JOHN LOW, 30/8/87.

Estimate of Prices.

New fence at 25s. per chain. Old fence, taking down and erecting, 20s. per chain. Gates at 60s. each.

Sir,

Ivanhoe, 11th October, 1887.

I have the honor to enclose tender by John Clyde for this work, which, although the lowest I can get, I consider still very high.

P.W.P., 87-5,418.

No. 3 refers to style of fencing, leaving troughing open; No. 2 having troughing fenced in.

Should you have decided to have the troughing unfenced, it will be a small job, and no one would come from a distance to do it; but I think after shearing is finished it ought to be done cheaper.

I have, &c.,  
JOHN LOW.

The Chief Inspector of Public Watering Places.

Memo. by The Chief Inspector of Public Watering Places.

THE position of the tank being so close to the township, it will, I think, be necessary to fence in the troughing. Mr. Low may be perhaps informed to this effect; but the work must be held over, in my opinion, until more reasonable tenders are obtained.—H.G., 18/11/87.

Ivanhoe Fence.—Tender of John Clyde.

No. 3 Sketch.		£	s.	d.
Removing 13 chains of present fence, and erecting, @ £40 per mile .....		6	10	0
4 1/2 chain new fence, same style as present, @ £100 per mile .....		5	12	6
		<hr/>		
		£12	2	6
No. 2 Sketch.				
8 chains present fence, removed and erected, @ £40 per mile .....		4	0	0
22 chains new fence, pine or ballab, 2 ft. in ground, @ £75 per mile .....		20	12	6
4 gates and posts, @ £3 .....		12	0	0
		<hr/>		
		£36	12	6

Sir,

Stock Office, Moss Vale, 19 December, 1887.

Again referring to your circular *re* any communications I had to make *re* tanks and wells should be made direct to the head office, it has occurred to me that in my previous communication to you on the fencing at the Ivanhoe tank, I omitted to mention a conversation which took place between Mr. Assistant Engineer Stillwell and myself *re* the access for stock to the troughing. At the time the posts were being erected on the red line from A to B, on rough sketch attached, I proposed to Mr. Stillwell, and also pointed out to him the advisability of having a lane behind the tank, as shown on rough sketch from A to D and from B to C, which would allow all travelling stock to get to the troughing without being compelled to go through the main street; but Mr. Stillwell's reply was, that as the contract was let, he would not think of making any alterations, and that I should have pointed it out to him before, which I had no opportunity of doing, not knowing how he had proposed to fence off the T. L. Consequently, the fence was erected, although Mr. Stillwell admitted the great inconvenience it would be to travelling stock, and also to the township people.

P.W.P., 87-6,934.

I have, &c.,  
JAMES YEO.

To the Chief Inspector of Public Watering Places.

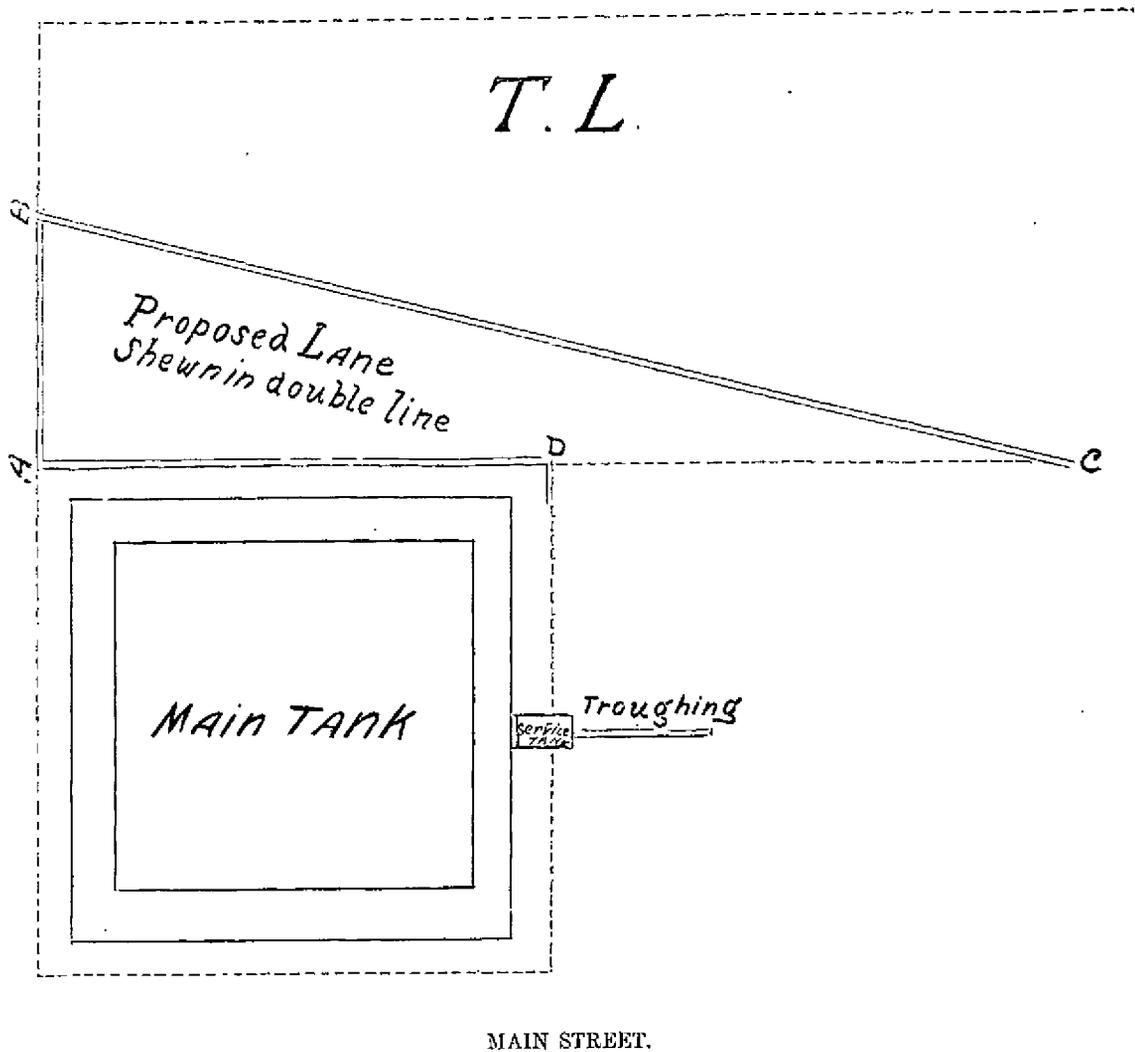
This should perhaps be attached to Mr. Overseer Yeo's previous communication.—H.G., 29/12/87.  
The Under Secretary. Yes.—H.W., 29/12/87.

Sir,

Stock Office, Ivanhoe, 16 May, 1887.

I herewith beg to apply to you for instructions *re* taking delivery of fencing at public watering places from Department of Works, whether I must object to take delivery of a fence which has no straining posts provided, as in the case of the fence in course of construction at Ivanhoe, where the wire is run out to its full length and strained to the post to which it might reach.

P.W.P., 87-2,154.



I am of opinion that this is not a good way to strain wires in a fence, consequently I don't care to take delivery of a fence erected in this way unless instructed to do so.

I have, &c.,  
JAMES YEO.

The Chief Inspector of Public Watering Places.

Memo. by Chief Inspector of Public Watering Places.

Mr. Boulthec,—Have you ever seen fences constructed on this principle, except in Mr. Road-Superintendent Stillwell's experiment at the One-tree tank?—H.G., 22/5/87.

I have never seen fences erected in this manner outside of Mr. Stillwell's district; and I beg, in the most unqualified way, to condemn it, since I cannot see how it is possible to strain the fence properly without proper straining posts. The fence at the One-tree is a strong case in point. It was finished by the contractor, and, I presume, passed by Mr. Stillwell, for within a few weeks after its completion the caretaker was reported by Mr. Stillwell for having the wires all slack, and some very harsh comments made upon the Mines officers.—JAMES W. BOULTBEE.

See papers re  
tone of Minutes.

As the future direction of these works is at present under consideration, Mr. Yeo may perhaps be instructed to take over the fencing at Ivanhoe, stating in his receipt form the objection he takes to the character of the fence.—HENRY GILLIAT, 23/5/87. The Under Secretary.

Submitted.—H.W., 26/5/87. Approved.—F.A., 27/5/87. Mr. Yeo, B.C. J.R., for H.G., 28/5/87. Contents noted.—J. YEO, 4/6/87. Mr. Inspector Low.—H.G., B.C., 22/8/87.

I have inspected this fence, and can strongly bear out Mr. Inspector Boulthec's condemnation of this style of fencing. I have seen no instance where such a style of straining was done by a practical man, neither do I expect to. It is simply absurd to attempt to strain a wire fence in the manner tried here. Some of the posts are already splitting from wires being strained to them, being split pine, and many are much pulled over.—JOHN LOW, Inspector of Public Watering Places, 30/8/87.

Sir,

Sir, Stock Office, Ivanhoe, 16 May, 1887.  
 Referring to papers 1,535 and 1,536, of 4/4/87, for report, I have now the honor to inform you that I am in receipt of a communication from Mr. Assistant Engineer Stillwell, *re* the transfer of fencing at the Holy Box well and Mossiel tank, which Mr. Stilwell reports ready for transfer; but he desires that the transfer should stand over until the fencing and gates are ready for transfer at the Ivanhoe tank, which the contractor reports will be complete in about a fortnight, when Mr. Stillwell intends to be at Ivanhoe to pass the work.  
 The Chief Inspector of Public Watering Places.

P.W.P.,  
87-2,155.

I have, &c.,  
 JAMES YEO.

Extract from Mr. Low's report on Ivanhoe Tank, 27 September, 1887.

FENCING.—The cause of posts splitting is that they are split pine posts, which, unless much stronger and at least 4½ inches, are liable to commence splitting by insertion of pin to hold wire while fastening it. When one wire is strained on them, *i.e.*, one wire round one half of post, other wire round other half, causes a strain which in some instances here the posts have been unequal to, and are splitting.

With Ivanhoe  
Tank paper.

JOHN LOW.

Memo. of Chief Inspector of Public Watering Places.

PLEASE forward full report. containing all particulars relating to letting and construction of fencing at Ivanhoe tank.

H.G.

Mr. Inspector Yeo.

Letter to Mr. Yeo, 2/11/87.

Sir, Stock Office, Moss Vale, 4 November, 1887.  
 Your letter of 2nd instant *re* fencing at Ivanhoe tank will receive my attention; but before I can report fully I must obtain some papers which I left at Ivanhoe. I am writing by this mail, asking Mr. Overseer Proctor to furnish me with a copy of the same.

P.W.P.,  
87-5,858.

I have, &c.,  
 JAMES YEO.

The Chief Inspector of Public Water Places.

Sir, Stock Office, Moss Vale, 1 November, 1887.  
 Before leaving Ivanhoe I omitted to point out what I considered a defect in the fence erected round the T.L. at the Ivanhoe Government tank, *viz.*, the way in which the wire is strained to the post. The greater quantity of the posts are split pine, 8 × 4, with no straining posts except at corners and angles in fence. The wire is run out to its full length, then strained to any post to which it may reach; but instead of the wire going round the whole of the post, it only goes round half, and the next wire goes round the other half; consequently, when the wire is strained from both sides, it in many cases splits the post in half. I beg to enclose a rough sketch, which possibly may explain more fully what I mean.

P.W.P.,  
87-5,788.  
 This fence  
alleged to have  
cost £112 per  
mile.—J.W.B.

I have, &c.,  
 JAMES YEO.

The Chief Inspector of Public Watering Places.

Extract from P.W.P., 86-2,275.—Report by Mr. Inspector Boulton on Clare Tank.

An enclosure round this tank is badly wanted. Any stock getting into it would be drowned, owing to the steep batters, and the wave-cut step in them. 10,000 weaners and some cattle are in the paddock, and should they rush the tank in the night there would be a great loss.  
 7 May, 1886.

JAMES W. BOULTBEE.

This may perhaps be forwarded for the information of the Department of Public Works.—H.G., 19/5/86. The Under Secretary for Mines. The Under Secretary for Public Works.—G.E.H., U.S., B.C., 19/5/86. Mr. Wood,—I thought this tank was fenced.—W.C.B., 26/5/86. Mr. Wood, Hay.

Fencing around tank was not included in contract for excavation, &c., but the contractor for fencing the tenant's lease area will attend to it at once. I saw the proprietor of the station, and he does not think there is any danger at present, as there is plenty of surface water. He will erect a temporary fence if he sees any necessity.—A.P.W., 21/6/86.

The Under Secretary, for transmission to Mines.—W.C.B., 24/6/86. The Under Secretary for Mines.—J.R., B.C., 28/6/86. Mr. Overseer Yeo, for report, B.C., 6/7/86.

Sir, Stock Office, Ivanhoe, 12 July, 1886.  
 Referring to your request for report, B.C., 6th July, 1886, I have the honor to inform you that the contractor has commenced the fence round the main tank.

P.W.P.,  
86-3,544.

I have, &c.,  
 J. YEO.

The Chief Inspector of Public Watering Places.

Report by Inspector J. W. Boulton on the Clare Tank, road from Ivanhoe to Balranald, in charge of Robert Oxley, caretaker, for 6th December, 1886.

State of drains.—Full of water; 3 inches of rain up to time of my visit; were running full.  
 Silt tank.—Full of water.  
 Inlet or flume.—In good order; I reported this as being too small on my last visit; it, however, seems to have met all requirements; the tank is quite full.  
 Main tank.—Quite full.  
 Embankments.—In very good order; rain does not appear to have much effect on them.

P.W.P.,  
86-5,777.

Mr. Hiles,—Copy Mr. Wood's Minute and Mr. Stillwell's E.T. Message on this for transmission.—W.C.B., 29/6/86. Fencing around Clare Tank is in hand.—A. W. STILLWELL, 26/6/86.

Watering

*Watering Appliances.*

State of supply tank.—Good ; has been newly tarred outside, which is a decided improvement on paint.

Troughing.—In good order, rails high.

Machinery.—In good external order ; plunger requires leather instead of rope-yarn.

*Paddocks and Fencing.*

State of fencing.—None. At my last visit, I reported tank as having no fence round it ; still in the same condition.

State of gates.—None.

Remarks.—The question of caretaker's wages has been referred to separately ; 4.65 in. rain here since October 1st.

Weekly depth of water since last report.—Tank quite full—17 ft. 10 in.

*Caretaker's Work.*

Work done by caretaker.—Laid out by Mr. Yeo, 4/11/86 : Tar troughs, trim embankments, raise a bank round service tank, and general duties.

Work laid out for caretaker.—To complete tarring troughs and clean drains when dry.

Remarks and recommendations.—The fencing of the tank is, I think, an urgent matter. It is now 8 months since I referred to it ; men were engaged and got a few posts in, and were removed to start fence at Dolmoreve, a place that could be well left unfenced until the fate of the well was decided. I think this work the most pressing of any on the road ; stock once getting into the tank would be drowned. Mr. Waugh, of Clare, offers £25 a year rent. He wishes, he says, to keep away shanty keepers. I think all these tanks worth more rental than this. This completes Mr. Yeo's district, and I must say he has every thing in very fair order, and is most anxious to maintain the efficiency of the public watering places under his charge.

JAMES W. BOULTBEE,

Inspector of Public Watering Places.

Ivanhoe, 10 December, 1886.

The Chief Inspector of Public Watering Places.

Report by Inspector J. W. Boulton on the Wooloondool Well, road from Hay to Booligal, in charge of Stewart, tenant, for 16th November, 1886.

P.W.P.,  
86-5,441.

State of shaft.—Good.

Whim, &c.—In very good order ; lately tarred.

Rope, buckets, &c.—Rope good ; buckets good, but one allowed to remain in water ; caretaker cautioned about this.

*Watering Appliances.*

State of supply tank.—Good ; been tarred since last inspection.

Troughing.—Good ; been tarred since last inspection.

Machinery.—Spindle of outlet-valve bent ; great force required to open it.

*Paddocks and Fencing.*

State of fencing.—See remarks, &c.

State of gates.—Good.

Remarks.—The works are certainly in better condition than at my last visit ; caretaker is Cobb & Co.'s groom.

Weekly depth of Water since last Report.—18 feet 3 inches.

*Caretaker's Work.*

Work laid out for caretaker.—To get spindle of outlet valve straightened, and bale the regulation quantity of water. This was entered in his journal in writing by me.

Remarks and Recommendations.—The T.L. is newly fenced with split pine posts and six wires of barbed wire—in my opinion a most useless expenditure, the plain wire being ample for all requirements. The wire is of a poor description, named, I think, the fish barbed wire. It is impossible to make a really satisfactory splice in this kind. It is fastened to the posts by staples, and in most cases the post is split an inch up from each staple. In some cases the staple is bent over and broken, and there is a very poor strain on the wires. The wire is flat iron galvanized with a small core and barbs cut. The lessee has not yet sent a horse out to caretaker. He however was expecting one daily. He has not consequently baled the regulation quantity.

JAMES W. BOULTBEE,

Inspector of Public Watering Places.

Hay, 16 November, 1886.

Report by Acting-Inspector Low, on the Hulong (37) Tank, road from Whitton to Lake Cudgellico, in charge of Samuel Leighton, caretaker, for 9th July, 1887.

P.W.P.,  
87-3,261.

State of drains.—Nearly all full of water ; where bottom can be seen free from silt. One of these already blocked ought to be banked up nearer to tank to prevent water running from tank.

Silt tank.—Full of water. No silt could be found.

Inlet

Inlet or flume.—In good order, under water, worked all right; this was closed; when opened, found no more water would run into main tank.

Main tank.—In good order and full of water. Indicator registered 17 feet 1 inch.

Embankments.—In good order and very free from corrugation. Caretaker has not recently been raking these, in case of destroying couch-grass lately sown. Couch-grass on these showing in different places.

#### *Watering Appliances.*

State of supply tank.—In good order and full of water.

Troughing.—In good order and full of water, free from silt. No silt tap, which is much wanted. The rail along middle of troughing is highly spoken of by the adjacent owners of stock.

Machinery.—In good order. After being put through all trials, worked satisfactorily. Graduating hand wheel of injector broken by contractor, while erecting engine-shed. Caretaker reports that he has several times spoken to Mr. Stillwell, R.S., as to this, when Mr. Stillwell told him not to interfere with it, and that he would see that the man who broke it should replace it. Chimney of engine rusty much, owing to roof of engine shed not being flushed.

#### *Paddocks and Fencing.*

State of fencing.—In good order. In consequence of these being lately strained corner-posts slightly shifted.

State of gates.—In good order.

Remarks.—About 450 acres here have been ringbarked by caretaker; very little scrubbing required. Caretaker evinces a desire to perform his duties. Couch-grass appearing in small patches on embankments. Angle-shoots as placed act well, but more ridging is required. Mr. Overseer Elworthy has ordered this.

Rates collected since last report.—Month ending April, 1887—5s. 3d.; May—£1; June—4s. 6d.; total, £1 9s. 9d. Checked caretaker's books and found them correct.

Traffic since last report.—Month ending April, 1887—14 horses, 35 cattle; May—32 horses, 176 cattle; June—3 horses, 48 cattle.

Weekly depth of water since last report.—April—2nd, 16 feet 10 inches; 9th, 16 feet 11 inches; 16th, 16 feet 10 inches; 23rd, 16 feet 9 inches; 30th, 16 feet 9 inches. May—7th, 16 feet 9 inches; 14th, 16 feet 8 inches; 21st, 16 feet 8 inches; 28th, 16 feet 8 inches. June—4th, 16 feet 8 inches; 11th, 16 feet 8 inches; 18th, 16 feet 8 inches; 25th, 16 feet 9 inches.

#### *Caretaker's Work.*

Work done by caretaker.—Ringing box timber, all good pine being left; attending to drains, levelling embankments. January 22: Caretaker tar-paving, polished facings, and keep drains clean. March 4: To ring timber and sow couch-grass seed. June 11: To continue ringing.

Work laid out for caretaker.—July 9: Caretaker will continue keeping drains clean, bank-up drain (already blocked) closer to silt-tank; tar chimney, and cut small drain round supply tank.

Remarks and Recommendations.—The tenders for fencing this have been accepted, as contractor is splitting posts. Enclosed is copy of specification, which appears to me to be novel as well as absurd, *i.e.*, dimension of posts and depth in ground. I can add in this I am borne out by the opinion of Mr. Cowper, manager, Conapaira, who has had much and long local experience in the erection of fences. The price, £700 for fencing Mount Elliot Pulletop, and this T.L. appears also very high, as a sub-contract, which I saw, has been let for splitting, erecting, boring, and wiring at £16 10s. per mile, this does not include large post rails and gates. In conjunction with Mr. Overseer Elworthy, I would beg to recommend that caretaker's cottage be erected south-west of main tank, east and adjoining present camp. The drain referred to, as being ordered to be closed at present, leads water from instead of to silt-tank. The drain round supply-tank is to prevent water lodging near pillars.

JOHN LOW,  
Inspector of Public Watering Places.

Narandera District, 9 July, 1887.

The Chief Inspector of Public Watering Places, Sydney.

#### FENCING SPECIFICATIONS.

##### Special Lease Areas on road Whitton to Cudgellico, Hay District.

THIS contract comprises the fencing, gates, and slip-panels, as follows:—At Hulong Tank, fencing in lease area 642 acres, one gate, and two slip-panels; at Mount Elliott Tank, fencing in lease area 640 acres, one gate, and two slip-panels; at Pulletop Tank, fencing in lease area 640 acres, one gate, and two slip-panels; making a total of three areas to be fenced, comprising in all some 1,140 chains of fencing, more or less, three gates, and six slip-panels.

The fencing to be erected on the surveyed lines or those set out by the officer in charge, and to be finished 4 feet 6 inches above the ground line; posts to be 7 feet long by 9 inches by 3 inches thick, sunk 10 feet apart from centre to centre to a depth of 2 feet 6 inches; straining posts to be 9 inches diameter, sunk 3 feet in ground, to be provided at intervals of twelve panels. All corner posts to be 12 inches diameter, sunk 3 feet 6 inches in ground, and securely strutted.

Six wires to be used for all the fencing; the top wire to be No. 4 gauge, all the rest No. 7; all wires run through every post.

Gates.—One good five-barred field-gate to be fixed where directed, to be 5 feet high and 12 feet wide. The gates to be constructed of best red gum timber, wrought and planed, and strongly framed to 4 x 3 uprights, and strengthened by a  $\frac{3}{4}$ -in. round, wrought-iron, diagonal, tension brace, nutted and washered. The gates are each to be supported on red gum posts, 18 inches diameter, 9 feet long, and sunk 4 feet into the ground; the underground portion to be well charred, and portion above ground level squared and chamfered, and top shaped, and the whole well tarred.

The gates to be each hung on two double-strap wrought-iron hinges, 3 feet 6 inches by 2 $\frac{1}{2}$  inches thick, each secured by  $\frac{5}{8}$ -inch bolts and washers, each hinge to have an eye worked in the solid to take a wrought-iron crook 1 inch in diameter, which shall pass through the posts securely nutted and washered; each gate to have an approved spring fastening and catch fixed complete. The

The scantling of the gate timbers shall be as follows, viz., uprights 4 inches x 3 inches, bars and strut, 4 inches x 1½ inch, to be secured by ½-inch bolts, and to receive three coats of Peacock's patent paint; the ironwork to be painted black.

*Slip-panels.*—There shall be a 12-foot slip-panel at each side of gates, with 12-inch diameter posts and five rails 7 inches x 3 inches, accurately morticed into posts. The fence, gates, and slip-rails to be sheep and pig proof. No wires to be strained from gate or slip-panel posts.

*Timber.*—The timber throughout to be of the best description, to be straight and sound, without wave, shake, gum veins, or sun cracks, and to be perfectly free from all other imperfections or defects. Pine timber for the fence posts, and the best red gum for gates and slip-panels and posts.

*Time.*—All the works specified to be completed within three months from date of signing the bond irrespective of bad weather or any other cause of delay, except a written order be given by the officer in charge not to proceed with the work or to increase the same, when a proportionate extension of time must be allowed.

*Tenders* to state a bulk sum for all the work specified, also a schedule of prices for the fencing and for gates and slip-panels at which any deductions or additions shall be valued; such additions or deductions, no matter to what extent ordered, shall not vitiate or set aside the contract.

*Conditions.*—In all matters relating to this contract not herein specified, the Contractor to be bound by the printed general conditions hereto attached.

Sir,

Narrandera, 25 October, 1887.

P.W.P.,  
87-5,615.

Referring to the fencing round the tenant's leases at the Hulong, Mount Elliott, and Pulletop Tanks I have the honor to draw your attention to the following:—

The contract time allowed for the completion of the fencing is now up, and the fence at each place in a very backward state.

The depth of the post-holes is 2 ft. 6 in., this I am of opinion is unnecessarily deep, and must greatly increase the cost of erection; 22 inches is, I think, generally considered deep enough. Every twelfth post is a straining post, and each panel 9 ft. from centre to centre; the length of each strain is consequently 108 ft. The wire to be used is Nos. 8 and 6, and I wish to point out that it is almost impossible to have the heavy wire properly strained in such short lengths. The kinks will not be taken out of it.

The lines of the fencing have followed the lines of the T.L. survey, excepting in the neighbourhood of the tanks, and it is arranged in such a way as to leave the tank troughing, &c., outside of the area fenced. At Pulletop there will be hardly sufficient room between the fence and the troughs, and the ingress and egress for stock will be very inconvenient, as the mob watered and leaving the troughs will be in the way of the incoming mob.

At Mount Elliott the tank, &c., is quite separated from the T.L. by a road; there are, in fact, two roads, one each side of the tank, and placing the tank in a loop. The system of leaving the works outside the fenced area is, I think, to be deprecated, since the drains, and in places, crab holes near the tank, hold water for some time, and many a drink is stolen that should otherwise have been paid for. The caretaker cannot always be on the lookout. The fencing in of the whole gives greater security, the troughs are not left in an unprotected state, and can be kept constantly full, and every beast coming into water is under the caretaker's eye. The enclosing of the troughing is, I think, a matter that is generally considered by a person in offering to lease. The posts of the fencing are very good and substantial.

I have, &c.,

JAMES W. BOULTBEE,

Inspector, Public Watering Places.

With respect to the fencing alluded to it is evident this Department can take no action to enforce contractors to comply with the condition of their tender, nor yet to interfere with the unnecessarily expensive character of the work. The case is another instance of the importance of these works being dealt with by one authority. Mr. Boulton may perhaps be directed to let the caretaker make the required alterations as soon as the fence is transferred, to enable stock to have free ingress and egress.—H.G., 31/10/87. The Under Secretary.

Submitted.—G.E.H. (*pro* U.S.) Approved.—F.A., 1/11/87. Mr. Inspector Boulton, for his information.—H.G., B.C., 4/11/87. Noted.—J.W.B., 8/11/87.

Pulletop Tank.

Sir,

Public Watering Places Office, Narrandera, 3 December, 1887.

P.W.P.,  
87-6,539.

When passing this tank last week I was informed by the caretaker that the sub-contractors for the fencing had thrown up their work and cleared out on account of their inability to get paid. The posts are all in, and it only remained for the wire to be put in and the gates fixed.

I also noticed the men were not at work at Mount Elliott Tank, but I do not know if they also have stopped work. I was not at Hulong Tank.

I have, &c.,

W. J. ELWORTHY,

Harry Gilliat, Esq., Chief Inspector, Public Watering Places, Sydney.

Overseer.

Connect with previous papers.—H.G., 6/12/87.

## XXIII.

Papers *re* Cottages.

Sir,

Government Tank, Boro, near Walgett, 27 July, 1883.

I beg to call your attention to the unsafe camp I have here. It is made up from the fragments of old bark which the contractor of this tank left as useless. It is open to be blown down at any hour. I am obliged at present to carry on my person all moneys received, having no place to keep it with safety.

I am, &amp;c.,

WILLIAM REGAN,

Caretaker.

The Chief Inspector of Stock.

Minute by Chief Inspector of Tanks, and Wells.

Be so good as to report as to whether it would assist in letting the Public Watering Places to erect at them plain substantial 2-roomed weatherboard cottages for the use of the tenants or caretakers. It is evident that something of this kind is greatly needed where caretakers (now living in tents) are in charge, and the cost, I think, would be repaid in more rent and greater certainty in letting.

Mr. Gilliat.

A.B., B.C., 31/7/83.

After fencing, no doubt a house would be a great assistance in leasing. If there was any traffic over the road that could be reckoned on as affording a regular income. But no complaints have been received from other caretakers, who live in tents, while this man has not at all a bad hut, that with a few hours work he could make very comfortable.—H.G., B.C., 1/8/83.

Minute from Mr. Bruce, Chief Inspector of Stock, *re* caretakers' huts.

If the question here raised be considered as regards the caretaker, the accommodation suggested will, I think, be considered necessary, both for his reasonable comfort, and for the safe custody of the fees he collects, neither of which a tent can afford.

Then, again, the want of this accommodation precludes any but single men from engaging as caretakers, which of course is also a disadvantage. When, therefore, it is considered that the erection of a hut or cottage as described, or of any other construction suitable for the locality, would also be a great inducement to desirable persons tendering for these works, it is submitted that the accommodation should be provided. The building would cost less than £100 at all the public watering-places.

A.B., 6/8/83.

Submitted.—H.W., 7/8/83. I think the buildings ought to be provided, but perhaps the papers should be sent to Mr. Bennett for his report.—J. P. ARBOTT, 7/8/83. The Under Secretary for Works.—H.W., B.C., 8/8/83. Mr. Bennett.—J.R., B.C., 10/8/83.

Buildings may be required to make the tanks let. I do not think any additions will make them pay interest. There is no money at the disposal of this Department for such houses, the cost of which for all the works would be over £10,000, and it would be a question for some consideration to make the buildings habitable in such a trying climate. Galvanized iron would be cheapest; timber might be more habitable, but perishable houses of gypsum, where available, or "adob" or "pisé," when gypsum is to be had, would be the best; the roofs to be thatched if rushes or coarse grass could be had. The minimum accommodation should be stated by the Mines Department, it must be very small, not to exceed £100. When money is made available and the material and accommodation required is stated the houses can be arranged for by this Department; it should also be stated at what works the houses are most urgently wanted, and also if they should be included in the original contract in every case.—W.C.B., 13/8/83. Under Secretary, B.C. Submitted.—J.R., 16/8/83. Approved.—17/8/83. Under Secretary for Mines, B.C., 18/8/83.

Mr. Gilliat to report:—

1. Whether a sufficient 2-roomed hut, say 12 × 24, of the material here mentioned by Mr. Bennett, or of logs or slabs, might not be erected by the caretakers under the oversight of the maintenance men of the Roads Department, doors, windows, iron for roof, &c., &c. being found by that Department.
2. What such huts, if built by contract, with the articles mentioned found by the Department, would cost? And
3. Which he would consider the best mode of providing the proposed accommodation.

A.B., B.C., 21/8/83.

Mr. Road-Superintendent Stillwell to the Commissioner for Roads, as to houses for caretakers of Tanks and Wells, Hay District.

REFERRING to my report of 30th ultimo recommending galvanized iron for construction of caretakers huts, the portable iron houses shown on attached sheet by McLean, Bros. and Rigg, of Melbourne, appears suitable as regards prices and portability, the weight being about 1 ton a room.

A. W. STILLWELL,

27 June, 1885.

Mr.

Mr. Flynn.—This purchase is approved of long ago, and the house erected; look up papers.—W.C.B., 29/6/85. Mr. Hiles.—Let me have any papers as to houses, cost of, recently put up at Parramatta River Bridges, and of one sent to Polygonum Hut, with weight.—W.C.B., 29/6/85.

Tanks & Wells,  
85-3,102.

Mr. Wood for report. To state the cases in which we have supplied or purchased houses, and their cost, and, in view of the opinion of the Under Secretary for Mines that needless expense was incurred in many instances, the question whether sheds for engines should also be dealt with.—W.C.B., 4/8/85.

Minute by Mr. A. P. Wood, Assistant Engineer, Roads and Bridges, *re* caretakers' huts, Tanks and Wells.

As it has been advanced by the Minister for Mines that needless expenditure has been incurred in the construction of tanks, and as, under proposals that have been made by the officers of that Department, it has also been arranged that still further expenditure is to be incurred in the construction of huts for the caretakers in charge, an expenditure which has been sanctioned by Parliament, and provided for by a sum of £18,000 on this year's Estimates, it now seems advisable that before expending that money, as proposed, the opinion of the Mining Department should be obtained, and instructions issued by the Hon. the Minister for the construction of the works. At the Lignum Well, on the road from Booligal-Wilcannia, a two-roomed weatherboard cottage was erected for £90; the rooms are 12' x 12', and 12' x 8' respectively, and the roof is corrugated iron. I think this may be taken as the average cost of these huts, or say, including a weather shed for the steam pumps, £100 for each tank, as provided on the Estimates. There will be many cases, more particularly between Cobar and Hillston, and Nymagee and Condobolin, where by a modification of the design, using half-round pine set horizontally in slotted studs in lieu of weatherboards, a considerable saving might be effected, and in the timberless Riverina district corrugated iron might be used and reduce the expense as compared with any kind of timber walling.

The construction of these huts will very probably have an influence on the tendering for leases of watering-places, and produce a rental in excess of the interest on the capital outlay; they may also be the means of a reduction in the wages of the caretakers that will meet the same end. This possibility is worth consideration in dealing with the question.

The weather sheds for the pumping gear will have to be about 12' x 12', and will average about £20 each; they can be put in hand at once.

ARTHUR P. WOOD.

As I learn from Mr. Wood that many of the caretakers are erecting in their spare time sufficient huts, I think some small bonus should be given in such cases to encourage such economy, and that doors and windows might be supplied, the cost to be paid by this Department on the certificate of the Mines officer. I also advise that the Roads officers, in cases where houses should be provided, be authorized to do so by this office of the character best suited to the locality, pine, timber, concrete or brick, or stone.—W.C.B., 9/8/85. Under Secretary, B.C., 9/8/85.

Submitted.—J.R., 13/8/85. Forwarded for the consideration of my hon. colleague the Minister for Mines.—F.A.W., 14/8/85. The Under Secretary for Mines.—J.R., B.C., 15/8/85. Mr. Gilliat, B.C., 18/8/85.

Letter from The Under Secretary for Mines, forwarding copy of minute with regard to the erection of the caretakers' huts at Public Watering Places.

Sir,

Mines Department, 4 November, 1885.

Herewith I have the honor to forward you the copy of a minute with regard to the erection of caretakers' huts at Public Watering Places, with copy of the minute of the Secretary for Mines thereon. I also supply a list of the public watering-places, and have marked these at which a hut is required.

HARRIE WOOD,

Under Secretary.

Will Mr. Wood [urgent] say what action should be taken on this, and report in detail papers, also as to the sort of huts, and if there are not plans in this office.—W.C.B., 11/11/85. Mr. Wood, Walgett.

Mr. Wood.—Have tracing made and general estimate of total cost for places when signed, and send to Mines for approval.—W.C.B., 14/11/85.

A rough draft of a two-roomed hut will be found on my office table, but I do not see that there is any immediate action required; the matter can stand over until my return; or, if the Commissioner thinks it advisable to have plans put through, Mr. Smith can be instructed to have them prepared on the basis of the rough plan referred to above.—A.P.W., 18/11/85.

Minute Paper.

*Re* Caretakers erecting cottages at Public Watering Places.

I do not think there would be any difficulty in settling the questions of bonus and right to cottages erected as here proposed by caretakers. They are now fully paid for their time, and the offer of even £5, or, at the outside, £10, additional for erecting a cottage, coupled with the additional comfort to themselves, would be sufficient to induce caretakers who can do so to put cottages up.

As to the caretakers being capable of erecting these cottages, the officers of the Works Department would no doubt give such explicit directions as would enable any fair bushman to do the work, and they would, of course, also supervise the erection as it proceeded. The overseer, also, could see how the work was being done. I think, therefore, that, unless where it has been decided to erect iron cottages, the caretakers, if they are at all capable, should be called upon to do this work, being, of course, supplied with the necessary materials. In this way, I believe, half the cost of the cottages would be saved, and, at most places, the caretakers have little else to do. In any case it will, I think, have first to be decided at which of the watering-places iron cottages should be erected, and at which weatherboard or round pine; and if the Works Department require any information in coming to a decision on this point, the different overseers might be instructed to report how far materials for weatherboard or half-round pine cottages are procurable in their districts, and their cost per cottage laid down at the watering place.

On its being decided how many iron cottages are to be erected, tenders could be at once called for them, and the necessary steps could also be taken for the erection of the others by the caretakers, should that course be approved by the Honorable the Minister.

The

Approved.  
Let this be  
done first.—  
J.P.A.,  
17/10/85.

The weather sheds to protect the steam pumps should, I think (as they would be more easily constructed), be at once proceeded with by the caretakers where material is to be had, or is readily procurable, on plan and specifications prepared by the Works Department.

It has been decided not to allow Messrs. Wright, Heaton, & Co. for the improvements claimed by them.

ALEX. BRUCE,

Chief Inspector of Stock.

Submitted.—H.W., 6/10/85. Mr. Gilliat, B.C., 7/10/85.

Minute from Chief Inspector, Tanks and Wells, *re* caretakers' huts at Public Watering Places.

Department of Mines, Stock Branch, 28 September, 1885.

WITH reference to Mr. A. P. Wood's minute on huts for caretakers, I must submit that the object of this Department in urging their immediate construction has been precisely for the reasons given by Mr. Wood, that, when completed, "they will very probably have an influence upon the tendering for leases, and produce a rental in excess of the interest on the capital outlay." It is with the view to secure this increased rental, to obtain a better class of tenants, and to reduce the wages of caretakers as speedily as possible, that the early construction of these buildings and the fencing of the lease areas has been pressed for.

Tanks & Wells,  
85-3,450.

I agree with Mr. Wood generally as to the use of iron in timberless country, and where carriage is dear, and in the use of half-round pine in those neighbourhoods where it is to be procured. The two-roomed cottage will be sufficient, I consider, where there is a long or costly carriage, but where the material can be delivered at a moderate outlay, I would suggest that three rooms may be given.

With respect to giving a bonus to such caretakers as have hutted themselves, the difficulty I anticipate is that upon removal or discharge it will frequently be hard to convince them that they have no right or interest in the building. I think it will be better on the whole, and found to work with less risk of misunderstandings, if these improvements are made, as a rule, by the Works Department upon some generally uniform plan or plans, according to the district. Comparatively few of the caretakers, so far as I am aware, have yet hutted themselves, and those are noted in the accompanying list of Public Watering-places.

At the Muriel and Hermitage Tanks, Cobar and Nyngan Road, claims for improvements have been made by Messrs. Wright, Heaton, & Co.; but as they are upon reserves, and made without the sanction of the Minister, it is perhaps doubtful if they can be sustained. They have been referred to the Works Department to learn whether they are willing to take them over as caretakers' huts, and make some allowance for labour and material.

At the Two Waterholes the late lessee, Barrett, made a claim for his hut; but it was, I think, reported adversely upon by the local works officer. A hut was also erected at the Corilla by the lessee; upon this action has been taken.

The caretaker at Currawcena has erected a hut, and made a claim for it; and another has been put up by the caretaker at Keighran's, for his wife and family. In the three latter cases a bonus might perhaps be awarded if the Works Department approve of the huts, and upon the distinct understanding that it is not in recognition of any claim to the building or material. The construction of weather sheds at all the watering-places fitted with steam pumps is, I think, of immediate urgency.

I submit herewith for the consideration of the Hon. the Secretary for Mines a list of the Public Watering-places at which I recommend caretakers' huts may be erected at once. The number amounts to ninety-four in all for the present, and does not include any of those recommended for construction.

H. GILLIAT.

Copy of minute by Minister for Mines.—I think these ought to be erected; it may be referred to Works Department.—J. P. ABBOTT, 31/10/85.

Forward copy of this minute with list to Works Department with letter.—H.W., 2/11/85. Letter, with copy of minute, to Works Department, 4/11/85.

Tanks and Wells.

Commissioner. Referring tenders for cottages to Mines. 6/7/86. Under Secretary, B.C.

Papers returned to this office on the 31st ult., with a verbal message that as they were urgently required no action beyond the memos. referring to huts built by caretakers. Sent back this day for a written reply to the Commissioner's minute as to the necessity of erecting these cottages.—J.C., 3/8/86.

Miscellaneous,  
86-1,022.

Minute by Mr. Bennett, Commissioner and Engineer for Roads and Bridges, *re* Cottages for caretakers, Tanks and Wells. Sydney, 6 July, 1886.

PARLIAMENT having granted a vote of £10,000 for erection of caretakers' cottages, this Department, after correspondence with the Mining Department as to the necessity for, and subsequently as to the nature of, the buildings required, prepared plans and specifications, and invited tenders for these buildings in the different districts where they are required.

P.W.P.,  
86-3,397.

The enclosed tenders have been received, the prices ranging from £68 to £114, the average for 74, as shown on attached schedule, being £85 each. The vote provided for 100 at £100 each, so that as far as tenders have been received the cost with three rooms will be 15 per cent. under the original estimate.

Before finally committing the country to this outlay it would be well to refer the papers to the Mines to obtain the opinion of that Department as to the necessity for erecting these works.

Under Secretary for Mines, B.C., 8/7/86.

W. C. BENNETT, 7/7/86.

It is most desirable that this paper be put through without delay; it has been delayed here unavoidably. The contractors are pressing for replies.—W.C.B. The Under Secretary for Mines.—J.R., B.C., 8/7/86.

LIST

## LIST of Tenders for erection of Caretakers' Cottages forwarded by local officers, Roads Department.

Tank.	Road.	Tenderer.	Amount.		
			£	s.	d.
Bahinda .....	Nymagee to Nyngan .....	W. Hendry .....	78	0	0
Gilgai .....	" .....	" .....	78	0	0
Thorndale .....	" .....	" .....	78	0	0
Booroomugga .....	Cobar to Nyngan .....	F. Dawson .....	85	0	0
Muriel .....	" .....	" .....	85	0	0
Hermitage .....	" .....	" .....	85	0	0
Merrimerriva .....	Cobar to Hillston .....	A. Ferguson .....	85	0	0
Wagga Wagga .....	" .....	" .....	85	0	0
Roto North .....	" .....	" .....	85	0	0
Rock Holes .....	" .....	" .....	85	0	0
Brura .....	" .....	" .....	85	0	0
Sandy Creek .....	" .....	" .....	85	0	0
Shearlegs .....	" .....	" .....	85	0	0
Priory .....	" .....	" .....	85	0	0
Cobar Reservoir .....	Cobar .....	G. Gill .....	87	0	0
Mombil .....	Cobar to Condobolin .....	H. Evans .....	78	19	9
Mowabla .....	" .....	" .....	78	19	9
Wicklow .....	" .....	" .....	78	19	9
Tinda .....	" .....	W. J. Everingham .....	80	0	0
Boona .....	" .....	" .....	80	0	0
Beloura .....	" .....	" .....	80	0	0
Nymagee .....	" .....	" .....	80	0	0
Keighran's .....	" .....	" .....	80	0	0
Pretty Pine Well .....	Deniliquin to Hay .....	John Bell .....	69	0	0
Wangonilla .....	" .....	" .....	69	0	0
Berican Creek .....	Jerilderie to Tocumwal .....	" .....	70	0	0
Murray Hut .....	" .....	" .....	70	0	0
Boro .....	Walgett to Bangate .....	Thos. Harris .....	79	0	0
Lightning Ridge .....	" .....	" .....	79	0	0
Bunghill .....	Walgett to Narian River .....	" .....	79	0	0
Two Waterholes .....	Bourke to Cobar .....	Edward Palmer .....	93	0	0
Curraweena .....	" .....	" .....	94	0	0
Tindarie .....	" .....	J. F. Spencer .....	94	0	0
Nullamut .....	" .....	" .....	94	0	0
Hellmans .....	" .....	" .....	94	0	0
Cuttygailaroo .....	Cobar to Louth .....	" .....	94	0	0
Booroondara .....	" .....	" .....	94	0	0
Kerigundi .....	" .....	" .....	94	0	0
Mulya or 64-mile .....	" .....	" .....	94	0	0
Dry Lake .....	Bourke to Eringonia .....	Charles J. Hughes .....	92	10	0
Grass Hut .....	" .....	J. F. Spencer .....	94	0	0
Eighteen-mile .....	Eringonia to Culgoa River .....	R. J. Featherstonhaugh .....	90	0	0
Lednappa .....	" .....	" .....	90	0	0
Ford's Bridge .....	Bourke to Ford's Bridge .....	J. F. Spencer .....	94	0	0
Nellie's Paddock .....	Byrock to Brewarrina .....	" .....	94	0	0
Goonery Bore .....	Bourke to Wanaaring .....	" .....	94	0	0
Mulga No. 5 .....	Byrock to Brewarrina .....	" .....	94	0	0
Galathera .....	Narrabri to Moree .....	John Hinds .....	74	16	0
Boggy Creek .....	" .....	" .....	79	16	0
Nine-mile .....	Whitton to Euabalong .....	L. Cawsey Bros. .....	87	10	8
Mount Elliott or 67-mile .....	" .....	" .....	87	10	8
Pulletop .....	" .....	" .....	87	10	8
Wooloondool Well .....	Hay to Booligal .....	H. Bevan .....	83	12	0
One-tree .....	" .....	" .....	83	12	0
Quandongs .....	" .....	" .....	83	12	0
Jumping Sandhill .....	Booligal to Wilcannia .....	Butterworth & Donaldson .....	114	7	1
Mossgiel .....	" .....	" .....	114	7	1
Holy Box Well .....	" .....	" .....	114	7	1
Ivanhoe .....	" .....	" .....	114	7	1
Boonoona .....	" .....	" .....	114	7	1
Ward's .....	" .....	" .....	114	7	1
Coolaman .....	Wagga Wagga to Cowabbee .....	T. F. M'Carthy .....	40	0	0
Major's Dam .....	Howlong to Gerogery .....	W. Dumbrell .....	68	0	0
Lowesdale .....	Urana to Corowa .....	" .....	68	0	0
Carson's Swamp .....	Corowa to Piney Range .....	" .....	68	0	0
Jindera .....	Albury to Walla Walla .....	" .....	68	0	0
Daysdale .....	Urana to Corowa .....	" .....	68	0	0
Walla Walla .....	Albury to Walla Walla .....	" .....	68	0	0
Brocklesby .....	Howlong to Walbundry .....	" .....	68	0	0
Bullagreen .....	Coonamble to Warren .....	M. Kerz .....	91	1	6
Black Swamp .....	Deniliquin to Hay .....	L. Cawsey Bros. .....	87	10	8
Pine Ridge .....	" .....	" .....	87	10	8
Sixteen-mile Gums .....	" .....	" .....	87	10	8
Derribong .....	Trangie to Dandaloo .....	W. Hendry .....	80	0	0

COMPARATIVE cost of Hutting, showing tenders (average) in each district, recommended for acceptance by the Works Department, and the cost by the Mines Department.

District.	Average tenders of Works Department.	Department of Mines.			Remarks as to Mines tenders.
		Tenders and Estimates.	Actual cost.		
	£ s. d.	£ s. d.	£ s. d.	£ s. d.	
Bourke .....	92 15 3	60 0 0	.....	.....	Too high; not accepted.
Cobar .....	82 6 10	.....	50 0 0	.....	16 erected (contract).
Condobolin.....	.....	47 2 0	.....	.....	Returned for amendment.
Corowa .....	68 0 0	.....	40 7 0	.....	3 erected (contract).
Silverton.....	.....	.....	50 0 0	.....	5 erected (contract).
Hay .....	83 12 0	40 0 0	.....	.....	In action.
Wilcannia.....	.....	.....	47 10 0	.....	1 erected (contract).
Deniliquin.....	78 10 4	.....	48 5 2	.....	1 erected (labour).
Coonamble.....	91 1 6	.....	.....	.....	.....
Coonabarabran.....	.....	49 15 0	.....	.....	In action.
Narrandera .....	87 10 8	.....	37 7 8	.....	3 erected by caretaker.
" .....	87 10 8	.....	39 12 6	.....	1 erected (contract).
Balranald .....	87 10 8	.....	42 10 0	.....	2 let.
Albury .....	68 0 0	48 12 0	.....	.....	Iron; in action.
" .....	.....	54 10 0	.....	.....	Wood; in action.
Ivanhoe .....	114 7 1	56 13 0	.....	.....	Iron; in action.
" .....	.....	58 4 0	.....	.....	Wood; in action.
Narrabri .....	77 6 0	.....	49 0 0	.....	1 erected (caretaker).
Forbes.....	.....	.....	30 11 2	.....	1 erected (contract).
Walgett .....	79 0 0	.....	.....	.....	.....

Works average, £85 each; Mines average, £43 odd for thirty-four cottages let and completed. The average £50 each mentioned by Mr. Gilliat, will not be exceeded.

Minute by The Chief Inspector, Public Watering Places.  
Caretakers' Cottages.

Sydney, 24 August, 1886.

THE annexed papers, covering tenders for the erection of huts at a number of public watering places have been forwarded to this Department by the Commissioner and Engineer for Roads and Bridges.

P.W.P.,  
86-4,031.

I should have hesitated in expressing any opinion upon them had it not been for the final paragraph of the covering paper which, as it is minuted forward B.C. has, I assume, the sanction of the Commissioner for Roads.

I have no doubt of the necessity for these huts, and have given the reasons on which I found my view, so frequently to the Works Department, that it appears needless to repeat them. The outlay has been sanctioned by the Secretary for Mines, approved by the Cabinet, and the money voted by Parliament. The carrying out of the work is in the hands of the Works Department.

But since the tenders have been sent to this Department it is invited to give an opinion upon the necessity for executing the work and committing the country to this outlay. It appears to me I am quite at liberty to say that while nothing has occurred to render shelters at public watering places unnecessary in most instances, the lowest tenders in the schedule are too high for the services required.

HARRY GILLIAT,

Chief Inspector of Public Watering Places.

The Under Secretary for Mines.

Should not such buildings as are required for this purpose be procurable at considerably less prices than those quoted? Will the Chief Inspector say what in his opinion they should cost?—H.W., 24/8/86. I think a fair price on an average would be £50 sterling.—H.G., 25 Aug., 1886.

This work would probably be done much more cheaply and more satisfactorily by lessees and caretakers than in the manner proposed.—H.W., 25/8/86. Submitted. Approved.—J.F., 26/8/86. The Under Secretary for Public Works.—H.W., B.C., 31/8/86. Minute herewith.—A.P.W., 8/9/86.

Minute by the Assistant-Engineer for Roads and Bridges to The Commissioner for Roads, &c.  
Caretakers' Cottages.

Sydney, 8 September, 1886.

As the officers of the Mining Department state that they can carry out the construction of caretakers' cottages much more cheaply than this Department, and that their lessees and caretakers can probably do the work in a more satisfactory manner than can be done by regular contractors, under the supervision of our officers, I think the erection of these buildings might be transferred to that Department, so that it may have an opportunity of practically proving the statements made; but as my experience of the caretakers employed by that Department, and the character of the work done, lead me to doubt the results, I consider that in justice to ourselves the same conditions of uniformity of design, character of workmanship, and cost should be imposed on the Mines officers in regard to these works as was imposed on us by them.

Our field officers should have the opportunity of inspecting and reporting on the character of the work done, and in addition this Department should be furnished with the cost of these various works when completed.

Tanks and  
Punts,  
86-1,271.

I have seen the work done by these caretakers, and therefore feel fully justified in doubting whether better results can accrue from the proposals of the Mines than from the regular practice of this Department, with the work under the supervision of competent and trained officers.

ARTHUR P. WOOD.

The Mines might note that the erection of huts is being carried out at the following watering places, and that no further action is therefore necessary:—Sixteen-mile Gums, Pine Ridge, Black Swamp, (Deniliquin district;) Bullagreen, Derribong, (Dubbo district;) Mowabla, (Cobar district;) Coolaman, (Wagga Wagga district.) I endorse Mr. Wood's recommendation that this work should be transferred to the Mines. I have been forty-five years engaged in such works, and I question very much if there is any officer of the Mines has that experience. Much unjust faultfinding with our works was made when they first were authorized to lease them, and I think that the result of this proposal will vindicate the correctness of this Department as fully as the result of work done since that time.—W.C.B., 8/9/86.

Submitted, 11/9/86—J.R. Transfer works to Mines if that Department will undertake it.—W.J.L., 13/9/86. The Under Secretary for Mines.—J.R., B.C., 14/9/86.

Minute by Chief Inspector, Public Watering-places, *re* Caretakers' cottages.

Sydney, 15 September, 1886.

P.W.P.,  
86-4,419.

REFERRING to the annexed papers, but chiefly to the minute of the Honorable the Secretary for Public Works, I beg leave to submit that there are no apparent objections to the construction of huts at the public watering-places being undertaken by this Department, subject to the transfer to the credit of the Honorable the Secretary for Mines of the unexpended balance of the vote taken for that purpose, and independent of any conditions, as suggested by Mr. A. P. Wood.

HARRY GILLIAT,  
Chief Inspector, Public Watering-places.

The work may be undertaken free of the conditions referred to.—H.W., 15/9/87. Submitted. I think it would be better for the Service if all work connected with watering-places was undertaken by this Department.—J.F., 16/9/86. A copy may be prepared for transmission to the Department of Public Works. Copy to Works.—H.G., 17/9/86. The Under Secretary for Works.—H.W., B.C., 17/9/86. The Commissioner for Roads, B.C., 21/9/86. Mr. Wood.—W.C.B., 23/9/86.

The offer to hand over the construction of these works to the officers of the Mines was made under certain conditions, which would have ensured uniformity of design and good workmanship, and in addition provided for this Department being furnished with the cost when completed. This latter provision was in self-defence a necessary one, inasmuch as Mr. Gilliat has queried our recommendations, and put down the average cost of construction at £50. This, for a three-roomed cottage is, in my opinion, absurd. If Mr. Gilliat's estimate refers to reasonable accommodation and two rooms, I would draw the Commissioner's attention to the fact that the necessity for three rooms was urged on us by the Mines; and we are not responsible. But, even taking two rooms as the basis, I maintain Mr. Gilliat's estimate will be found incorrect when the whole of the works are averaged. Exception has been taken to any conditions being attached to the transfer. This being the case, our offer should be withdrawn, as such an open arrangement would, considering the spirit in which this Department has been dealt with by the Mines officers, be unfair to ourselves. I would add that my experience of the caretakers engaged by the Mines leads me to a very different opinion to that expressed by Mr. Harrie Wood. We have constant complaints sent to this office by the local officers, showing the inefficiency of these men—complaints that in all cases that have come under my personal notice have been fully substantiated, notwithstanding the reports of the Stock Inspectors to the contrary, and I now consider that, under such conditions as are now imposed by the Mines, the result will be inferior work in the cottages, and an excuse for greater neglect of their proper functions.—A.P.W.

Letter from Commissioner for Roads and Bridges.

Sydney, 6 October, 1886.

I RETURN this paper to the Honorable the Minister for Mines in compliance with his request.

The withdrawal of these works from this Department can only be regarded as a censure, which I do not think Mr. Fletcher intended. Mr. Abbott refused to withdraw them from our charge. I attach press copies of the minutes from this office, which accompanied the papers.

W. C. BENNETT.

The assent to the proposal that the Mines should build the cottages was conditional, which condition they decline to accept.

I am afraid that the intention of my minute has been misinterpreted. It never was intended to reflect in any way upon the Commissioner for Roads. I have too much confidence in that gentleman's great ability to write or even sanction anything calculated to reflect upon Mr. Bennett or his Department. All that was intended by the minute in question was, as the majority of the caretakers are handy men, they could erect a house for themselves, if we provided the material, at far less cost than could be done by contract. If the minute was thought to convey any other meaning than I have stated, I now desire to say that it was not so intended.—J.F., 20/10/86.

The Commissioner for Roads.—G.E.H. (for U.S.), B.C., 20/10/86.

The wishes of the Minister with reference to the houses will be carried out, and the tenders not be accepted by this office for those not already arranged for as stated below, the cost of which will be about £600. It is hoped that the construction of these houses will not be allowed to interfere with the caretakers' other duties, as in many cases lately complaints have been made of the most reprehensible carelessness

carelessness of some of those men with reference particularly to pumps and machinery, *e.g.*, that lately sent on from Boonoonoo.—W.C.B., 27/10/86. The Under Secretary, B.C.

The works for which provision has been made by this Department are Black Swamp, Pine Ridge, 16-mile Gums, Girilambone, Bullagreen, Derribong, Mowabla, Coolaman.—A.P.W., 1/11/86. The Under Secretary for Mines.—J.R., B.C., 3/11/86.

Minute by The Chief Inspector of Public Watering Places.

Sydney, 21 October, 1886.

P.W.P.,  
86-5,013.

It appears from the annexed report of Mr. Inspector Boulton that the tenants of The Lake, Grass Hut, and Ledknappa Tanks are prepared to construct huts on the general specifications quoted for sums from £50 and £55 sterling.

Before dealing with these cases, it will be perhaps desirable that I may be informed if the minutes of the Hon. the Secretaries for Works and Mines relating to the construction of huts by this Department are to be acted upon.

The Under Secretary for Mines.

HARRY GILLIAT.

The Commissioner for Roads called attention to the terms in which the decision in regard to the erection of such huts was couched, and the Minister has explained that he had no intention of reflecting upon the Commissioner, but I understand nothing has been done to set aside the decision of the Minister for Works and the Minister for Mines to the effect that the vote should be turned over to this Department with a view to the work being done at the least possible cost.—H.W., 27/10/86. Submitted.

Letter from The Under Secretary of Public Works.

Sir,

Sydney, 21 December, 1886.

P.W.P.,  
86-5,908.

In reply to your B.C. communication of the 29th ultimo, with reference to the unappropriated balance of the vote for buildings, &c., for caretakers of tanks, item 465, on the Appropriation Act of 1885, I am directed to inform you that the Secretary for Public Works has approved of the transfer to your Department of the sum of £9,000 from the vote in question, and that the Treasury has been advised to that effect.

The Under Secretary for Mines.

JOHN RAE.

## XXIV.

### Walla Walla Tank.

Copy of minute by Mr. Bruce.

Memo.—Applications for New Watering Places.

21 October, 1884.

I HAVE already suggested, in order to place the action in regard to applications for the construction of fresh watering places in the proper train, that they should all, as they are received, be sent to the overseers for the district in which the sites of proposed works are, with the view to the necessary information being obtained to enable Mr. Inspector Gilliat to report upon them, and I would further suggest, in regard to this matter, that the Department of Public Works should be invited to send all applications received by it for new public watering places of classes A and B, or alterations or improvements of existing works of these classes to this Department, to be dealt with in the first instance as here suggested. It was arranged between the two Departments that this course would be followed, but a good many new works have been begun, and some nearly constructed before this Department was aware that they had been decided upon through some such course as that here proposed not having been taken.—A.B., 28/10/84.

Stock Branch,  
1,283.

Submitted—H.W., 30/10/84. Approved; where are the works situated which have been begun by the Works Department without reference to this?—J. P. Abnor, 31/10/84. See tanks marked \* in accompanying list.—A.B., 3/11/84. The Under Secretary for Mines. Submitted.—H.W., 4/11/84. Seen.—J.P.A. Letter to Works.—13/11/84.

Works ready for transfer to Mining Department.

*Black Swamp Tank ...	Deniliquin to Hay.	Shearlegs ... ..	Cobar to Hillston.
Pine Ridge ... ..	"	Priory ... ..	"
16-mile Gums ... ..	"	Rockholes ... ..	"
One Tree ... ..	Hay to Booligal.	*Nymagee ... ..	Cobar to Condobolin.
Quandongs ... ..	"	Mombil ... ..	"
Tom's Lake ... ..	"	Mowabla ... ..	"
Mossgiel ... ..	"	Mount Hope ... ..	"
Holy Box Well ... ..	"	Girilambone ... ..	Bourke to Nyngan.
Dry Lake Well ... ..	Carathool to Hillston.	Baradine ... ..	Township.
Old Gunbar Well ... ..	"	*Walla Walla ... ..	Albury to Doodle
Crow's Nest Well ... ..	"		Cooma.
Roto ... ..	Hillston to Cobar.	*Jindera ... ..	"
Hermitage Tank ... ..	Cobar to Nyngan.	*Galathera ... ..	Narrabri to Morce.

All works marked \* have been begun by the Works Department without reference to this Department. Copy.—

Copy.—Extracted from Mr. Gilliat's report on Peri Springs Tank.

20 May, 1884.

Tanks & Wells,

84-583.

With Peri  
Springs papers.

I may add that it is only within the past ten months that the Department of Mines has been admitted to have any voice in the selection of sites of works, and that I am not aware of any instance in which it has been consulted with regard to their construction.

H.G.,

20/5/84.

Extract from report by Mr. Inspector Low on Tanks in Albury District.

Sir,

Stock Office, Albury, 26 July, 1887.

P.W.P.,  
87-3,590.

Referring to your letter of instructions of 30th June, and relative B.C. documents, I have the honor to report that on the 16th, 18th, 19th, and 21st instant I inspected Horse-shoe Lagoon, Jindera Tank, Hovell's Dam, Brocklesby Tank, and Walla Walla Tank, accompanied by Mr. Overseer Mackay, district Albury.

Walla Walla Tank.—In charge of lessees H. and C. Douglas.

Drains.—None at this nor required, water being led to silt tank by natural water-course.

Silt tank.—60 ft. square on top, 42 ft. square in bottom, 6 ft. deep. Full of water and overflowing, so impossible to get near it to ascertain if any silt.

Inlet or flume.—63 ft. 12 in. cast-iron pipe and valve, timber 56 ft. x 2 ft. x 2 ft., lined with galvanized iron, valve under water and closed, all in good order.

Main tank.—153 ft. square on top, 117 ft. square in bottom, 18 ft. deep. Full of water and overflowing; no depth indicator, but from lessees' marks shows 21 ft. 6 in. Were it necessary, these embankments could be filled with water by pumping, as there is sufficient water lying outside for this, but in this locality I think this is scarcely necessary.

Embankments.—Around four sides of excavation much cut up, corrugated, water washed, and uneven. These require much more attention than has lately been given to them in all the above as also levelling and dishing in centre, although some work has evidently been done in this respect. Were this thoroughly done, and four angle shoots of approved design properly fixed and placed, I feel convinced there would be no danger of storm water doing any damage from their incapacity to carry it off. I would here also strongly indorse Mr. Overseer Mackay's recommendation to have an embankment erected to prevent water running round and washing foundations from troughing, otherwise in case of heavy rain there will be much danger of troughing being washed away. No couch grass as yet sown here.

Supply tanks.—Timber 15 ft. x 30 ft. x 6 ft., lined with galvanized iron, valve and wheel. This I found about half-full of water, and showing signs of leaking, also valve requiring painting. Lessees instructed to keep tank full and paint valve.

Troughing.—100 yds. lined with galvanized iron, fenced on one side with two rails, other side one rail. This is in a most unsatisfactory condition, and I was unable to have it filled, owing to a hole having been punched in bottom (about 1½ inch) about middle of troughing, evidently for slush tap. There is a 2-in. brass tap in this at end furthest from supply tank, but fixed much too high to empty trough or run out silt. This appears to be anything but level and lowest at end nearest supply tank. The ground underneath is much washed away from water running round embankment at opposite side from byewash, the whole being, I should say, in great danger of being washed away. The single rail fence along this is quite unsuitable, a space of 1 ft. 3 in. intervening between rail and troughing. I would recommend that this space be lessened to 9 inches, and rail be fastened on inside of post with bolts, instead of being as at present let into middle of posts on the angle, thus increasing the height large stock have to drink over.

Machinery.—3-in. Holman's pump with horse-gear. This requires painting and cleaning up; pump tried but found to be out of order, and would not draw water. Lessees report that this was only discovered a few days ago, that ere this it would have been repaired, had their engineer not been otherwise engaged, and their knowing on account of so much water lying outside no pumping would be required.

Fencing.—Top rail and five (No. 4) wires round tank, 94 rods, one barbed and five (No. 7) wires, 123½ chains. In fairly good order, but a good deal of dead wood and rubbish lying on them in water-course, which requires clearing away; the barbed wire is badly fixed on posts.

Gates.—Three 12-ft. swing and four 12-ft. slip panels. These require painting, but otherwise in good order.

Angle-shoots.—Four timber 14 ft. x 8 in. x 6 in. and three one-sheet corrugated galvanized iron bent, placed to run water outside. These I think unsuitable, and ought to be replaced by four of approved design, which if properly fixed and placed would carry off all storm water gathered on this embankment.

Scrubbing, &c.—Little or no scrub, nearly all this has been ring-barked by lessees previous to its being a Public Watering Place; a good deal of dead wood on ground, little or no scrub.

Byewash.—180 ft. x 34 ft. x 1 ft. 6 in. This had sometime ago been blocked up with earth, which is now washed away; were proposed embankment on opposite side erected, it might be advisable to block this with logs, allowing surplus water to run over them; were this done much more water would run into main tank.

Site of cottage.—In conjunction with Mr. Overseer Mackay, I would beg to recommend that caretaker's cottage be erected about 6 chains north-west of main tank, and adjoining present camp.

On my arrival here, about 2 p.m., I found lessees and caretaker both absent. Caretaker's wife reports caretaker often absent during day. Some work has been done levelling and dishing embankments, and caretaker reports much of his time occupied in building and patching up hut on account of so much wet weather. With the exception of these, no work seems to have been done by lessees. The appearance here of works in general is much below the required standard.

Lessees urge that they ought to be supplied with tar, paint, &c., in fact all material to keep things in order. I read Regulation 37, but failed to convince them that they had to do this. It would also be well to have all dead wood in water-course to tank cleaned up and burned off.

Cottages

Mr. Inspector  
Boulton for  
action.—H.G.

Mr. Inspector  
Boulton for  
estimate of cost  
and report as to  
whether the  
work should be  
let by contract.  
This appears  
urgent.—H.G.

Mr. Boulton to  
obtain tenders  
for converting  
this to model.  
Urgent.—H.G.

Mr. Boulton  
should obtain  
tenders for this  
work and pre-  
pare an estimate  
of the fair cost.—  
H.G.

Mr. Boulton will  
see to this.—  
H.G.

Cottages.—For this district I would recommend that these be of weatherboard, as per specification 87-1,843, which can be erected at all public watering places in this district at an average rate of £54 10s. each. Here, where good bricks can be obtained, it might be quite as economical to erect brick chimneys instead of the proposed wood and iron, in which case the prices would be £57 each. I may here add that flooring and doors would be tongued and grooved.

Mr. Boulbee will obtain tenders with as little delay as possible.—H.C.

Couch grass seed has not been sown on embankments in this district, owing to so much cold and wet weather, but it is purposed this will be sown next month (August), which I should say will be suitable for this climate.

Mr. Overseer Mackay has been very regular in his visits to tanks under his charge, and where caretakers are employed a very fair amount of work has been done, especially in cleaning up reserves, scrubbing, and ringbarking, as well as painting and keeping machinery in order. A little more attention by caretakers to drains and embankments might, I think with advantage, be given.

In the case of Tenants, although I feel sure he has regularly visited, he has omitted to make entries of such visits in journal. This, I have pointed out to him, should be done.

Little or no attention has, at the time of erection of embankments, been given as to their being level, thus causing a large amount of work to caretakers to put them straight.

I have, &c.,

JOHN LOW,

The Chief Inspector, Public Watering Places.

Acting Inspector, Public Watering Places.

Sir.

Wagga Wagga, 10 September, 1887.

Referring to Mr. Inspector Low's report upon the Walla Walla Tank, and to your marginal instructions, &c., I have the honor to inform you that at present the tank is almost surrounded by water, the creek which flows down to the tank is now running a strong wide stream (30 ft.) down the by-wash into the Walla Swamp in which the water is now backed up within a few feet of the end of the troughs. In view of the fact that the takings for stock watering here since the tank was made are almost nil, and that the water in the swamp will—in my opinion—last for two years or more, it is, I think, a matter for consideration whether any additional expense should be incurred at this place in carrying into effect Mr. Low's recommendations that a wing embankment should be made to protect the troughs, or that the by-wash should be made into an overshot dam, or that the railing at the troughs should be altered, or new shoots fixed to embankments. In the event of it being decided to carry them out, considerable time must elapse before anything, owing to the boggy state of the place, can be done. The various matters which lessee appears to have neglected, I have given him notice of in writing, a copy of which I enclose. The additions suggested by Mr. Low would, were the tank used at all by travelling stock, be very necessary; but as the tank in its present position appears to me to have been hardly required, I think perhaps that any further expenditure should be deferred. If it is decided that the additions in question should be made, I will, at my next inspection, obtain tenders for the work.

P.W.P.,  
87-4,629.

JAMES W. BOULTBEE,

The Chief Inspector of Public Watering Places.

Inspector of Public Watering Places.

Report by Inspector J. W. Boulbee, on the Walla Walla Tank, road from Albury to Walbundrie, in charge of C. H. Douglas, tenant, for 7th September, 1887.

State of drains.—None.

Silt tank.—Completely covered with water.

Inlet or flume.—Under water. Reported in good order by lessee, but valve stiff in working.

Main tank.—Quite full.

Embankments.—Scoured by rain. There is a small spring of native grass here. Couch grass should be sown, and I have asked Mr. Mackay to forward supply.

P.W.P.,  
87-4,630.

#### *Watering Appliances.*

State of supply tank.—Only half-full, apparently in good order, but requiring tar.

Troughing.—Requiring tar. There is a flushing-hole in the centre that I have desired lessees to close. The alteration to railing is referred to in my memo. on this tank of to day's date.

Machinery.—As caretaker was absent, I was unable to test it, but it is admitted by lessees to require new packing. It also requires painting and the well emptying, which I have directed lessee to do.

#### *Paddocks and Fencing.*

State of fencing.—In fair order. Barbed wire badly put on.

State of gates.—In good order, but require paint.

Remarks.—Caretaker was absent at the station at the time of my visit. His wife, however, was present. There is a considerable air of neglect at this place, and I have given lessees written notice to repair, &c.

Weekly depth of water since last report.—Tank quite full.

#### *Caretaker's Work.*

Work done by caretaker.—Apparently nothing lately.

Work laid out for caretaker.—I have forwarded written notice of repairs, &c., required to lessees. (Copy herewith.)

Remarks and recommendations.—This tank is on the edge of a very large swamp, which, from appearances, should hold water for two years. It is therefore certain that neither tank or appliances will be required for—at the very least—eighteen months; and I very much question the advisability of incurring any expense in carrying out Mr. Low's recommendations for a wing embankment. The alteration to the trough railing may also, I think, be deferred. There is an immense body of water all round this tank.

There

There is a strong wide creek going down byewash, which has every indication of continuing for months, and until this subsides nothing can be done in the matter of earthworks. The pump should be painted and well made water-tight, but I would recommend that no fresh leather buckets be put on plunger, as they would only rot. The supply-tank, too, should, I think, be kept as it is—half-empty, as I think the tank, being kept full while the ground is so soft, would only cause a subsidence. This is a case in which the regulation *re* keeping supply-tanks full should be relaxed.

JAMES W. BOULTBEE,

Inspector of Public Watering Places.

Wagga Wagga, 10th September, 1887.

The Chief Inspector of Public Watering Places, Mines Department, Sydney.

Copy of Minute by Chief Inspector, Public Watering Places.  
Walla Walla Tanks.

11 November, 1887.

P.W.P.,  
87-3,072.

THE annexed extract from my report of 9th October, 1882, shows that this Department considered the construction of a tank unnecessary. Mr. Inspector Boulton's report herewith states that the water in the adjoining swamp will last for two years or more, while the receipts for stock watering since the tank was made are almost nil. The tank is leased to the Messrs. Douglas, of the adjoining station, who are reported to have neglected it, and are now called upon under the regulations to put it in proper order. Under the circumstances I think it will be desirable to give the lessees the option of taking the machinery to pieces and storing it, after thoroughly painting and allowing, leaving the troughing and service-tank standing, which, of course, must be kept in good order.

If the tank was not leased, I should propose to utilize such part of the service as could be transported to some more useful watering place, and this course may yet be adopted at the expiry of the lease.

HARRY GILLIAT,

Chief Inspector of Public Watering Places.

The Under Secretary for Mines.

Submitted.—H.W., 18/11/87.

Approved.—F.A., 19/11/87.

Extract from Report of the Inspector of Tanks and Wells on the application for a public tank on watering reserve, 894; sale reserve, 172; lease, County Hume, parish Walla Walla; road, Walbundry to Albury:—

Sydney, 9 October, 1882.

P.W.P.,  
87-5,915.

Bearing in mind the large expenditure required in the dry districts of the Colony, the comparatively good rainfall usual here, and the trifling expense at which water can be conserved by the settlers themselves, and the fact that the construction of a tank here would be taken as a precedent and be followed by numerous applications for similar works which would be convenient, but not absolutely necessary for the well being of the settlers, I am not prepared to recommend the granting of this application.

I have, &c.,

HARRY GILLIAT,

Inspector, Public Tanks and Wells.

A. Bruce, Esq., Chief Inspector of Stock.

## XXV.

### Fluming Papers.

#### Gunnaramby Tank.

Extract from new Works Report Form B of Mr. Overseer James Yeo, 86-3,063, of 21st January, 1886, on Gunnaramby Swamp Tank (late 35-mile, on road Balranald to Ivanhoe).

General Remarks.—There are two silt tanks, one on south side, emptying itself into the main tank through a 12-inch pipe and apron 6 feet by 2 feet.

The silt tank on north-east side empties itself, as shown on sketch\* attached, and, in my opinion, when we get a heavy fall of rain, will wash over the sides of the drains and carry a large quantity of earth into the tank. The water just commenced to run in the drain on the south-east side of main tank, and has washed the mouth of the drain 6 inches deep. I would recommend that a flume be put to carry the water straight into the main tank, instead of round on the top of the excavation. This was pointed out to Mr. Wood and Mr. Stillwell when taking delivery.

JAMES YEO,

Overseer, Public Watering Places.

Extract

P.W.P.  
86-4,154.  
\*Appendix G.

Extract from Mr. Overseer Yeo's Report on Gunnaramby Tank for 13th September, 1886.

Remarks and recommendations.—I would again recommend that a flume should be put from the silt tank, on the north-west side of main tank, to the main tank, as previously suggested. I have instructed caretaker not to allow any water to run into the drains on the top of the excavation. I consider if it is allowed to go into these drains that it will eventually carry away the whole of the soil between the excavation and the drains.

P.W.P.,  
86-4,452.

Ivanhoe, 13 September, 1886.

JAMES YEO,  
Overseer, Public Watering Places.

Extract from Report A1 of Mr. Acting-Inspector Boultbree, of 5th October, 1886, on tank leased by Messrs. Cobb & Co.

Grass Hut Tank.

Remarks and recommendations.—Notice should perhaps be sent to Messrs. Cobb & Co. to tar tank and troughs, also clean and paint machinery. The construction of fluming at all these tanks except the Lake Tank is very faulty, since it only extends a few feet from the edge of tank, and where the cutting pierces the banks there is no protection. Each succeeding flood cuts in more and more, and the banks consequently fall in. At Ledknapper the case is a bad one.

P.W.P.,  
87-5,046.

JAMES W. BOULTBEE,  
Acting Inspector, Public Watering Places.

Mr. Mallon.—Please see tenants and give them written instructions if necessary as to painting and tarring. You should call their attention to clause 37 of Regulations.—H.G., B.C., 20/10/86. This has already been done, and I have no doubt the work will be performed at once.—Jas. M., Bourke, 27/10/86.

Extract from Report by Mr. Overseer Elworthy on Hulong Tank, 17th September, 1886.

Hulong Tank.

Inlet or flume.—In good order. This was originally too high, but has been lowered 6 inches, and will now carry water into main tank.

Remarks.—The caretaker says there would have been 6 or 8 feet water in the main tank had the inlet pipe not been so high. It is now rectified and all square.

W. J. ELWORTHY.

Narrandera, 17 September, 1886.

Report by Inspector Gilliat upon Box Creek, 7th September, 1880.

Sir, Box Creek Tank, Balranald Road.

I have the honor to report that on 27th ultimo I made an inspection of the Box Creek Tank. The site is an injudicious one, but the tank would have probably collected more water but for the position of inlet pipe, which is 3 feet some inches above the level of the water in the silt tank. Tanks & Wells,  
80-199.

To get a head of water high enough to pass through the inlet pipe in its present position, the Box Creek would be backed up for probably three miles. I would urge that the 9-inch inlet pipe be removed, and a box flume, 2 feet by 1 foot, such as recommended at Til Til Tank, be substituted; this box flume to be laid 4 feet below the level of the present inlet pipe.

The horse-power pump and platform require the same repairs as those described at the Til Til and Youhl Plain Tanks, and these are not the result of wear and tear, for the works show no evidence of ever having been used.

Belting.—The belting for this work is at the Box Creek public house, three miles lower down the creek.

Cattle troughing.—The cattle troughing requires connecting with the pumps by means of iron piping.

Drains.—The drains laid out are extensive, and I am of opinion insufficient to collect the drainage of the neighbourhood. Should they prove insufficient when the inlet pipe is enlarged and lowered, I would suggest that a line of levels should be run from the better holding ground down the creek to ascertain if a dam could not be constructed at some point across the creek where a sufficient head of water could be stored to fill the tank by means of a drain. I am of opinion that this could be done, but cannot be certain until I have taken an instrument over it. I would strongly urge reserving at once both sides of the creek between the tank and the public house, about three miles below. The creek changes the character of its bed very greatly below the site of the Government tank, both above and below the inn. There was a good supply of water at the time of my visit.

HARRY GILLIAT,  
Inspector, Tanks and Wells.

A. Bruce, Esq., Chief Inspector of Stock.

Mr. Gilliat here recommends several alterations and repairs, but does not say what the cost will be. He might, perhaps, be asked to submit an estimate. The belting should, I think, be handed over by Mr. Hansen to the caretaker, who should be held responsible for this as well as the other appliances. Mr. Gilliat's recommendation with respect to the reserve at this tank has been submitted on separate extract.—A.B., 17/9/80.

The Under Secretary for Mines. Submitted.—H.W., 20/9/80. Approved.—E.A.B., 21/9/80.  
Inspector Gilliat, 11/10/80. In Mr. Gilliat's telegram of 20/9/80, he estimates the cost of these alterations and repairs at £120.—11/10/80.

As the funds still available under the Vote for Tanks and Wells would be insufficient to meet the expense of all these alterations and repairs, I would suggest that the more urgent portion—the lowering and enlarging of the inlet pipe—be carried out at once, under Mr. Overseer Hansen's supervision, the work being done by contract, if possible, and if not, by day labour.—A.B., 5/11/80.

The Under Secretary for Mines. Submitted.—H.W., 8/11/80. Approved.—E.A.B., 8/11/80.  
Mr. Inspector Gilliat, 8/11/80.

Extract from report by Mr. Overseer Cotton on the Muriel Tank for February, 1884.

Muriel Tank,

Tanks & Wells, 84-337. \* \* \* \* \*  
Fluming.—Unsatisfactory; water running underneath.  
\* \* \* \* \*

JAMES COTTON,  
Inspector of Stock.

Cobar, 14/3/84.

Mr. Gilliat.—A.B., B.C., 17/3/84. Noted.—H.G., 19/3/84.

Report by Acting-Inspector Boulton on the Muriel Tank, road from Cobar to Nyngan, in charge of F. Mullarkey, caretaker, for 10th July, 1886.

P.W.P.,  
86-3,549.

State of drains.—In fair order, mostly on hard stony ridges that do not cut. They are damaged where the road crosses, and require either pitching with stone or logging.

Silt tank.—Not visible, but reported by caretaker to be filled with silt.

Inlet or flume.—A small portion just visible, reported by caretaker to be broken by heavy flood some time ago. The water has never been low enough to allow repairs. I believe it is only 2 feet x 1; too small, I think, for the catchment.

Main tank.—Not visible. Reported by caretaker to have much silt in it.

Embankments.—Considering rough spoil and construction, in fair order; guttered in places.

Watering Appliances.

State of supply tank.—Good; buckle plate.

Troughing.—Good; the ground has been recently made up at each side. The site, however, is not, in my opinion, well chosen, being on what must be a very boggy flat in wet season, and liable to be flooded from overflow from wings of dam.

Machinery.—Tangye horse works and pump in good working order, excepting that the cup in which the main or king pin works it wants paint. Caretaker has been promised new cup.

Paddocks and Fencing.

State of fencing.—T.L. good. There is a rail or two broken in the old fence round main tank; cannot, however, be got at for some time yet, owing to water.

State of gates.—In good order.

Remarks.—Caretaker Mullarkey has leased this tank. The valve at supply-tank does not work well; instead of being placed with wheel at the top it is at the side, and when the valve is first opened the water misses the troughs altogether; a bag has to be used, and it is inconvenient.

Rates collected since last report.

					£	s.	d.
Month ending	April, 1886	...	...	...	21	14	4
"	May "	...	...	...	15	17	2
"	June "	...	...	...	6	9	8
					£44	1	2

Traffic since last report.

		Horses.	Cattle.	Sheep.	Mail horses.
Month ending	April, 1886	543	76	29,505	480
"	May "	474	142	17,500	496
"	June "	491	94	.....	480

150 gallons for domestic purposes.

Weekly depth of water since last report.—Excavation quite full, and a large sheet of surface water.

Caretaker's work.

Work done by caretaker.—Making up earth at troughs (not yet finished); cleaning drains.

Work laid out for caretaker.—Mullarkey is now ill, suffering from pleurisy. To fill in gutters on bank and complete work at troughs.

Remarks and recommendations.—There is a remarkable bit of work here in the shape of a horse-walk, which has been constructed on the inside of the dam and also partly in the tank. It is to me inexplicable. It is somewhat lower than the dam, and the water runs off the dam and settles on the walk, in one place causing considerable settlement, in fact, leaving a good sized hole; the outside edges of the walk, where it joins the water, seem to me to have settled a great deal. Loam has been used entirely

entirely for the walk, and it simply melts wherever it touches water. The caretaker's report about the amount of silt in main tank is evidently quite correct. A byewash is in course of construction, and side wings on the opposite side to throw the water clear of the troughs, is, I am told, in contemplation; it will, however, cut off one of the drains. The caretaker's hut is inconveniently placed in the narrowest portion of the lane by which stock go to water. Judgment will have to be exercised in placing the new cottage.

Cobar, 14th July, 1886.

JAMES W. BOULTBEE,  
Inspector of Public Watering Places.

The Chief Inspector of Public Watering Places, Mines Department, Sydney.

Extract from Mr. Inspector Boulton's report upon the Two Waterholes Tank.

Bourke, 22 July, 1886.

\* \* \* \* \*  
Inlet or flume.—Both poor and old; too small 1 ft. x 1 ft.; earth cut from each side, from silt tank. \* \* \* \* \*

P.W.P.,  
86-3,660.

JAMES W. BOULTBEE.

Extract from Mr. Inspector Boulton's report on Curraweena Tank, for 15th July, 1886.

Bourke, 22 July, 1886.

\* \* \* \* \*  
Inlet or flume.—One is choked; they are I think formed upon an exploded principle, the water spreads over a space between tank and embankments, and the fluming starts from a shallow well. \* \* \* \* \*

P.W.P.,  
86-3,658.

I would also recommend the fluming be altered; it is too small, and the plan a poor one.

JAMES W. BOULTBEE.

Extract from Mr. Overseer Doyle's report upon the Bunghill Tank, 6th May, 1884.

Walgett, 6 May, 1884.

Inlet or flume very much damaged.

\* \* \* \* \*  
Owing to the rapid rush of water, consequent upon the close proximity of this tank to hard stony ridges, a considerable amount of rubbish and silt is carried into the main tank by every heavy fall of rain, it is only a matter of time before the tank is entirely filled with silt. To prevent this, a flume as recommended in my last report, would materially prevent this. \* \* \* \* \*

Tanks & Wells,  
84-589.

J. R. DOYLE.

Mr. Inspector Gilliat.—A.B., B.C., 13/5/84. The flume suggested by Mr. Doyle was recommended by me in October last, to be put in at each of the tanks in this district. The caretakers should be instructed to clean out silt tank at every opportunity.—H.G., B.C., 21/5/84. Inform Overseer, 27/5/84. Done, 31/5/84.

[Copy.]

Extract from the statement of the Inspector of Tanks and Wells of repairs and alterations recommended as urgent for the consideration of the Secretary for Mines.  
Bunghill Tank.

Original with  
Works Depart  
ment

Fitting with machinery for lifting water, supply tank and troughing. I would submit for consideration the advantage to be obtained by completing the embankment round this work, and admitting the flood water through a flume or sufficiently large inlet pipe. The embankments can then be utilized hereafter for additional storage, by pumping in.—H.G., 18/10/83.

Extract from report by Inspector Boulton on the Corilla Tank, 17th July, 1886.

Bourke, 22 July, 1886.

\* \* \* \* \*  
Inlet or flume.—There are two, both in very bad order, and too small. They are much broken and patched, earth washed away on each side of them. They require renewing altogether. That between service tank and main tank has caved in altogether. \* \* \* \* \*

P.W.P.,  
86-3,657.

JAMES W. BOULTBEE.

Extract from report by Mr. Inspector Boulton on Helman's Tank, 15th July, 1886.

\* \* \* \* \*  
The fluming here is not of good design, in my opinion; it only commences inside the embankments. There is an open cutting from the silt-tank through the embankment to the mouth of the flume. There is nothing to prevent this cutting being washed in, and carrying the soil from each side of the embankment; it already shows signs of wear. \* \* \* \* \*

P.W.P.,  
86-3,659.

Bourke, 22/7/86.

JAMES W. BOULTBEE.

Extract

Extract from Mr. Mackenzie's report upon Helman's Tank, 10th December, 1887.

P.W.P.,  
87-7,012. I am of opinion that if they were logged up for about 4 feet on each side it would prevent further cutting, and answer equally as well as sawn timber, besides being less expensive. This work I can instruct caretaker to carry out on subsidence of water if you approve of it.  
Bourke, 10/12/87.

F. MACKENZIE.

Report of Chief Inspector of Public Watering Places upon the Ledknapper Public Tank, road from Eringonia, on Warrego River, to Goorianawa, on the Culgoa.

Sir,

Sydney, 6 June, 1885.

Tanks & Wells,  
85-1,410.

I have the honor to submit for the information of the Hon. the Secretary for Mines the following report upon the Ledknapper Public Tank, 22 miles from the 18-Mile Tank, now in course of construction, and 20 miles from Goorianawa, on the Culgoa River. The main excavation of 20,000 cubic yards was empty at the time of my visit, the water that had been running down the Mungunyah overflow for the previous 24 weeks having been stopped out by the contractor until the excavation was measured. I noticed an ugly-looking sand-pipe in both the east and west slopes of the excavation, but am uncertain whether they will prove serious until the tank is filled. The framework for supporting, lowering, and raising down-pipe from pump appears to me rather slight and insecure for the purpose. The embankment is carried round the four sides, but that on the upper side is cut to admit by a trench the flood-water from the silt-pit. At 10 feet from the edge of the excavation a shoot has been put in to receive this water, and carries it down the slope to the bottom of excavation. The inrush of flood-water must I fear in time cut away the soil on either side and below the shoot, and carry it into the excavation.

The pump is of an excellent pattern with double cylinder, driven by a small engine connected to a vertical boiler, standing on a cast-iron feed tank, from which the inject pipe to the boiler is fed. A feed-pipe from the service tank to that below the boiler would be of great service, as at present the latter will have to be filled by bucket and funnel. I also noticed there was no pressure gauge on boiler, nor any shed over boiler or engine, both of which required at least two good coats of paint. I was also informed by the contractor that there were no oil-cans or fitter's tools accompanying the plant.

The service tank of timber and galvanized iron, with a capacity of 17,000 gallons, is both well finished and substantial. The troughing, also of timber and galvanized iron, is equally well built, while the fencing and gates to Tank Special Lease and troughing are excellent, while steam pumps are as yet untried at these P.W. Places.

So far removed from skilled labour it may be as well to withhold any expression of opinion as to their suitability, but it will be as well to submit for the consideration of the honorable the Secretary for Mines,

1st. That it will be necessary to make early arrangements for a supply of firewood to be delivered at the work. If this is to be part of the duty of the caretaker he must be furnished with or else paid for a horse and cart, or arrangements must be made for the delivery of firewood at per cord.

Although reported ready for transfer I found this work in too unfinished a state to take over, I have, however, detailed in this report what appeared to me necessary to complete it, and I have to request that a copy may be furnished to Mr. Overseer Mallon for his information when taking delivery.

HARRY GILLIAT.

The Chief Inspector of Stock.

Submitted.—A.B., 17/6/85. The Under Secretary for Mines. Submitted.—H.W., 27/6/85.  
Read.—J. P. ABBOTT, 30/6/85. Send copy of report to Mr. Mallon.—E.W., 2/7/85. Copy sent, 3/7/85. Ask Mr. Overseer Mallon to report when the Ledknapper Tank will be ready for transfer.—H.G., 12/11/85. Reply 85-4,277, with papers re transfer Ledknapper Tank. Further action taken upon extracts from this report, with same case.—J.W.B.

Report by Inspector Boulton, on the Ledknapper Tank, road from Eringonia to Brewarrina, in charge of J. C. Collins, tenant, for 7th October, 1886, date of inspection.

P.W.P.,  
86-4,887.

State of drains.—Hardly visible for water.

Silt tank.—Under water.

Inlet or flume.—Much cut and displaced by flood; the embankments each side have fallen in considerably; caretaker reports, every endeavour was made to save it.

Main tank.—Full, over excavation.

Embankments.—In fair order, guttered in places.

*Watering appliances.*

State of supply tank.—Empty, has not yet been filled.

Troughing.—Almost under water, apparently in fair order; it has never been filled yet.

Machinery.—In bad order, rusty and dirty, has not owing to want of water been transferred to Mines, and now from a superabundance, transfer delayed. Mr. Coleman's travelling mechanic will put it in order shortly, and hand it over.

*Paddocks and fencing.*

State of fencing.—Very good.

State of gates.—Very good.

Remarks.—Since the engine could not be tested on 19th March, date of transfer, and latterly too much water has prevented, lessee consequently signed no receipt for the tank; will do so when engine is put in good order.

*Traffic since last report.*

Month ending	Horses.	Cattle.	Teams.
July, 1886	37	1,920	50
August, 1886	...	Nil.	...
September, 1886	...	Nil.	...

Weekly

Work y depth of water since last report.—Quite full.

*Caretaker's work.*

Work laid out for Caretaker.—There is a running sea of water here, took me up to the horse's belly to reach the embankment of tank. Nothing can be done at present.

Remarks and recommendations.—No mail running regularly. Lessee has to go into Corella, 12 miles, with returns. It seems to me a great pity this and the 18-mile Tank were not utilized as pump up tanks, there being now enough water to fill embankments twice over. Another flood would tear out fluming altogether, and as soon as water permits, repairs should be undertaken. Lessee has some timber on ground, and would undertake to erect cottage. He will remain in charge after his lease is transferred to Mr. Featherstonhaugh. I was delayed here; 120 points rain.

JAMES W. BOULTBEE,  
Inspector of Public Watering Places.

Bourke, 13th October, 1886.

The Chief Inspector of Public Watering Places, Mines Department, Sydney,

Tindarie and Cuttgullyaroo Tanks.

Sir,

Department of Mines, Sydney, 16 March, 1885.

I have the honor to inform you that the flume at Tindarie Tank has been reported as displaced and floating, and request that it may be attended to with the least possible delay. Tanks & Wells, 85-744.

I have, &c.,  
HARRIE WOOD,  
Under Secretary.

The Under Secretary for Public Works.

Roads.—J.R., B.C., 20/3/85. Mr. Wood.—W.C.B., 21/3/85.

This so called flume is a box shoot through which the tank excavation is intended to be filled, the water being above the natural surface. The shoot having been insufficiently fastened down has floated; this is no injury as things stand, nor can it be repaired until water level is very much lower.—A.P.W., 23/3/85.

I observe that every trivial complaint as to these tanks is made the subject of a special formal letter; I think that the replies and explanations should be also formal letters. In this case had the caretaker done his duty, this accident could not have occurred.—W.C.B., 23/3/85.

The Under Secretary, B.C. Forward to Mines.—F.A.W., 27/3/85. Under Secretary for Mines, B.C., 27/3/85. Mr. Gilliat.—A.B., B.C., 30/3/85.—J.R.

Sir,

Department of Mines, 16 March, 1885.

I have the honor to inform you that the flume at Cuttgullyaroo Tank has been reported as displaced, and floating, and request that it may be attended to with the least possible delay. Tanks & Wells, 85-744.

I have, &c.,  
HARRIE WOOD,  
Under Secretary.

The Under Secretary for Public Works.

Roads.—J.R., B.C., 20/3/85. Mr. Wood.—W.C.B., 21/3/85. The remarks as to Tindarie shoot, apply to this case.—A.P.W., 23/3/85. All my remarks on 85-2,145, apply in this case. A formal letter should be written.—W.C.B., 23/3/85. Under Secretary, B.C. Forward to Mines.—F.A.W., 27/3/85. Under Secretary for Mines.—J.R., B.C., 27/3/85. Mr. Gilliat.—A.B., B.C., 30/3/85.

A copy of these minutes should be sent to Mr. Cotton, who will report if there is evidence to show that the caretaker has failed in his duty as stated by the Commissioner and Engineer for Roads and Bridges.—H.G., B.C. 3/4/85.

Send copy and ask.—A.B., 11/4/85. Letter and copy to Mr. Cotton.—17/4/85.

Sir,

Cobar, 25 April, 1885.

I have the honor to acknowledge receipt of your letter (tank, 85-744), accompanied by a copy of minute made by the Commissioner for Roads to Mr. Assistant-Engineer Wood, re the displacement of flumes at Tindarie and Cuttgullyaroo Tank, and complaining of neglect on the part of the caretaker. Tanks & Wells 85-1,000.

In reply I have the honor to inform you that no blame can be attached to the caretakers for their displacement. The flume in the first place was insufficient for the purpose for which it was intended, and was not properly fastened down.

Mr. Assistant-Engineer Wood admits so much in his minute. I quite agree with Mr. Wood that as things stand, the displacement is no injury, and does not in any way take from the usefulness of the watering places. Water has been conserved over the surface of both tanks for the past eighteen months, and it is now very probable that the water level will never be low enough to replace the flumes; in fact, they are now rendered unnecessary. The displacement was reported in an ordinary way in answer to question No. 3 of my report on tanks.

The caretaker at each of these tanks I have never found neglecting their duty, and in this case I am convinced that no exertion on their part could have prevented the flumes from being displaced.

I have, &c.,  
JAMES COTTON,  
Overseer of Tanks, Cobar.

The Chief Inspector of Stock, Stock Branch, Department of Mines.

Mr. Gilliat.—A.B., B.C., 27/4/85. Copy for Works.—15/5/85. Letter and copy of report to Works.—19/5/85.

Tanks & Wells,  
85-1,450.

Sir,

Referring to your B.C. communication of the 27th March last, *re* the displacement of flumes at Tindarie and Cuttygullyaroo Tanks, I have the honor to forward you herewith copy of report by Mr. Overseer Cotton on this matter, showing that no blame can be attached to the caretakers.

I have, &c.,

HARRIE WOOD,

Under Secretary.

The Under Secretary for Public Works.

Roads.—J.R., B.C., 22/5/85. Mr. Wood.—W.C.B., 23/5/85. These flumes are going to be removed, and when the level of water in tanks admits, further provision will be made.—A.P.W., 8/6/85. Under Secretary for transmission to Mines.—W.C.B., 8/6/85. The Under Secretary for Mines.—J.R., B.C., 10/6/85. Mr. Gilliat, B.C., 11/6/85.

Mr. Cotton should, I think, be informed that the caretakers are not thought to blame by this Department, and as the charge against them by the Works appears to be withdrawn, no further action is necessary, and the papers may be put away.—H. GILLIAT, B.C., 15/6/85.

Inform.—A.B., 18/6/85. Letter to Mr. Cotton. 22/6/85.

Sir,

Stock Branch, 22 June, 1885.

Referring to your letter of 25th April, *re* the displacement of flumes at Tindarie and Cuttygullyaroo Tanks, and stating that no blame can be attached to the caretakers, I have the honor to inform you that the caretakers are not considered to blame by this Department, and the charge against them by the Department of Works appears to be withdrawn.

I have, &c.,

ALEX. BRUCE.

James Cotton, Inspector of Stock, Cobar.

Sir,

Tanks & Wells,  
85-3,003.

I have the honor to acknowledge receipt of your letter, tanks 85-1,450, informing me that the charge of carelessness made by the Department of Works against the caretakers of the Tindarie and Cuttygullyaroo Tanks has been withdrawn.

I have, &c.,

JAMES COTTON,

Overseer of Tanks.

The Chief Inspector of Stock.

Ivanhoe Tank.

Sir,

17 February, 1887.

I have the honor to forward herewith an extract from a communication from Mr. Overseer Yeo, Ivanhoe, with a request that the necessary action may be taken.

I have, &c.,

HARRIE WOOD,

Under Secretary.

The Under Secretary for Public Works.

Roads, B.C., 18/2/87. Mr. Wood.—W.C.B., 19/2/87. Should be sent to Mr. Stillwell for report.—A.P.W., 21/2/87. Mr. Stillwell.—W.C.B., 21/2/87. Report attached.—A.W.S., 24/2/87.

Extract from Communication of 8th February, 1887, by Mr. Overseer Yeo, Ivanhoe.

P.W.P.,  
87-626.

I beg to report, for your information, that the inlet pipe and valve at the Ivanhoe Tank is not large enough to carry the water into the main tank from the silt tank, on the south-west side, consequently the water overflows across the main road into a tank owned by Mr. R. Elliott, who has been supplying a great quantity of travelling stock with water from his tank, which water should have been in the Government tank. I would beg to suggest that some alteration be made to this inlet as soon as possible.

JAMES YEO,

Overseer, Public Watering Places.

Report by Mr. Road-Superintendent Stillwell on Ivanhoe Tank to the Commissioner and Engineer for Roads.

Ivanhoe Tank.—Yeo's Report *re* Inlet.

Sir,

Hay, 24 February, 1887.

P.W.P.,  
87-1,213.

Referring to 87-148, attached. The main inlet of this tank is a 5 feet by 2 feet open shoot on the upper or eastern side, which affords an ample duct for the water brought in by the drains on that side. On the lower side, the western, of the tank has command of an increased shed, owing to its lower level. Subsidiary drains, almost parallel to, and some chains below the main drains, were provided, the inlet from these being a 12-inch pipe through the embankment. This, as the shed for this side is very limited, suffices, if the small embankment on the lower side of the silt tank, which is only required in very heavy falls, is kept intact by the caretaker.

It is, I surmise, owing to want of attention here that there has been a loss of water. Even so, there could not have been the great loss reported by Mr. Yeo if the drains on the upper side were clean throughout. Certainly no alteration of the inlet pipe, as Mr. Yeo suggests, is advisable.

I have, &c.,

A. W. STILLWELL.

Mr.

Mr. Stillwell.—W.C.B., B.C., 28/2/87. Mr. Scott, copy Mr. Stillwell's report, also on general complaint, and re-submit both.—W.C.B., 9/3/87. Also my last minute and Mr. S.'s reply.—Copy made.—10/3/87. I forward this report, which shows that cause of complaint is not with this Department.—W.C.B., 10/3/87. Under Secretary, B.C. Mr. Stillwell make alteration at once.—W.C.B., 28/2/87. I could not have made myself understood. I reported that no alteration is advisable. Attention on part of careraker being all that is requisite.—A.W.S., 7/3/87. The Under Secretary for Mines.—J.R., B.C., 12/3/87.

Sir,

16 March, 1887.

Mr. Stillwell emphatically states that he does not consider it advisable to make any alteration to the iron inlet pipe at the Ivanhoe Tank, and he further refers to the main flume, which was not brought into question by Mr. Yeo at all, and says it is evidently owing to want of attention that the iron inlet pipe does not carry all the flood-water into the tank. The drains are large wide drains, 6 feet by 12 inches deep, and discharge into silt tank, from which the inlet pipe, 12 inches in diameter, is supposed to carry all the water from them into the tank. It is simply a case of two into one will not go, and the water consequently banks up and flows into Elliott's tank.

P.W.P.,  
87-1,232.

He furthermore states that if the upper level drains—which are quite distinct from the lower one, and I cannot see how they can affect the question, since no loss of water is reported from that side—were kept clean there would not have been the great loss of water reported by Mr. Yeo.

The drains were either clean or in course of being cleaned at the time of my inspection of this tank, to my report upon which I here refer. The upper level drains are badly graded, and at one point, nearly half a mile from the tank, a cutting 3 feet deep or more is required to bring the water into the tank.

This, Mr. Stillwell commenced to do, and, on the transfer of the tank to us, he instructed our caretaker to complete, but having in view the more urgent work required at the tank I instructed him to leave it.

The cutting I think should have been done by the Department whose carelessness rendered it necessary.

I have always found caretaker Playford's work good, and can see no reason whatever for Mr. Stillwell's assertion that care and attention was required.

It is evident I think that the inlet pipe cannot meet the demands made upon it by an extraordinary fall of rain, and it is a matter for consideration whether alteration is advisable.

I have, &c.,

JAMES W. BOULTBEE,

Inspector, Public Watering Places.

The Chief Inspector, Public Watering Places.

Copy minute of Chief Inspector of Watering Places.

Iron Inlet Pipe to Ivanhoe Tank.

16 March, 1887.

THIS appears to be another case similar to those that are now so frequently occurring, in which the reports of repairs that appear necessary at public watering places, on being forwarded to the Department of Works, are treated as complaints, and become the cause of what I venture to think are entirely unnecessary correspondence.

P.W.P.,  
87-1,247.

Putting aside all irrelevant matter, Mr. Stillwell assumes apparently that if the drains were kept clean, and the small embankment at the lower silt tank intact the 12-inch inlet pipe to the main tank would be sufficient, but does not show that the drains are not clean or the embankment not intact. As a matter of fact, the cleaner the drains the greater the amount of water delivered, and the more work thrown upon the inlet pipe.

This paper may perhaps be considered by the Honorable the Secretary for Mines, in conjunction with those recently submitted, as pointing to the desirability of placing the construction and maintenance of the public watering places upon a footing where the work to be done may be carried out promptly and economically by officers directly responsible, and not under a divided control, with but an indirect responsibility.

HARRY GILLIAT,

Chief Inspector, Public Watering Places.

Submitted for approval.—H.W., 21/3/87. Approved.—F.A., 22/3/87. Ask Mr. Yeo if small embankment on lower side of western silt tank has always been kept up and in good order.—H.G., 16/3/87. Wire sent, 16/3/87. Embankment has been kept up on lower side silt tank, and is in good order.—JAMES YEO., Overseer, Public Watering Places, Ivanhoe, 16/3/87.

Sir,

Ivanhoe, 8 September, 1887.

Referring to B.C. document herewith returned relative to batters under fluming, and fencing Ivanhoe tank, I have the honor to inform you bags have some time ago been placed here by caretaker, but owing to batters being so steep earth from under them gets washed away.

P.W.P.,  
87-4,510.

I would recommend that 40 sheets 20 B.W.G. galvanized iron, and 400 feet lineal 4 x 3 gun timber be got for this, so as when the water falls it can be sunk into batters well rammed, nailed to side of shoot and inside filled up with earth.

This appears to be an expensive remedy. Send me a sketch plan and section.

The fence is now all erected, but no gates. Ere long fresh posts will require to be got, as already some of them are splitting, owing to being split pine, and having wire strained to them instead of the usual and practical method of erecting wire fences.

I have, &c.,

JOHN LOW,

Inspector, Public Watering Places.

The Chief Inspector, Public Watering Places.

This

This is not very clear; apparently there are no straining posts, but there are no data to account for the defective character of the fence. In making such a report the defects should be distinctly pointed out.—H.G., 13/9/87. Mr. Low, B.C.

Extracts from Report A1 by Mr. Overseer Yeo, Ivanhoe, for 21st July, 1887.  
Ivanhoe Tank.

Ivanhoe District, 21 July, 1887.

P.W.P.,  
87-3,642.

The batters on the east side of the tank round the fluming have caved in a good deal. The caretaker has procured some bags and filled with earth and rammed them under the fluming.

\* \* \* \* \*  
The fence round the tenant's lease is not yet completed. About three-quarters of a mile of posts have been put in since my last report, but there is still about a quarter of a mile of posts to be put in, and which have to be carted from Kajulijah.

There appears to be a great waste of time over this fence. It was supposed to be finished and ready for transfer within a fortnight when I last reported on this tank.

JAMES YEO,

Overseer of Public Watering Places.

Mr. Inspector Low.—H.G., B.C., 30/7/87.

Inspector Low's report as to batters under fluming and fencing at Ivanhoe Tank.

Sir,

Ivanhoe, 27 September, 1887.

P.W.P.  
87-5,047.

Referring to B.C. document, 13/9/87, re batters under fluming and fencing, Ivanhoe Tank, herewith returned, I have the honor to enclose sketch,\* which I trust will give the required information.

The posts at side of shoot are 6 in. x 4 in. and 6 ft. apart, as far as I can find out, above present water. The space between shoot and outside of post is 4 in.; this I propose filling up with one piece, 4 x 3 in., so as to get even surface to nail iron to. It would also be well to have bottom of iron nailed to 4 x 3 piece.

Water is now down 9 ft. from commencement of water washing or top of excavation, and in some places ground is washed away from under shoot to quite a depth of 2 ft., and as the posts of shoots were originally 2 ft. 6 in. in the ground, their hold now must be very small; indeed iron ought to be sunk quite 1 ft. in solid ground, in which case two widths of iron would be required.

I may here add that the ground from underneath shoot, on west side of main tank, is also washed away to a depth of one foot, so far as at present can be discovered, and that the material recommended to be got by me was intended to make both shoots secure.

Of course I cannot say if the washing away continues to bottom of excavation, but it continues under the present level of water, so far as I can discover, and, should it continue to the bottom, all the iron mentioned in my report of 1st September will be required, should it be decided to protect shoot in manner proposed by me.

The proposed ought to be commenced from bottom of water wash, as, if commenced from top, it would be almost useless, and liable to be torn up, until finished, unless made much stronger. All the material mentioned in my letter may not be required, but it may; and I would strongly urge that everything be ready for repairing this as the water falls, there being no appliances here for keeping water out, neither do any of the local storekeepers keep the required material in stock.

The remedy may appear expensive, but the mistake is in having 1½ to 1 batters in ground such as this, which any practical man might have seen would not stand.

Fencing.—The cause of posts splitting is that they are split pine posts, which, unless much stronger and at least 4½ in., are liable to commence splitting by insertion of pin to hold wire while fastening it, when one wire is strained on them, i.e., one wire round one-half of post, other wire round other half, causes a strain which, in some instances here, the posts have been unequal to, and are splitting.

I have, &c.,

JOHN LOW,

Inspector of Public Watering Places.

P.S.—I may add that that the fresh posts that will require ere long to be got, referred to in my report of the 1st September, are those that are splitting on account of wire being strained on them.—J.L.

Direct Inspector Low's attention to his continued neglect to comply with his instructions in all cases to give an estimate of cost.—H.G., 10/11/87.

This paper will probably be required in the return to be moved for; but in the meantime, to prevent further injury to the shoots, the material may perhaps be supplied to Mr. Low, after ascertaining the prices at which it can be procured locally in Hay and in town.—H.G., 3/11/87. The Under Secretary. Submitted.—G.E.H. (for the U.S.), 3/11/87. Approved.—F.A., 5/11/87. Wire sent, 10/11/87.

XXVI.

Baloola and Normanstone Wells.

Report of the Inspector of Public Tanks and Wells on the water supply for the road between the townships of Coonabarabran, Rocky Glen, Melally, and Gunnedah, counties Gowen, White and Pottinger.

Sir,

Walgett, 16 August, 1882.

Tanks & Wells, 82-664. \*Forwarded to Works Department, No. 83-732. Tanks and Wells, on 1/6/83. Asked to return it, 6/12/87.

I have the honor to return you herewith the joint report\* of Messrs. Mackie and Dowe, referring to sites for works for water supply on the above road, and I beg leave to submit for the consideration of the Honorable the Secretary for Mines the following recommendations for sites and for the class of works upon the same road.

The first site recommended by Messrs. Mackie and Dowe is for a well at the junction of the Mannum and Burloo Creeks, parish of Mannum, county of White, 15 miles from Coonabarabran, the site is well selected, and the indications are good for a large supply of water; the site and position of reserve I have marked in red upon the annexed tracing.

I have to further suggest that the shaft 3 ft. x 6 ft. in the clear be properly timbered and centred, and sunk as far as the water will permit, it may perhaps be advisable to bore some distance deeper, but this will depend on the supply; a frame for double whip to work two self-acting buckets should be erected with all the necessary gear complete, with wooden shoots to lead the water into a steel or iron supply tank of not less than 20,000 gallons, this to be furnished with a 4-inch pipe and tap to lead the water into 400 feet of iron troughing. Estimates are furnished in the annexe marked C.

Messrs. Mackie and Dowe submit a recommendation for a 4,000-yard tank at the second site at a point about 13 miles from Rocky Glen, parish of Garrawella, county Pottinger.

This site is 19 miles distant from the last, but I endorse Messrs. Mackie and Dowe's suggestion, it being the only spot suitable at anything approaching a convenient distance. With reference to the class of work I am unable to agree with those gentlemen, water is readily obtained by sinking in the Garrawella Run in good supply, and perfectly sweet, under 100 feet, and at the site I have marked on the annexed tracing I am disposed to think it may be obtained at less.

The same appliances will be required as recommended at site No. 1.

For their third site Messrs. Mackie and Dowe suggest a point 10 miles from Melally, and suggest a 4,000-yard tank, this point is very nearly the water-shed between Cox's Creek and the Namoi.

After careful examination I consider the point marked in red on the annexed tracing will prove the best site.

It is 4 and about  $\frac{1}{2}$  miles from Melally, parish of Melville, county Pottinger. Water will be obtained at a depth of about 100 feet, I am inclined to think, from the inquiries I have made.

The same appliances will be required as recommended at the previous sites.

My enquiries do not justify me in placing the estimates of annual stock passages at as high a rate as stated by Messrs. Mackie and Dowe, though it is probable that it will increase when direct railway communication between Gunnedah and Sydney is established. At present I should estimate it at 60,000 sheep, 2,000 cattle, 500 horses.

I may say in conclusion that tanks of the size suggested by Messrs. Mackie and Dowe, say, of 4,000 cubic yards are of no use in keeping open traffic.

There is every reason to believe that water can be obtained by sinking at a moderate depth, and wells are at once a cheaper and more durable source of supply.

I have, therefore, to recommend that these works be approved for construction.

I have, &c.,

HARRY GILLIAT,

Inspector of Public Tanks and Wells.

Alex. Bruce, Esq., Inspector of Stock, Sydney.

C.

Estimate of Cost.

	£	s.	d.
Sinking, slabbing, and centring well shaft at 25s. per foot, average depth, 90 feet ...	112	10	0
Double whip frame, buckets, and gear ... ..	80	0	0
Iron supply tank, £90, carriage £50 ... ..	140	0	0
400 feet troughing £70, carriage £20 ... ..	90	0	0
Total ... ..	£422	10	0

For three wells, say, ... .. £1,500 sterling.

- A.—Tracing herewith of road with sites and proposed reserves marked in red.
- B.—Messrs. Mackie and Dowe's report herewith.

These papers with the accompanying tracing might perhaps be forwarded to the Department of Public Works.—A.B., 21/8/82. The Under Secretary for Mines. Submitted.—H.W. Approved.—A.R., 25/8/82. The Under Secretary for Public Works, B.C., 29/8/82. Roads.—J.R., B.C., 31/8/82. Re-submit with papers relating to tank at Baradine.—W.C.B., 31/8/82. Note in list of new tanks as per list herewith.—W.C.B., 2/10/82. Three wells at £800 each, noted for estimates.—A.P.W., 3/10/82.

## Departmental Regulations.

Department of Mines, Public Watering Places, Sydney, 20 May, 1884.

Tanks & Wells,  
84-581.

In submitting the accompanying papers, I beg to suggest, for the consideration of the Honorable the Secretary for Mines, that it appears to me important to have, with the consent of the Honorable the Secretary for Public Works, the regulations between the officers of the two Departments for the settlement of the position and construction of new works of water supply, in which the Departments are jointly interested, and for the repairs to existing works, so distinctly defined that the officers of either Department may have no difficulty in distinguishing their respective duties, and also that the responsibility of the officers of each Department may be clearly understood.

HARRY GILLIAT.

I think it is desirable that the arrangements agreed upon by the Minister for Mines and the Minister for Public Works for the guidance of those officers of their respective Departments who are engaged upon works connected with inland water supply should be adhered to and enforced until others shall have been adopted, if those already made are not suitable, and that a copy of the document should be supplied to each of the officers referred to.—H.W., 19/5/84. Submitted.

I was under the impression that these duties had been clearly defined by myself, and by Mr. Bennett; is not this so?—J. P. ABBOTT, 20/5/84. I think they are defined; see accompanying papers. If Mr. Gilliat is in doubt, or if the arrangement is not being carried out, he might perhaps state in what respect.—A.B., 2/6/84.

The Under Secretary for Mines. Ask Mr. Gilliat to state in what respect the arrangement is not adhered to.—H.W., 4/6/84. Mr. Gilliat.

The sites referred to were wells, road Gunnedah to Coonabarabran. The tracings accompanying my report appear never to have come back to this Department, and, unfortunately, no copies were kept. I do not see at present how the question can be proceeded with.—H.G.

Telegram from Mr. W. D. Dowe, Inspector of Stock, to Mr. H. Gilliat, Inspector, Government Wells and Tanks.

19 May, 1884.

Tanks & Wells,  
84-595.

HAVE arranged with Mr. Mackie; will meet you in Gunnedah on the evening of the 28th instant.

W. D. DOWE.

Mr. Bruce.—It was my intention to have left on the 21st instant, but will now leave on the 26th.—H.G., B.C., 21/5/84. Submitted for the information of the Minister.—H.W., 23/5/84.

Approved. I shall be glad if Mr. Gilliat will give me a report on the wells on the road to Coonabarabran as far as Melally; I presume he will see the trough at Tambar.—J. P. ABBOTT, 24/5/84. Mr. Gilliat.—A.B., B.C., 26/5/84.

Telegram from Mr. H. Gilliat to Mr. T. H. Myring, Stock Branch, Department of Mines.

8 June, 1884.

RETURNING please get my report and tracing of road from Gunnedah to Coonabarabran from Works Department—Urgent.

HARRY GILLIAT,  
Inspector, Public Tanks and Wells.Tanks & Wells,  
84-1,186.

Will the Under Secretary for Works be good enough to furnish answers to the enclosed questions?—G.E.H. (for U.S.), B.C., 25/9/84. Roads.—J.R., B.C., 26/9/84. Answers herewith. Under Secretary. Copy handed to Minister for Works to reply in Parliament as requested.—30/9/84. Under Secretary for Mines.—W.F. (for U.S.), B.C., 30/9/84. Answered by Secretary for Works.—30/9/84.

## LEGISLATIVE ASSEMBLY.

30 September, 1884.

## Question:

Mr. Dangar to ask the Secretary for Mines:—

1. Has the Government contracted for the further sinking of the wells at Baloola and Normiston, on the Gunnedah to Coonabarabran Road: if so, at what rate?
2. Was the work let by tender?
3. Are those wells on the sites selected by the gentlemen appointed for that purpose?

## Answer:

1. Yes; at £5 10s. per foot through basalt; but the contractor is refusing to proceed.
2. Yes, in the first instance; but original contractor failing to deal with the rock, the work was taken out of his hands, and the few remaining feet let to a highly recommended man who now declines to proceed.
3. Yes.

Department of Mines, Stock Branch, 3 October, 1884.

Tanks & Wells,  
84-1,216.

BALOOLA WELL.—I examined the site of this well on the 17th June, 1884, but the works not being completed reserved my report. I find from my journal of that date.

The position chosen is about a quarter of a mile from where I would have put it; the shaft has been sunk on the shoulder of the hill, and is now down 94 feet; 9 feet of stiff clay, 5 feet of sandstone, the remainder basalt; no water; on the flat below in the black soil water is usually obtained at from 80 to 100 feet; the station, I think, has a well in the neighbourhood.

Normanstone Well.—This shaft has been sunk 4 miles from the site selected by me on Basin Plain.

Under the arrangements between the Department of Mines and that of Public Works, the former is to select the general position, the latter to fix the exact site.

H. GILLIAT.

Submitted.

Submitted.—A.B., 6/10/84. The Under Secretary for Mines. Submitted.—G.E.H., (for U.S.), 6/10/84. I would like to direct the attention of the Secretary for Public Works to the answers given in the Assembly, and to this report, which shows, I think, that the Works Department have not carried out the regulations as to the fixing of sites.—J. P. ABBOTT, 8/10/84.

The Under Secretary, Public Works, B.C., 9/10/84.

Sites of Watering Places between Gunnedah and Coonabarabran.

Sydney, 15 October, 1884.

MR. GILLIAT states that at the Baloola and Normanstone Wells, the sites selected have been deviated from. The Road Superintendent was instructed to adhere as closely as possible to the sites marked out by the Stock Inspectors, and which it was understood were approved of by Mr. Gilliat. A copy of the instructions from this office and of the tracings furnished by the Mines, transmitted therewith, are attached. Tanks & Wells,  
84-1,290.

The Baloola Well was placed at a level higher than the creek, in order to get favourable ground for troughing, otherwise it is sunk as nearly as possible on the site indicated, and there can be no doubt, will have a good supply of water when completed.

The Normanstone Well is sunk near the 55-mile tree, and nearly opposite Hamilton's selection, being the approximate site shown on the tracing furnished, not 4 miles from it as Mr. Gilliat states in his minute.

Mr. Gilliat in his concluding paragraph instances the arrangement between the two Departments, under which the Mines select the "general" site, and this Department the "exact" site. This in itself, should be enough to cover any difference that may possibly exist on account of approximate descriptions.—W.C.B., 16/10/84. The Under Secretary.—B.C.

[Enclosure.]

Tanks and Wells—Coonabarabran to Gunnedah.

MR. WILSON will prepare plans and specifications (copies herewith) and invite tenders for wells at the undermentioned places on the road from Coonabarabran to Gunnedah. Tanks and  
Punts,  
83-291.

1. Near the junction of the Mannam and Burloo Creeks, about 15 miles from Coonabarabran.
2. 13 miles from Rocky Glen, and 34 from Coonabarabran.
3. About 55 miles from Coonabarabran, and about 43 from Melally.

Attached is a sketch showing the approximate positions of these proposed works. Mr. Wilson will report on the necessity for extending the reserves round the wells, and forward a sketch showing any alienation interfering with such extensions.

The specifications will provide for sinking 100 feet, and intending tenderers must be instructed to give a schedule rate at which reductions from, or additions to, this depth can be valued.

Tenders must also give a separate price for service tank and for troughing,

Mr. Wilson will examine this line of country, and if he thinks any slight alteration in the sites advisable, report same to the office, giving his reasons for same, he will not, however, delay calling for tenders on this account.—W.C.B., 7/6/83.

Forward to Mines.—F.A.W., 21/10/84. The Under Secretary for Mines.—J.R., B.C., 21/10/84.  
Mr. Inspector Gilliat.—A.B., B.C., 23/10/84. Please furnish me with my report and the accompanying tracing.—H.G., B.C., 30/12/84. Report herewith.—E.W. (for A.B.), 19/1/85.

The tracing I ask for is a large one in three or four sheets, of the road from Coonabarabran to Gunnedah, upon it was marked the sites of the wells referred to. This tracing was sent with my report.—H.G., B.C., 19/1/85.

No tracing in records, thorough search made, cannot find tracing.—S.M., 22/1/85. Mr. Gilliat.—A.B., B.C., 24/1/85. Has inquiry been made at Works?—H.G., 27/1/85. Enquiry made at Works, no record of tracing.—S.M., 31/1/85.

Mr. Gilliat.—If tracing of reserve were obtained, could not the sites selected by you be marked on it?—A.B., B.C., 20/3/85. Yes; but will not be evidence as to the original.—H.G., 21/3/85. The Chief Draftsman.—Please supply tracing required.—A.B., B.C., 23/3/85. Mr. Gilliat, with tracing.—A.B., B.C., 30/3/85.

Telegram from Mr. Arthur P. Wood, Assistant Engineer, to Mr. D. L. Wilson, Road Superintendent.

24 September, 1883.

PLEASE send at once a tracing showing position of proposed tank, 15 miles from Baradine, at Holders, and of the three wells being constructed between Coonabarabran and Gunnedah. Tanks & Wells,  
83-1,555.

A. P. WOOD.

Papers re tank near Holders returned Head Office, 7 October, 1883. Sketch of wells, &c., on Gunnedah Road herewith.—D.L.W., 10/10/83. Mr. Wood.—W.C.B., 13/10/83.

This might be forwarded to the Mining Department, requesting them to have steps taken to define the boundaries of special leases at these wells, so that the necessary fencing can be arranged, for while these works are in hand.—A. P. Wood, 16/10/83. Under Secretary for transmission.—W.C.B., 17/10/83.

Forward to Mines.—F.A.W., 18/10/83. The Under Secretary for Mines.—J.R., B.C., 19/10/83.  
Mr. Gilliat.—A.B., 26/10/83.

Approximate



Pending completion Normanstone Well I think your information is all that can be given, likewise with regard to Tambar Springs.—D. L. WILSON, R.S., 7/8/85. Mr. Dowe, B.C. Mr. Bruce,—Mr. Road Superintendent Wilson's memo. forwarded for your information.—W.D.D., 13/5/85.

#### Normanstone Well.

The Overseer of Public Tanks and Wells, reporting on proposed new works.—Road—Gunnedah-Coonabarabran; Situation—Collygrah Creek and Post Town, Gunnedah; Reserve (nature and No.)—T. S. Reserve, No. 1,549; Parish—Collygrah; County—Pottinger. Tanks & Wells,  
85-374.

#### Questions:

1. Name of road, its commencement, termination, and length? Coonabarabran Road; commencing at Gunnedah, and leading to Mudgee and Sydney.
- 1½. If in or near a town give the number of inhabitants in the town and neighbourhood, and the number which would likely have to depend on watering place in dry weather? Gunnedah the nearest town, 12 miles distant.
2. Extent and description of annual traffic:—1. general; 2. stock, and probable increase or decrease? 400 drays, 100,000 sheep, 5,000 cattle, and 500 horses.
3. The direction of the traffic:—1. where from; 2. by what roads, and 3. its destination? Sydney; from Liverpool Plains; Gwydir and Queensland; Sydney.
4. The site of proposed new watering place—its position, and how marked? Site already chosen; works in course of erection.
5. The distance from nearest watering place, or permanent natural water on each side? 14 miles from Gunnedah, 58 from Coonabarabran.
6. The natural features, description and suitability of proposed site, with rough sketch of creeks, lagoons, roads, reserves, &c., &c. Say also the nearest natural supply and its extent and permanency? Site chosen is on the left bank of Collygrah Creek on travelling stock reserve, 1,549. Namoi River at Gunnedah, Castlereagh River at Coonabarabran.

#### *If a tank.*

7. The length, width, depth, and capacity? Nil.
8. The height of the embankment, its length, form, and construction? Nil.
9. Any other remarks with regard to tank, its site, dimensions, or capacity? Nil.
10. Estimate of cost of work? Nil.

#### *If a well.*

11. Whether it should be sunk or bored, or partly sunk or partly bored? This well is now down 100 feet, and I believe the Works Department now intend boring.
12. Any other remarks in regard to well or on its use? Nil.

#### *Watering appliances.*

19. Description of pump—its advantages, delivery, and position? Nil.
20. Description of whip—its advantages, delivery, and position? Tenders and specifications are accepted for whips, &c., but as I have not seen them cannot give any information.
21. Description of horse-works or whip-gear and position? Tenders and specifications are accepted for whips, &c., but as I have not seen them cannot give any information.
22. Windmill—Description and size? Nil.
23. Supply tank—Sort, size, position, construction, and estimated cost? Have not seen specification, so cannot give size, &c.
24. Pipes and connections—Extent, size, &c.? Not having seen the specifications of the work am not in a position to give the answer asked for.
25. Troughing—Sort, size, position, extent, &c.? Not having seen the specifications of the work, am not in a position to give the answer asked for.

#### *Fencing.*

26. Description, position, extent, and cost per rod (with sketch)? Not having seen the specifications of the work, am not in a position to give the answer asked for. The specification for fencing I hear is also out, but not yet accepted.
27. Gates—Their number, description, position, size, fastenings, and cost per gate? Not having seen the specification of the work, am not in a position to give the answer asked for.

#### *General.*

28. Reasons for proposing the sort of work recommended in preference to either of the others? Nil.
29. Chances of letting when constructed, and rental? To let by tender would be the better way. I fancy this could be done without much difficulty.
30. Extent and position of reserves required for use of tenant, and in connection with the watering place for the use of travellers, teamsters, and drovers' stocks? 200 acres have been surveyed.
31. The description of the land and its grazing capabilities; whether or not it is fenced; whether there is a caretaker's cottage; if so, describe it? Box forest, with a few pines; about four acres to the sheep: it is not fenced; there is no caretaker's cottage.

Tamworth, 21st February, 1885.  
The Inspector of Public Tanks and Wells, Sydney.

WILLIAM D. DOWE,  
Overscer of Public Tanks and Wells.

## Baloola Well.

The Overseer of Public Tanks and Wells, reporting on Baloola Well.—Road—From Coonabarabran to Gunnedah. Situation— miles from Coonabarabran and Post Town, Coonabarabran.—Reserve, nature and No.—No. 841 (special lease).—Parish of Goally.—County of Pottinger.

Tanks & Wells,  
85-858.

## Questions :—

1. Name of road, its commencement, termination, and length? Coonabarabran to Gunnedah, 67 miles.
- 1½. If in or near a town give the number of inhabitants in the town and neighbourhood, and the number which would likely have to depend on watering place in dry weather? No population in the vicinity to depend on this source for water in dry weather.
2. Extent and description of annual traffic—1, general; 2, stock; and probable increase or decrease? General traffic inconsiderable, consisting of haulage of goods from railway station, and of wool and other produce to railway station, and light vehicle traffic; a considerable annual stock traffic, but there has been a perceptible decrease during the last few years, and there is likely to be a further decrease as the railways extend inland.
3. The direction of the traffic—1, where from; 2, by what roads; and 3, its destination? Stock traffic from Victoria and south-western portions of New South Wales to New England, Queensland, &c., and *vice versa*.
4. The site of proposed new watering place; its position, and how marked? Well already sunk 100 feet and no water obtained. Between Melally and Rocky Glen, 200 acres measured and marked as a special lease. Sketch herewith.
5. The distance from nearest watering place or permanent natural water on each side? 13 miles from Rocky Glen, and 8 miles from Melally, which places are private wells.
6. The natural features, description, and suitability of proposed site, with rough sketch of creeks, lagoons, roads, reserves, &c. Say also the nearest natural supply and its extent and permanency? Undulating basaltic ranges, with precipitous rocks northerly from well; box and apple; very suitable holding ground for tank (sketch herewith); also creek. Melally contains a sufficient supply in ordinary seasons, but is not permanent.

*If a tank.*

7. The length, width, depth, and capacity? A well in this instance.

*If a well.*

11. Whether it should be sunk or bored, or partly sunk or partly bored? Well sunk 100 feet, but no water obtained. I should recommend that a boring rod be used if practicable, in order to ascertain whether water can be obtained on the site chosen.
12. Any other remarks in regard to well or on its use? A tank would have been the best and most inexpensive in this instance, as formerly recommended.
21. Description of horse work or whip-gear and position? Whim with necessary gearing would be best and cheapest in this instance if water is obtained.
23. Supply tank; sort, size, position, construction, and estimated cost? Tank on the ground of wood 55 ft. x 15 ft. x 5 ft. south-westerly from well, ironbark sawn timber, not completed, to be lined with 20-gauge iron.
25. Troughing; sort, size, position, extent, &c.? I should recommend iron troughing 300 ft. x 2 ft. 4 in.

*Fencing.*

26. Description, position, extent, and cost per rod (with sketch)? Top rail and six wires, No. 6, on the boundaries of 200 acres, which is measured, say 720 rods, at 5s. per rod, £180.
27. Gates; their number, description, position, size, fastenings, and cost per gate? Double gate, 12 feet span of sawn timber, southerly from well; size of each gate, 6 feet long by 5 feet high; fastening, two iron bolts with screw nuts to each gate, with hinges to hold, bolts to be fully 18 inches long, so as to pass through a gate post 18 inches in diameter; hasp and padlock to secure gate when closed.

*General.*

28. Reasons for proposing the sort of work recommended in preference to either of the others? Well commenced in this instance and sunk to a depth of 100 feet. I have already reported on this site as being most suitable for a tank.
29. Chances of letting when constructed, and rental? Very slight chance of letting, unless at a very low rental.
30. Extent and position of reserves required for use of tenant, and in connection with the watering place for the use of travellers, teamsters, and drovers stock. The description of land and its grazing capabilities; whether or not it is fenced; whether there is a caretaker's cottage; if so, describe it? 200 acres, to include the well, for tenant adjoining reserves, sufficient for travellers and drovers stock. 200 acres, principally sloping hilly basaltic open box, well grassed country, including a few dry water-courses and a small flat, very suitable for tank. Grazing capabilities, 4 acres to one sheep, unfenced, and no caretaker's cottage.

ARTHUR MACKIE,

Overseer of Public Tanks and Wells.

10th April, 1885.

The Inspector of Public Tanks and Wells, Sydney.

Subject :—

Subject:—

18 December, 1885.

Referring to your communication of the 12th instant, stating you anticipated taking delivery of the Mannum and Baloola Wells, and so requisitioned for stores for caretakers, I beg to inform you that the Department has received so far no intimation that the wells were ready for transfer, and that your action was quite right in declining to take over the Mannum Well until directed to do so. I shall be glad if you will inform me if water has been obtained at Baloola, and, if so, the quality and what quantity?

P.W.P.,  
86-16.

HARRY GILLIAT,

Chief Inspector of Public Watering Places.

Mr. A. Mackie, Overseer, Public Watering Places, Coonabarabran.

Reply:—

Observed and noted.

I am informed by A. Mosman that he obtained water at Baloola, at 106 feet; quality, good; quantity, when allowed to stand a week, 6 feet; merely a soakage from the north side.

ARTHUR MACKIE, 29/12/85.

*Re* the proposed well at Mellaly.

Department of Mines, Public Watering Places Branch,

Sydney, 3 February, 1886.

With respect to the proposed well at Mellaly, it appears from the annexed advertisements that the shaft at Baloola is to be abandoned and the head works removed to Mellaly. No well has been recommended by this Department at that township, and I think that a small tank of 12,000 cubic yards, at or near Baloola, would better meet the requirements of the Gunnedah and Coonabarabran Road. Tanks & Wells,  
86-476.

The sinking of a well has been contemplated on the road between Mellaly and Boggabri, and a report obtained and the site marked in green on water reserve 1,342 (see papers herewith); but, with the view of reducing expenses at present, the papers were held over. I cannot recommend sinking of the well as proposed, but would submit for the consideration of the Honorable the Secretary for Mines, that it would perhaps be better, in the public interest, to utilize the head works of the abandoned shaft at Baloola for a well, on the road between Boggabri and Mellaly, at the point shown on reserve 1,342, reserving the completion of the tank at Baloola until next year.

If the suggestion meets the approval of the Honorable the Secretary for Mines, the papers may perhaps be forwarded for the information of the Department of Public Works.

HARRY GILLIAT.

Submitted.—H.W., 4/2/86. Approved.—R.M.V., 5/2/86. Under Secretary Works.—H.W., B.C., 6/2/86. Inform Mr. Thompson, M.L.A., and forward to Works. Informed, 8/2/86. Roads.—J.R., B.C., 11/2/86. Mr. Wood. Urgent. Post Office, Gunnedah.—W.C.B., 11/2/86.

Would it not be better, if it is still intended to have a watering place at Baloola, to invite tenders for deepening the shaft or for boring from bottom of that sunk (100 feet)? I think there is little doubt as to water being obtained. If Commissioner agrees Mr. Wilson might be instructed to call tenders for sinking.—A.P.W., 24/2/86.

Telegram to Mr. Wilson.—W.C.B., 24/2/86. Telegram sent to invite tenders for sinking 100 feet or less if water is obtained.—A.P.W., 24/2/86.

Telegram from Mining-Surveyor John Barling to The Chief Mining Surveyor.

12 May, 1886.

LOCAL Works Officer informed me no present intention of abandoning work either at Baloola or Normanstone. Shall I, therefore, make surveys of these places? Commissioner for Roads has definite information as to works. Tanks & Wells,  
86-2,340.

Attach papers from Public Works Department relating to abandonment of Baloola, and transfer of head works to Mellaly.—H.G., 12/5/86. Mr. A. P. Wood informed me that the Works Department had no intention of abandoning either of these wells.—S.M., 12/5/86.

The survey should proceed both at Baloola and Normanstone.—H.G., B.C., 12/5/86. Mr. Barling informed by telegram.—E.F.P., 13/5/86.

Sir,

Stock Office, Tamworth, 27 October, 1886.

I have the honor to inform you that on 21st instant I inspected Normanstone Well, on the road from Gunnedah to Coonabarabran. The depth at present is 106 feet. Two men were working on date of inspection who have taken a contract from the Roads Department to deepen it 74 feet. At present there is a supply of about 5 feet of water in the well. Tanks & Wells,  
86-5,095.

I have, &c.,

W. D. DOWE,

Overseer of Public Watering Places.

The Chief Inspector of Public Watering Places, Sydney.

Normanstone Well.

Sir,

Department of Mines, Public Watering Places, Bourke, 27 August, 1887.

I have the honor to inform you that, owing to this well being beyond any of the works I was instructed to report on, I did not visit it. Mr. Overseer Mackie informed me that the work was still in an unfinished state; and I was unable to see the Superintendent for Public Works, as he was absent during the time I was in Coonabarabran.

P.W.P.,  
86-4,228.

I have, &c.,

F. MACKENZIE,

Acting Inspector of Public Watering Places.

The Chief Inspector of Public Watering Places.

Sir,

P.W.P.,  
87-6,006.

Sir, Coonabarabran, 8 November, 1887.  
I have the honor to inform you that I have inspected Baloola Well, which is now abandoned. The shaft is 145 feet deep, and has 70 feet of water in it, which I am informed is only rain-water, no water having been struck at the time of sinking. A good substantial whim has been erected, and wooden framework for supply-tank partially put up, both of which are rotting from exposure and neglect.

Stanley, the contractor, from Normanstone, is going to commence boring in a few weeks' time.

I have, &c.,  
F. MACKENZIE,  
Inspector of Public Watering Places.

The Chief Inspector of Public Watering Places.

This is one of the cases in which a well-shaft has been carried down to its full dimensions, whim and service tank erected, before it has been proved that water could be obtained. It is some years since I inspected this well; it was then—17th June, 1884—down 94 feet, 80 of which were, the contractor informed me, through basalt and no water.—H.G., 18/11/87.

The Under Secretary, for the information of the Minister.—H.W., 25/11/87. Approved.—F.A., 25/11/87.

P.W.P.,  
87-6,007.

Sir, Coonabarabran, 8 November, 1887.  
Referring to your letter of 25th October, I have the honor to inform you that I have inspected Normanstone Well. The shaft, 5 ft. 2 in. x 2 ft. 6 in., has been sunk to a depth of 180 feet, and a small quantity of water obtained—good stock water, slightly brackish.

Stanley, the contractor, is now timbering the shaft, which he will finish in a few days' time, and he is then going to bore, and is very sanguine of striking a large supply of water in a few weeks. Coal was struck a few feet above where the present water was tapped.

I have, &c.,  
F. MACKENZIE,  
Inspector of Public Watering Places.

The Chief Inspector of Public Watering Places.

Tanks & Wells,  
84-1,202.

NOTE.—Baloola and Normanstone Wells were notified by the Works Department on 25th September, 1885, to be ready for transfer to this Department in January, 1886. The transfer has not been effected yet, nor is it likely to be for considerable time to come.—J.W.B., 7/12/87.

## XXVII.

### Papers *re* Transfers.

#### Transfer of Mulga No. 5, Mulya, and Bendemere Tanks.

##### Roads.

##### Sixty-four-mile Tank, Louth to Cobar Road.

Sydney, 16 December, 1885.

P.W.P.,  
85-4,748.

THE Chief Inspector of Public Watering Places should be informed that the tank at the 64-mile, on the road from Cobar to Louth, will be ready to hand over early in January, and he might be requested to instruct the local stock inspector to meet Mr. Coleman, the Road Superintendent, and arrange for transfer when work is completed.

ARTHUR P. WOOD.

The Commissioner for Roads, B.C. Under Secretary for transmission.—W.C.B., 16/12/85.  
The Under Secretary for Mines.—J.R., B.C., 19/12/85. Inform Mr. Overseer Mallon, and instruct him to arrange with Mr. Coleman as to date of delivery. Mr. Mallon should be furnished with the forms of receipts and statements required.—H.G., 22/12/85. Mr. Mallon informed,—24/12/85. Works informed.—29/12/85.

This paper was discovered by Mr. Boulbee yesterday, in searching for papers in connection with the inquiry. Having been incorrectly registered by a former record clerk, it was lost sight of when papers were being collected in connection with Mr. A. P. Wood's charges of delay in the transfer of Mulga No. 5, Mulya, and Bendemere tanks, *vide* 87-6,475; but the contention of the minute of the Chief Inspector of Public Watering Places, 87-6,475, is not affected by the finding of these papers.—J.S.R., 15/12/87.

Secn. These papers should now be put in their proper places.—H.G., 16/12/87.

## Report on 64-mile Tank, Road Cobar to Louth.

Sir,

Roads Office, Bourke, 16 May, 1887.

This tank is ready to hand over to the Mines Department, all the work having been completed and in good order. The works necessary to complete throughout are weather-shed, a task for which has been let, the fencing of special lease, tenders for which will be invited upon the receipt of tracing of survey, and the construction of caretaker's cottage.

I am, &amp;c.,

J. COLEMAN.

The Commissioner for Roads, Sydney.

Mr. Wood.—W.C.B., 18/5/87. Mines might be asked for tracings of all outstanding tenants' lease areas.—A.P.W., 18/5/87. Forward to the Under Secretary for transmission to Mines. It is desirable we should have the tracings, as tenders are accepted for most of the works.—W.C.B., 18/5/87. Under Secretary, B.C. The Under Secretary for Mines.—J.R., B.C., 21/5/87.

Until the surveys have been finally dealt with by the Lands Department, it appears undesirable to forward the tracings asked for by the Department of Works. And as at present the question as to which Department is in future to be charged with this service, it may perhaps be better if further action should be suspended until the Cabinet have given their final decision.—HARRY GILLIAT, 3/6/87. The Under Secretary.

I do not see how tracings can be supplied until the surveys are made.—H.W., 4/6/87. Submitted. Approved.—F.A., 6/6/87. Inform that tracings cannot be sent until the surveys are finally dealt with by the Department of Lands.—H.G., 7/6/87. Informed, 7/6/87.

## Inspector Mackenzie's Report on Mulga No. 5 Tank.

## General Remarks.

At time of inspection there was 14 feet water in tank. Embankments were irregular, and had fallen in in several places.

P.W.P.,  
87-4,954.

Pump and engine were not in working order, and were undergoing repairs.

Contractor had not delivered tank to superintendent, but with exception of embankment, it was completed. Could not measure depth, but it is stated to be 16 feet.

## Inspector M'Kenzie's special report on site for Tank, Mulga No. 5.

Sir,

Bourke, 24 September, 1887.

I have the honor to inform you that I have made inspection of new tank on road Byrock to Gongolgon, Mulga No. 5.

P.W.P.  
87-4,955

There was 14 feet of water in main tank, and I was unable to take measurements, but Mr. Superintendent Coleman informed me it has capacity of 12,000 cubic yards, and that it is 16 feet deep. The first 2 feet of excavation is in a red loam soil, and does not appear to retain the water, the remaining 14 feet is in what appears to be an old creek bed, and is a mixture of gravel and quartz ironstone with a bottom of conglomerate which hold well.

The batter is  $1\frac{1}{2}$  to 1 which I do not consider sufficient, and in many places the water has washed under the banks and cut them away.

The embankments are placed 30 feet back from excavation, with an average height of about 10 feet and 25 feet across the top. They are very irregular, and have never been properly finished off.

The silt tank has a capacity of about 500 cubic yards, and a depth of 4 feet. The fluming, composed of wood and iron, is 4 feet wide by 2 feet deep.

Supply tank and troughing are of iron, very substantial, with a joint capacity of 30,000 gallons.

Tangye pump and engine were not in working order. An engine-house has been erected of galvanized iron, pine studs, and roof frame 12 x 12 x 10, and is at present utilised as a residence by the man left in charge for contractor.

This tank was not ready to take over at time of my inspection, but Superintendent Coleman has promised to have everything ready in a month's time, and on my next visit I shall make a full report.

I have, &amp;c.,

F. M'KENZIE,

Inspector, Public Watering Places.

The Chief Inspector of Public Watering Places.

Sir,

Bourke, 24 September, 1887.

I have the honor to inform you during my late visit to Byrock and thence to Mulga No. 5 Tank, I was unable to reach Bendemere Tank owing to floods in Barwon and Bogan Rivers, the country is submerged for miles. Superintendent Coleman informs me that it is not ready for delivery to Public Watering Places Branch.

P.W.P.  
87-4,956.

I have, &amp;c.,

F. M'KENZIE,

Inspector, Public Watering Places.

The Chief Inspector, Public Watering Places.

## Tanks and Wells. Transfer of Mulga Tank, Cobar and Louth Road.

The Mines Department might be requested to instruct their officer to arrange to meet Mr. Adam, of Cobar, and accept transfer from this Department of the Mulga tank on the Cobar to Louth Road.

ARTHUR R. WOOD.

The Commissioner for Roads.

Under Secretary for transmission to Mines.—W.C.B., 11/10/87. Forward to Mines Department. The Under Secretary for Mines.—J.R., B.C., 12/10/87.

[Telegram.]

[Telegram.]

Mr. Cotton,—Can you arrange to take over this work if in good order from the Works. If there is anything to delay you, wire your reply.—H.G., B.C., 17/10/87.

Cobar Station.

P.W.P.,  
87-5,603.

Mulya Tank is not in my district. Have pressure of work just now. Mr. Road-Superintendent Adam is absent. Writing by to-morrow's mail.

JAS. COTTON,

Overseer, Public Watering Places, 25/10/87.

The Chief Inspector of Public Watering Places, Branch, Department of Mines, Sydney.

Mulya tank is not in my district, but if the Chief Inspector wishes, I can accept the transfer and hand it over to the officer in whose district it is. Mr. Road-Superintendent Adam is absent just now, but when he returns I shall endeavour to find time to take the tank over, if so instructed.—JAS. COTTON, Overseer, Public Watering Places, 26/10/87. The Chief Inspector, Public Watering Places, Department of Mines. Mulya Tank appears to be in the Bourke District.—J.S.R., 28/10/87.

I am aware the tank is in the Bourke District, but as it is apparent we cannot depend on the services of Mr. Overseer Mallon, Mr. Cotton may perhaps be requested to effect the transfer, and to put a competent caretaker in charge, or to engage the present one, who I understand is a very good one, at our current rate of wages.—H.G., 7/11/87. The Under Secretary.

Submitted.—G.E.H., (*pro* U.S.), 8/11/87. Approved.—F.A., 10/11/87. Mr. Cotton informed, 17/11/87.

Sir,

Cobar, 23 November, 1887.

P.W.P.,  
87-6,368.

I beg to acknowledge receipt of your letter 87-5,603, instructing me to accept transfer of Mulya Tank and appoint a caretaker to take charge.

Referring to the above, I beg to inform you that I am making the necessary arrangements with Mr. Road-Superintendent Adam to make the transfer at an early date, but I trust the Department will shortly relieve me of the supervision of this tank, as I have already twenty-one P.W.Ps. under my supervision, three of which are not in my district, and that recently some large additions have been proposed to my sheep district, which will increase my work.

I have, &amp;c.,

JAS. COTTON.

The Chief Inspector, Public Watering Places Branch, Mines Department.

Inform Mr. Cotton that his services have only been required to effect the transfer.—H.G., 16/12/87. Informed, 17/12/87.

Delay in transfer of works.

16 November, 1887.

P.W.P.,  
87-6,296.  
Tanks & Wells.

As complaints have been made by the Mines as to the delay in carrying out, and excessive cost of, the works at the Public Watering Places, I would draw the Commissioner's attention to the fact that in July last that Department was requested to accept transfer of three tanks in the Bourke District—Mulya, Mulya No. 5, and Nellie's Paddock, and that up to the present time no action has been taken to carry out this request. This delay rests solely with the Mines, and has increased the charges against these works by nearly £120.

I enclose a telegram from Mr. Adam, explaining why the Mulya Tank has not been transferred.

ARTHUR P. WOOD.

The Commissioner for Roads.

I send this to the Under Secretary for information of the Minister.—W.C.B., 17/11/87. Under Secretary, B.C. Submitted for information.—J.R., 21/11/87. Forward to Mines.—J.S., 21/11/87. Under Secretary for Mines.—J.R., B.C., 22/11/87.

No communication has been received from the Works since the beginning of 1886 about Mulya No. 5 and Nellie's Paddock (Bendemeer), and none was received at all in July as to Mulya; No. 87-2,201 in this latter case was received in May, 1887.—J.S.R., 26/11/87.

The following papers on Bendemeer Tank may perhaps be obtained from the officer to whom they are marked:—87-2,144, with Inspector McKenzie, on 25/7/87; 86-2,442, with Overseer Doyle, on 7/10/86.—J.S.R., 28/11/87.

Copy of telegram sent to Mr. Adam, 14/11/87.

HAVE the Mines taken over 64-mile Tank, or instructed local officer to do so?

ARTHUR P. WOOD.

Please report dates and amounts expended in caretaking.—W.C.B., 15/11/87. From 1st Sept., 1886, amount paid for caretaking, £127 17s. 6d.—J.G.D., 15/11/87. Mines were requested to take over, 29/7/87; wages since, about £40.—A.P.W.

Telegram from Mr. Road-Superintendent Adam to Commissioner for Roads.

Cobar, 15 November, 1887.

Just returned Cobar. *Re* Mr. Wood's telegram Seventy-four-mile Tank, Mr. Gilliat instructed local officer to take over tank. He replied few days ago that it was not in his district, but would take it over from me and hand it to proper officer if instructed to do so. Mr. Cotton informs me that he has not yet received reply from Gilliat.

A. ADAM,

Road Superintendent.

Charges

Charges by Mr. A. P. Wood as to alleged delay in transfer of Mulga No. 5, Mulya, and Bendemere Tanks.

Department of Mines, Public Watering Place, Sydney, 30 November, 1887.  
Mr. A. P. Wood's minute of the 16th November, 1887, is admittedly written in retaliation of the complaints alleged to have been made by this Department as to the delay in carrying out, and the excessive cost of, their works, and not for the more legitimate purpose of discharging a public duty by having corrected an oversight or case of negligence.

P.W.P.,  
87-6,475.

Mr. A. P. Wood is, however, in error in his charge. He calls the attention of the Commissioner to the fact that in July last this Department was requested to accept transfer of three tanks in the Bourke district, the Mulya, the Mulga No. 5, and the Nellie's Paddock (or Bendemere), and that up to the present time no action has been taken. In reply I may say that in July no papers to this effect were received from the Works Department; that since the beginning of 1886 no communication has been received from it concerning the Mulya No. 5, or Bendemere Tanks; that on September 24th, 1887 (*vide* 87-4,954 and 4,955) Inspector Mackenzie reports the contractor as not having delivered the Mulya No. 5 Tank to the Road Superintendent, and on the same date that he has seen Road-Superintendent Coleman, who has promised to have everything ready in a month's time. Upon the same date, 24th September, 1887 (87-4,956), Mr. Inspector Mackenzie reports that he was unable to reach Nellie's Paddock, or Bendemere Tank, owing to floods, but that Superintendent Coleman informs him that it is not yet ready for delivery.

Two of the tanks therefore, according to the local Roads officer, are not ready for transfer two months after the date on which Mr. A. P. Wood alleges we were asked to accept delivery.

With respect to the Mulya Tank, on the 25th May, 1887, a letter from Road-Superintendent Coleman was forwarded, with a B.C., from the Commissioner asking for a tracing of the lease area to enable tenders for fencing to be called for.

Mr. Coleman's letter states the tank to be ready for transfer, but goes on to detail additional work needed to complete it; but neither Mr. A. P. Wood nor the Commissioner endorses his statement of the tank being ready for transfer.

Upon the 10th October, Mr. A. P. Wood recommends the transfer of this tank to the Mines. Owing to circumstances it was deemed advisable that Mr. Overseer Cotton, of Cobar, should be the officer to take delivery, although the tank was out of his district. Upon the 17th, he was asked if he could arrange to do so. On the 26th, he replied that Mr. Road-Superintendent Adam is absent, but on his return he will endeavour to find the time if instructed. On the 15th November, Mr. Road-Superintendent Adam wires his Department that he has returned, and that Mr. Cotton is waiting instructions. On the 17th November, Mr. Cotton was instructed.

This case, I think, very fairly illustrates the unnecessary difficulties this Department has to contend with in its intercourse with the Roads and Bridges.

HARRY GILLIAT,  
Chief Inspector, Public Watering Places.

Submitted.—H.W., 2/12/87. Seen. Copy of this report should be sent to the Secretary for Public Works.—F.A., 3/12/87. Copy sent, 10/12/87.

Transfer Ledknapper Tank.—Road Eringonia to The Culgoa.

Bourke, 16 May, 1885.  
EXAMINED this work on the 5th instant, and found everything satisfactorily completed, with the exception of pipe connections. For these, a 7 ft. x 4 in. fitting length has been ordered for the suction, and when that arrives the work will be at once finished and handed over to the local Stock Inspector.

P.W.P.,  
85-3,908.

The special lease area is fenced, and the paddock contains splendid feed and plenty of surface-water.

The Commissioner for Roads.

ARTHUR P. WOOD.

Mr. Smith.—Has this been sent? Sent on 13th inst.—W.A.S., 18/5/85. Mr. Hiles.—Note, as to be handed over.—W.C.B., 18/5/85. Noted, J.H.

Extract from Chief Inspector's Report on Ledknapper Tank.

6 June, 1885.

\* \* \* \* \*  
\* Although reported ready for transfer, I found the work in too unfinished a state to take over. \*  
\* \* \* \* \*  
\* \* \* \* \*  
\* \* \* \* \*

P.W.P.,  
85-1,410.

Original, with  
papers, re  
furning.

H. GILLIAT.

NOTE.—Mr. Gilliat in June, 1885, reported a feed-pipe required at this pump. In July, 1885, Mr. Coleman agrees he will, at his next visit, arrange for proper feed-pipe. In August, 1885, Mr. Wood reports the feed-pipe *has been made*, &c. The necessary connection does not appear to have been made until November, 1886.

Extract from 85-1,410. Report by Mr. Chief-Inspector Gilliat on Ledknapper Tank.

The pump is of an excellent pattern, with double cylinders, and driven by a small engine connected to a vertical boiler, standing on a cast-iron feed-tank, from which the inject-pipe to the boiler is fed. A feed-pipe from the service-tank to that below this boiler would be of great service, as at present the latter will have to be filled by bucket and runnel.

Stock Branch  
85-1,461.

Original with  
papers, re  
furning.

I also noticed that there was no pressure-gauge on boiler, nor any shed over boiler and engine, both of which required, at least, two good coats of paint.

I was also informed by the contractor that there were no oil-cans or fitters' tools accompanying the plant.  
HARRY GILLIAT.

It would seem very necessary that the engine and pumps should be protected by a shed. If so, the Department of Works might be asked to have sheds erected, and to make the other additions, and give the coats of paint suggested by Mr. Gilliat. It would be well also if the Works Department would in all such cases provide and leave the necessary tools and a supply of oil.—A.B., 13/6/85. The Under Secretary for Mines.

Submitted.—H.W., 27/6/85. Approved.—J. P. ABBOTT, 29/6/85. The Under Secretary for Works.—G.B.H. (*pro* U.S.), B.C., 1/7/85. Roads.—J.R., B.C., 6/7/85. Send copy this day of all to Mr. Coleman for report; re-submit when Mr. Wood returns.—W.C.B., 7/7/85. Copy sent to Mr. Coleman, 7/7/85.

The feed connection alluded to by Mr. Gilliat has been made, instructions having been given at the time. The pressure-gauge was being cleaned at the time of inspection. The sheds over machinery would be an improvement, and arrangements will be made to invite tenders for this work; but I would point out that it comes within our province as required by the Minister, and should therefore be effected by our own officers. Tools and stores can either be supplied by us or by the Mines.—A.P.W., 5/8/85.

I concur with Mr. Wood, the tools and stores required by the Mines officers should be supplied by that Department.—W.C.B., 5/8/85. Under Secretary. Forward to Mines.—F.A.W., 8/8/85. The Under Secretary for Mines.—W.F. (*pro* U.S.), B.C., 8/8/85.

Recently, in delivering several tanks at which there are steam pumps, the necessary tools, and balance stores have been handed over by the officers of the Works Department, and it would, I think, be more convenient if this practice was continued, especially as in most cases the same caretaker is employed by this Department.—A.B., 12/8/85. The Under Secretary for Mines.

Submitted.—H.W., 19/8/85. Approved.—J. P. ABBOTT, 20/8/85. The Under Secretary for Works.—H.W., B.C., 21/8/85.

In no case where steam pumps are erected have arrangements been made to protect them by sheds; it is, I think, very necessary such should be done. In Mr. Adam's district I am informed several sheds have been built by the caretakers, who, as a rule have plenty of spare time and might be supplied with the necessary brushes and material for painting engine and pump. With the exception of Kerrigundi and Booroondara steam pumps none have been provided with working material, which should consist of tallow kettle, oil feeder, cotton waste, tallow, hammer, files, chisels, hemp packing, rubber, insertion, spare water gauges, screw wrench, and castor oil. When Mr. Gilliat visited Ledknapper Tank, pressure-gauge was in Bourke undergoing repairs, which have now been effected, and the gauge fixed in position. Upon my next visit I will arrange for proper supply of feed water, the present system, as mentioned by Mr. Gilliat, not being satisfactory.—J.C., 13/7/85.

Mr. Smith.—I think Mr. Bruoker had boxes of tools fitted.—W.C.B., 17/7/85. Only a sample tool-box was made and fitted, which is now in my room.—W.A.S., 17/7/85. See me on Monday morning.—W.C.B., 18/7/85. Mr. Wood.—W.C.B., 25/8/85. Presume from this memo. that stores, &c., must be supplied by this Department.—A.P.W., 27/8/85.

We have no funds for this. Considerable sums have had to be paid from votes for this Department for caretakers' wages, pending taking over these tanks, so that, unless delayed until January, it is impossible these articles can be supplied by this Department.—W.C.B., 27/8/85. Under Secretary.

Submitted.—J.R., 29/8/85. Inform Mines.—F.A.W., 31/8/85. The Under Secretary for Mines.—J.R., B.C., 1/9/85. Mr. Gilliat.—A.B., B.C., 9/9/85. Perhaps the Works Department will give me particulars and price of sample tool-box, so that an estimate can be made of the cost.—H. GILLIAT, 11/9/85.

P.W.P.,  
85-4,248.

PLEASE ask Mr. Overseer Mallon by wire to inform me if the Ledknapper and 18-mile Tanks are ready for transfer, and how long it will be before the tanks between Brewarrina and Byrock are completed.

20 November, 1885.

H.G., 20/11/85.

Attended to.—R.W.G., 20/11/85.

Telegram from Mr. Jas. Mallon, Bourke, to Chief Inspector of Public Watering Places, Sydney.

24 November, 1885.

P.W.P.,  
85-4,277.

MR. COLEMAN informs me that all the tanks in my district will be ready to hand over about 1st new year, with the exception of those on the road Byrock and Brewarrina, contractor for those having thrown up contract. Only returned last night.

JAS. MALLON.

Ask Mr. Mallon by wire to specify by name all the tanks that will be ready for transfer by the 1st of January.—H.G., 24/11/85. Telegram to Mr. Mallon, 24/11/85.

Telegram from Mr. Jas. Mallon, Bourke, to Chief Inspector of Public Watering Places, Sydney.

P.W.P.,  
85-4,282.

HILLMAN'S Tank, Currawena Tank, Corella Tank, Waterholes, Ford's Bridge, Ledknapper, and 18-mile Tanks, Eungonia Road. Mr. Coleman says they will all be finished, but I think it is doubtful, as the work is getting on very slow. Letter by mail.

JAS. MALLON, 24/11/85.

Scen.—H.G., 25/11/85.

Telegram

Telegram from Mr. James Mallon, Bourke, to Chief Inspector of Public Watering Places, Sydney.  
STARTING to-morrow take over tanks, Cobar Road, with J. Coleman.

P.W.P.,  
86-348.

JAMES MALLON, 25/1/86.

In fourteen days.—H.G., 1/2/86.

Sir,

Stock Office, Bourke, 2 February, 1886.

P.W.P.,  
86-484.

I have the honor to inform you that, on the 25th ultimo, I had made arrangements to proceed on the following day with Mr. Coleman and take over the tanks on the Cobar Road. We were to have met Mr. Barton, of Cobar, at the Two Waterholes Tank (Mr. Barton is one of the sureties for the contractor who has failed to carry it out). Mr. Barton did not keep his appointment; and after arrival at the Two Waterholes Tank, Mr. Coleman found out that two of the tanks were not completed and would not be ready to take over for a week or more. Mr. Coleman then returned to Bourke, and the following day we started to inspect and take over the 18-Mile and Ledknapper Tanks, believing that they were all right. First day, went from here to Grass Hut, 35 miles; second day, from Grass Hut to 18-Mile Tank, *via* Nellie's Springs. On arrival at 18-Mile Tank, we found the tank perfectly dry, the caretaker having to carry water, for use, about 1½ miles. All the work in connection with this tank appears very good and substantial; but as we could not try the pump, on account of no water, I would not (until I receive notice from you to that effect) take it over without a trial with the pump. Mr. Coleman then found out that the pump at Ledknapper had not been re-stuffed according to instructions forwarded by him to engineer, and it was under these circumstances no use going to Ledknapper. We then returned to Grass Hut, 60 miles; and following day to Bourke, 35 miles.

Matters now stand thus:—Mr. Coleman has started from Bourke, with the engineer, to put the pump at Ledknapper in order, so that it will be ready in a few days. The 18-Mile Tank is dry, and, if necessary that it must be taken over, will have to be so without a trial. The tanks on the Cobar Road are supposed to be finished this week, and I, yesterday afternoon, saw a telegram from Mr. G. Barton to Mr. Coleman, making an appointment to meet him (Mr. C.) in Bourke on next Monday, and then proceed along Cobar Road, and hand over the works fully completed. Until that date arrives I cannot say whether they will be ready or not.

I have, &c.,

JAS. MALLON.

Mr. Overseer Mallon to be informed that his action with respect to 18-Mile Tank is in accordance with his instructions (Section 8, Clause 21). Ask him to suggest some local native name for 18-Mile Tank. I shall want him to make new works report on the watering places, Bourke and Cobar Road.—H.G., 8/2/86. Mr. Mallon informed, 12/2/86.

Telegram from Mr. Jas. Mallon to Chief Inspector of Public Watering Places, Sydney.

Bourke, 2 April, 1886.

THE tanks were formally handed over to lessees few days after 15th ultimo by me; they are all quite dry; could not be tested, and cannot do so until after rain. Caretaker for works still at tanks, and will not leave until I give receipt to Mr. Coleman, and cannot do that until there is water to try the engines.

JAS. MALLON.

P.W.P.,  
86-1,563.

Call Mr. Mallon's attention to the instructions with respect to this matter.—H.G., 5/4/86. Telegram to Mr. Mallon to take over works according to instructions of 31st March.—5/4/86. Request Mr. Mallon to report his action without further delay.—H.G., 14/5/86. Memo. to Mr. Mallon, 17/5/86.

Memorandum to Mr. Jas. Mallon, Bourke.

Subject:—

Be good enough to inform me what action has been taken by you *re* the transfer of Ford's Bridge, Ledknapper, and 18-Mile Tanks from local works officer.

P.W.P.,  
86-2,643.

HARRY GILLIAT,  
Chief Inspector of Public Watering Places.

Reply:—

As there is no water in any of these tanks, they have been taken over by me in accordance with your last instructions, and handed over by me to the lessees. As soon as rain comes works officer to show that pumps and appliances are all in thorough working order.

J. MALLON.

Mr. Mallon should be asked if the late rain has put water in any of these tanks.—H.G., 31/5/86. Mr. Mallon asked.—R.W.G., 7/6/87.

Memorandum to Mr. Jas. Mallon, Bourke.

Subject:—

Referring to your reply to my memo. of the 17th ultimo, stating that as soon as rain came the local works officer would show that the pumps and appliances at Ford's Bridge, Ledknapper, and 18-Mile Tanks were in thorough working order, also that you had already handed these works over to lessees, be good enough to inform me if the late rain has put water in any of these tanks.

P.W.P.,  
86-2,920.

HARRY GILLIAT,  
Chief Inspector of Public Watering Places.

Reply:—

Not enough rain yet at any of these tanks to lay the dust.

JAS. MALLON.

Bourke, 10/6/86.

Extract

## Extract from Inspector Boulton's Report on Ledknapper Tank for 7th October, 1886.

\* \* \* \* \*  
 Machinery in bad order, rusty and dirty; was not, owing to want of water, transferred to Mines, and now, from a superabundance, transfer delayed. Mr. Coleman's travelling mechanic will put it in thorough order shortly, and hand it over.

86-4,887.  
 Original with  
 Flaming papers.

J. W. BOULTBEE.

Steam-pumps at 18-mile and Ledknapper Tanks.

Department of Mines, Public Watering Places, Sydney, 10 November, 1886.

P.W.P.,  
 86-5,291.

REFERRING to my reports upon the above-mentioned tanks wherein I state that the steam-pumps have not yet been transferred to this Department, owing to the absence of water to test them with when the tanks were transferred, I now have the honor to draw the attention of the Chief Inspector to the fact that nothing has yet been done in the matter. The steam-pumps were in a very rusty and dirty condition; they will, I think, require repainting, repacking, and thoroughly overhauling. The surface water will doubtless last for a long time yet at these tanks, but I do not think it wise that this matter should be left so long unattended to.

JAS. BOULTBEE,

Acting Inspector, Public Watering Places.

Mr. Mallon has furnished no reports since his explanation of his neglect to do so on 4/4/87. No reply has been received to the repeated reminders on the within matter. The neglect to reply to the question of Hart's (Curraweena) vouchers, has been again referred to him.

J.W.B., 26/5/87.

Suspend for ten days, or until reply received re Hart's matter.—H.G., 27/5/87.

Action taken on another paper relative to non-payment of caretaker Hart's voucher. Mr. Mallon was called upon to explain his conduct, and an inquiry was subsequently held by the Chairman, Local Land Board, Bourke, papers 87-4,221.—J.W.B.

P.W.P.,  
 86-5,588.

Sir,  
 In acknowledging receipt of your letter of the 20th instant, marked P.W.P., 86-5,347, I have the honor to state the transfer will be attended to with as little delay as possible.

I have, &c.,

JAS. MALLON.

H. Gilliat, Esq.

Ask Mr. Mallon when this work is to be handed over, 20/12/86.

Asked, 21/12/86.

P.W.P.,  
 87-2,341.

Sir,  
 In reply to your letter of the 19th instant, No. 86-5,291, I have the honor to state that Mr. Road-Superintendent Coleman informed me that the steam-pumps at the 18-mile and Ledknapper Tanks, are in thorough good working order, and can be handed over to the P.W.P. Department as soon as he has time to attend to same; at present he is very busy.  
 The Chief Inspector, Public Watering Places.

I have, &c.,

JAS. MALLON.

Mr. Mallon may perhaps be directed to arrange with Mr. Coleman to take over these works, and to report fully when he does so.—H.G., 3/6/87. The Under Secretary. Approved.—H.W., 4/6/87. Informed, 8/6/87. Ask Mr. Mallon if he has yet made arrangements for the transfer.—H.G., 24/6/87. Asked, 25/6/87.

Tanks 26, 35, and 48-mile, Booligal and Wilcannia Road.

22 September, 1886.

P.W.P.,  
 86-4,619.

THE Mining Department might be informed that the pumping machinery and iron service tanks at the 35 and 48-mile Tanks have been under the charge of, and worked by, the caretakers for some months, and that Mr. Hanna, the Road Superintendent, has been instructed to obtain receipts for same from the local Stock Inspector.

Mr. Hanna reports that the 26-mile Tank will be ready to hand over in about a fortnight.

ARTHUR P. WOOD.

The Commissioner for Roads.

Under Secretary for transmission to Mines.—W.C.B., 22/9/86. The Under Secretary for Mines.—J.R., B.C., 28/9/86.

The local overseers may be, I think, instructed to put themselves in communication with Mr. Road-Superintendent Hanna, for the purpose of arranging a date to take delivery of the works.—H.G., 30/9/86. The Under Secretary for Mines. Submitted for approval.—H.W., 8/10/86. Approved.—J.F., 8/10/86. Instruct overseer, and inform Works Department.—H.G., 11/10/86. Overseer Tully and Works Department informed, 13/10/86.

Extract from Mr. Overseer Tully's reply to charges against caretaker, 48-mile Tank.

[In reference to Mr. Wood's statement, that the pumps referred to have been in charge of and worked by the Mines caretaker for some months.]

14 July, 1886.

86-3,608.  
 Original with  
 papers relating  
 to tone of  
 minutes. (See  
 86-4,619.)

\* \* \* \* \*  
 On my placing Caretaker Downing in charge of this tank, I pointed out to him that until the new pump and machinery were handed over to this Department he was not to use the watering appliances. Subsequently the contractor requested him to work the pump and fill and test the service-tank. He mentioned in a letter to me that he had done so, and that the pump did not work well. I at once wrote, instructing him not to use the machinery again under any circumstance.

Hence the disorder in which the pump was found by Mr. A. P. Wood.

M. J. C. TULLY.

Sir,

Sir,

Stock Office, Wilcannia, 4 November, 1886.

I have the honor to acknowledge the receipt of your communication of 27th October, P.W.P., 86-4,619, informing me that the pumping machinery and iron tank at 35 and 48-mile Tanks are ready to be handed over, and also the 26-mile Tank. I have seen Mr. Road-Superintendent Hanna and arranged for the transfer of these works.

P.W.P., 86-5,264.

I have, &c.,

MARK J. C. TULLY,

Overseer of Public Watering Places.

The Chief Inspector of Public Watering Places, Sydney.

Mr. Tully reminded that no notice of the transfer of 2,635 and 48-mile Tanks has yet been received from him, and that no answer has been received to telegram of 12th October last, re transfer of works at 12-mile Tank by memo.—H.G., 18/2/87.

Sir,

Stock Office, Wilcannia, 23 February, 1887.

I have the honor to acknowledge the receipt of your communication, dated 18th February, P.W.P., 86-5,264, re taking over the 26-mile Tank and machinery at the 35 and 48-mile.

P.W.P., 87-924.

On the 23rd November, I visited these tanks in company with Mr. Hanna. At the 26-mile there were several things to do,—the engine-house to be erected, which Mr. Hanna wished the caretaker employed by him to complete; therefore the transfer of this work was postponed. At the 35-mile I took delivery of the machinery, but as a new silt tank was in course of construction I delayed forwarding a statement. At the 48-mile I took over the machinery; but here also, the silt tank was not made, which was the reason for my not forwarding a statement. I regret that I should have neglected acknowledging your telegram of 12th October. I received it at Tibbooburra when out on a tour of inspection, and was under the impression I had acknowledged it from that place, and as the 12-mile Tank is not under my supervision I did not again need to refer to it.

I have, &c.,

MARK J. C. TULLY,

Overseer of Public Watering Places.

Mr. Tully may be asked by memo. to report upon completion of all the repairs at the old watering places, and upon New Works form upon the 26-mile. These papers may then be put away.—H.G., 19/4/87.

Informed.—J.W.B., 20/4/87.

Extract from Mr. Inspector Low's report on 26-mile Tank, for 26th November, 1887.

\* \* \* \* \* This tank has not yet been transferred. Mr. Overseer Tully hopes it will be in a month from now.

87-6,585. Original with fencing papers.

J. LOW.

Extract from 86-1,209, report by Mr. Overseer Tully on the 48-mile Tank.

The new steam pump and service-tank are all but completed. From actual test the depth of water in this tank is only about 6 or 7 feet, while the gauge shows 14 feet, thus there must be 7 feet of silt in the bottom.

P.W.P., 86-1,631.

I understand from the contractor for erecting pumps that a new silt tank is to be made here by Mr. Road-Superintendent Hanna's direction.

This may I think be forwarded for the information of the Department of Public Works.—H.G., 8/4/86. The Under Secretary for Mines.—Approved, H.W., 14/4/86. The Under Secretary for Works.—H.W., B.C., 15/4/86. Roads, B.C., 16/4/86. Mr. Hanna; very urgent.—W.C.B., 17/4/86. The depths quoted by Mr. Tully are correct. The new silt tank when completed will contain about 1,400 cubic yards. Steps should then be taken to have the main tank cleaned out after the first heavy rain fall, but not before.—W.J.H., 19/4/86.

This silt has been thirteen years accumulating, during great part of which time, though under Mines Department, the tank was neglected, and stock allowed to water in it. The cleaning out will be a more or less constant outlay on all these works, according to the care bestowed on them.—W.C.B., 19/4/86. Under Secretary for transmission to Mines.

The Under Secretary for Mines.—J.R., B.C., 21/4/86. Mr. Tully to note reply, and re-open case after first heavy rain.—H.G., 28/4/86. Replies noted.—M. J. C. TULLY, 3/5/86. The cleaning out of these works will I suppose have to rest with the Works Department; no further action can be taken by this Department.—H.G., 15/5/86.

Extract from 86-1,208.

Overseer Tully's report on 35-mile Tank, week ending 28th February, 1886.

The new steam pumps and service tanks are nearly finished, and will shortly be handed over by contractor. Travelling stock cannot water here, but have made temporary arrangements for watering mail horses only. As the troughing is placed on an incline, an excavation had to be made at outer end of sheep troughing to allow the trough to be laid level. This is a great cause of the trough getting sanded up in every dust storm, and only for the danger of damaging the iron in the removal I should recommend the sheep troughing to be raised 6 inches or thereabout.

P.W.P., 86-1,632.

I understand Mr. Road-Superintendent Hanna is making arrangements for cleaning out the silt, putting in new inlet pipes, giving drains a proper cleaning, &c. Therefore, until the contractor is finished I do not know how much of the necessary repairs will be left for the caretaker to do, but will see Mr. Hanna in a few days.

This should, I think, be forwarded for the information of the Public Works Department.—H.G., 8/4/86. The Under Secretary for Mines. Approved.—H.W., 14/4/86. The Under Secretary for Works.—H.W., B.C., 15/4/86. Roads.—J.R., B.C., 16/4/86. Mr. Hanna.—W.C.B., 17/4/86.

I do not know why stock cannot be watered at this tank. Mr. Tully does not state what is wrong or incomplete. When I left (end of last month) the pump was working well, and service-tank half full of water. The sand was not all cleaned away from sheep trough, but that has since been completed, and even then I think stock could easily have obtained water. If the outer end of trough was too low a little clay could have been put in trough to form a dam, and shut off water for 80 or 100 feet if necessary. With reference to raising the troughing I cannot at present recommend any alteration. It must be remembered that this sand has been accumulating for several years. When removed I do not think the caretaker will have much trouble in keeping the trough clear.

W.J.H., 19/4/86.

No date to Mr. Tully's report. It was written most likely before Mr. Hanna had completed the works he describes. It would be advisable to have dates in future.—W.C.B., 19/4/86. Under Secretary, B.C. For transmission to Mines.—P.W.O., 20/4/86. The Under Secretary for Mines.—J.R., B.C., 21/4/86 Urgent. Mr. Overseer Tully for report, B.C., 28/4/1886. To be returned.—H.G.

My report, made on the 28th February, was before contractor had finished erecting tank and steam-pump, and as proof of the correctness of my statement that stock could not water here several lots of sheep passing up only got water after paying the contractor for permission to use the watering appliances and troughs. When I reported there was no connection between the service tank and the sheep troughing, and the only way yet of filling the cattle troughing is by a temporary hose made by the caretaker and at his own expense. From the caretaker's latest communication to me I understand a telegram has been received by the contractor from one of the Departments, on receipt of which he has given permission for stock to water at the sheep troughs. Although raising the sheep troughing would be a very decided improvement, I did not recommend the outlay at present.

M.J.C.T., 3/5/86.

12-mile Tank, Booligal and Wilcannia Road.

Sydney, 25 September, 1886.

P.W.P.,  
86-4,645.

THE Mines may be informed that Mr. Hanna reports that the alterations to the 12-mile Tank on the Booligal and Wilcannia Road will be finished next week, and the local Stock Inspector should be instructed to take over and furnish the usual form of receipt.

The Commissioner for Roads.

ARTHUR P. WOOD.

Under Secretary, for transmission to Mines.—W.C.B., 25/9/86. The Under Secretary for Mines.—J.R., B.C., 28/9/86. Inform Mr. Tully by wire, and notify Works.—H.G., 12/10/86. Telegram to Mr. Tully, 12/10/86. Under Secretary Works informed, 12/10/86. Instructions transferred to Mr. Overseer Yeo, Ivanhoe, 16/10/86.

Sir,

Stock Office, Ivanhoe, 8 March, 1887.

P.W.P.,  
87-1,110.

I beg to inform you that I met Mr. Road-Superintendent Hanna by appointment at the 12-mile Tank on Saturday, 5th instant, to take delivery of new works, but as they are not completed I deferred the transfer until a further date.

The steam-pump is erected and is in good working order, but until it is tarred and painted I refused to take delivery. The contractor is completing the service-tank at once. Mr. W. H. Keast, manager for the lessees, has agreed to take charge and work the pump in its present state, but the final transfer will not be effected until the repairs are complete. There is an alteration to be made in the cattle troughing, and the ground is to be risen, so that it will be more convenient for young cattle to drink.

Mr. Hanna informs me that a contract is let for the erection of a shed over the engine and pump, but nothing is being done.

Re a caretaker's hut, I endeavoured to come to terms with the manager for the lessees to put up the caretaker's hut, but he would have nothing to do with it, as he says they do not require a hut for the caretaker. Consequently, I presume it will not be necessary to erect a hut at present at this tank.

JAS. YEO,

Overseer, Public Watering Places.

These repairs have now been in hand since the 26th July, 1886, or seven and a half months, and it appears there must be a further delay arising from alterations required to troughing, &c.—H.G., 11/3/87. Submitted for the information of the Minister.—H.W. Seen.—F.A., 22/3/87. This should be noted when the question of hutting comes up.—H.G., 14/3/87.

Memo. by Chief Inspector, Public Watering Places.

P.W.P.,  
85-4,503.

INFORM Mr. Overseer Yeo this Department has been notified that Ward's Tank, Mount Manara Road, Booligal to Wilcannia, will be ready for transfer about 21st instant, and request him to ascertain from the local officer, Department Public Works, the date upon which it will be convenient for him to make the transfer. Mr. Yeo should be supplied with the proper caretaker's books and forms, and be requested to have suitable caretaker in readiness.

Letter to Mr. Yeo, 3/12/85.

H.G., 3/12/85.

Transfer Ward's, Clare and Gunnararnby Tanks.

Sir,

Stock Office, Ivanhoe, 24 December, 1885.

P.W.P.,  
85-4,794.

I proceeded to take delivery of Ward's Tank on 22nd instant, but found on inspection that the service-tank was leaking and there was no water in the main tank to try the pump and engine to see if it was in order to take over, so I declined to take delivery. I engaged a man to take charge of the tank; and as there was no one in charge of the tank, I deemed it expedient to leave him in charge. I engaged him to commence his duties on the 22nd instant at 7s. per day. His name is William Rac.

I have, &c.,

J. YEO,

Overseer, Public Watering Places.

H. Gilliat, Esq., Chief Inspector, Public Watering Places, Sydney.

Mr.

Mr. Yeo,—1st. Please say if the local officer of the Roads Department was present. 2nd. If there was no water in the main tank, where did you get the water for the service-tank. Please report fully on Form 3 for new works sent you for this purpose.—H.G., B.C., 4/1/86.

Extract from Report by Overseer Yeo *re* Ward's Tank, Mount Manara.

24 December.

I engaged a man to take charge of the tank, and as there was no one in charge of the tank, I deemed it expedient to leave him in charge. I engaged him to commence his duties on the 22nd inst. at 7s. per day. His name is William Rae.

P.W.P.,  
86-48.

This watering place the overseer declined to take over on the ground that the service-tank leaked, and there being no water in the main tank he was unable to test the steam-pump, but as there was no caretaker on the part of the Works Department he put a man in charge. I have to submit the appointment may be approved.—H.G., 5/1/86. Submitted, and the matter may be reported to the Works Department.—H.W., 13/1/86. Approved.—R.M.V., 14/1/86. Inform Treasury and Works Department.—H.G., 15/1/86. Treasury, Works, and Civil Service Board informed.—R.W.G., 17/1/86. Authority appointment of Wm. Rae forwarded through Mr. Overseer Yeo.—R.W.G., 22/1/86. The Accountant.—E.W., 22/1/86. Noted.—F.L., 4/2/86.

Sir,  
Manara Tank, which has been forwarded to him by post.  
Mr. H. Gilliat,  
Chief Inspector, Public Watering Places, Sydney.

Stock Office, Ivanhoe, 25 January, 1886.  
I have, &c.,  
J. YEO,  
Overseer, Public Watering Places.

P.W.P.,  
86-391.

Extract from return of William Rae, caretaker of Mount Manara Tank, for week ending 31st December, 1885.

86-194.

Fence wanted very badly here, as stock is always trespassing in the paddock: it is difficult to keep them out of tanks.

WM. RAE,  
Caretaker.

Please ascertain from the local Works officer, when you inspect this tank together, what arrangements are made for fencing. I was informed by the lessee of the run that the contract was let.—H.G., B.C., 15/1/86. Mr. Overseer Yeo.

The works at this tank have been passed by the Roads Department, but I don't think it advisable to take them over until there is some water in the main tank to test the pump, &c.

The contract for fencing has been let, and the contractor, I am informed, has commenced to cart the posts.

J. YEO, 23/1/86.

Sir,  
Will you be good enough to inform me if you made any arrangements with the local Works officer to fix a time for taking delivery of the Mount Manara Tank, as desired in my letter 85/43/75. Your report states that the local officer of the Works Department had visited the tanks a few days previously. It is not desirable that a transaction of this kind should take place with only one officer present, and I fail to see how you proposed to carry out your instructions in case the tank had been in a suitable condition. I must now request you to be good enough to communicate with the Works officer, and to arrange a date at which it will be convenient for you both to meet at the tank, when the Works Department will have a representative who will be able to reply to your objections, and I request your careful attention to sec. 21 of your instructions.

Mr. Overseer Yeo, Ivanhoe.

I have, &c.,  
HENRY GILLIAT,  
Chief Inspector of Public Watering Places.

Sir,  
I beg to acknowledge your letter of the 13th of January last *re* taking delivery of Mount Manara Tank. I have not appointed a date with the local Roads officer to take delivery of this tank, as I do not deem it advisable to take delivery until there is some water in the main tank, so that the steam pump and service-tank can be tested.

P.W.P.,  
86-429.

Harry Gilliat, Esq.,  
Chief Inspector, Public Watering Places, Sydney.

I have, &c.,  
J. YEO,  
Overseer, Public Watering Places.

Inform Mr. Yeo that I wish him to report as soon as they get rain at Mount Manara, and I approve of his idea to delay taking delivery until the works can be tested.—H.G., 5/2/86. Informed, 5/2/86.

Sir,  
I beg to acknowledge yours of February 5, *re* taking delivery of Mount Manara Tank. As soon as there is sufficient water in the tank to test the works I will report to you accordingly.

86-704.

Harry Gilliat,  
Chief Inspector, Public Watering Places, Sydney.

I have, &c.,  
J. YEO,  
Overseer, Public Watering Places.

## Ward's Tank.

Sir,

Hay, 12 March, 1886.

P.W.P.,  
86-1,794.

This work is completed, and now awaits rain, that pump, &c., may be tested and the whole handed over to the Mines.

The fencing in of lease area is delayed owing to water not being procurable for the teams to draw in the posts, which have been cut for some time.

I have, &amp;c.,

A. W. STILLWELL.

The Commissioner and Engineer for Roads.

Noted.—16/3/86. Mr. Wood,—See me on this.—W.C.B., 15/3/86. This work should be taken over by Mines. Should any minor detail require attention there is a travelling mechanic to carry it out.—A.P.W., 15/3/86. Mines alone. Mr. Stillwell.—W.C.B., 15/3/86.

I have tried to effect transfer, but Mr. Yeo said his instructions were positive as to not taking over without water test of appliances. As soon as I hear that he is prepared to take over work, I will make no delay.—A.W.S., 18/3/86.

It should be noted though that I have not yet finally taken the work out of the contractor's hands.—A.W.S., 18/3/86. This absurd system of refusing to take over the works should be brought under the notice of the Minister. A paper on the same subject *re* Clare Tank has been sent on, and should be returned with action noted.—A.P.W., 22/3/86.

Much inconvenience and delay is caused by this system. It should be recollected that this branch has to keep these works in order. I think they should be taken over unless there is something radically wrong, and note on the receipt that no test has been made would be sufficient protection to the officers of the Mines.—W.C.B., 22/3/86. Under Secretary.

The Minister for Mines.—W.J.L., 10/4/86. The Under Secretary for Mines.—J.R., B.C., 12/4/86.

Extract from Mr. Bennett and Mr. A. P. Wood's Minutes on 83-1,721, *re* transfer Public Watering Places.

85-1,721.

\* \* \* \* \*  
But we can keep these works in repair pending Mr. Gilliat's arrival on the ground.

A. P. WOOD, 10/12/83.

Every possible notice will be given, and the works will be taken care of and kept in order until handed over.

\* \* \* \* \*

W.C.B., 10/12/83.

Paper 86-1,554, with Minute by Minister for Mines, directing that in future new works should be taken over from Department of Works, the officers of the Mines to report upon any alterations, &c., required, which alterations should be effected by the Works Department on notification.

This Minute was forwarded to Works Department 12/4/86, and the return of it was asked on 5/12/87.

## Circular to Overseers of Public Watering Places.

Sir,

Department of Mines, Public Watering Places Branch, Sydney, 31 March, 1886.

P.W.P.,  
86-428.

In future, upon instruction from this Department, you will take delivery of new works, reporting upon any alterations, repairs, or adjustments that may be required. These, it is arranged, will be completed by the Department of Public Works on notification.

I have, &amp;c.,

Mr. \_\_\_\_\_, Overseer of Public Watering Places. Chief Inspector, Public Watering Places.

Hay District.

Ward's and 34-mile Tanks.

Sydney, 17 May, 1886.

P.W.P.,  
86-2,518.

I HAVE to submit that the Department of Mines be requested to instruct Mr. Yeo to arrange to take over charge of Ward's and 34-mile Tanks. Mr. Wood, Assistant Engineer of this Department, will communicate with Mr. Yeo as to time. It would be well if a telegram was sent, as Mr. Yeo is in the locality. The Under Secretary, Public Works. W.C.B. 17/5/86.

Submitted.—J.R., 20/5/86 Under Secretary for Mines, B.C.

Send telegram to Mr. Yeo to take over the Mount Manara and Gunnaramby Tanks from Mr. A. P. Wood, who will communicate with him as to time. Inform the Works Department of action.—H.G. Telegram to Mr. Yeo, and Memo. to Roads, 25/1/86.

Telegram from Overseer, Public Watering Places, to H. Gilliat, Esq., Chief Inspector, Public Watering Places.

Ivanhoe Station, 22 May, 1886.

86-2,552.

I NOTE your telegram *re* taking delivery, Mount Manara and Gunnaramby Tank.

JAMES YEO,

Overseer, Public Watering Places.

The tanks have been taken over by Mr. Overseer Yeo. See 86-3,062, and 86-3,066.—H.G. Mr. Yeo may be asked if works are yet transferred, and what arrangements he has made with local Works officer.—H.G. Mr. Yeo asked.—R.W.G., 15/6/87

## Extract from Mr. Overseer Yeo's Report on Ward's Tank.

P.W.P.,  
86-138.

General remarks.—I proceeded to take delivery of this tank on 22nd December, 1885, and finding the work was not completed to my satisfaction, I declined to take delivery.

There was about 1 foot of water in the main tank, but the pipe from the pump was not long enough to reach the bottom of the tank, which prevented me from testing it. The

The local officer of the Roads Department had visited the tank a few days previous. I was away in another part of my district at the time, or would have visited the tank with him.

The water in the service-tank was from the late rains, and was covering the bottom of tank about 2 inches deep, which enabled me to detect a large quantity of leakages at the different joints and bolt-holes.  
JAS. YEO.

Sir, Stock Office, Ivanhoe, 19 June, 1886.  
I beg to acknowledge your letter dated 15th June, *re* the transfer of the Mount Manara and Gunnaramby Tanks.  
I have the honor to inform you that the Mount Manara Tank was transferred on 9th June, and the Gunnaramby Tank on 12th June last, of which reports have been forwarded.

P.W.P.,  
86-3,135.

I have, &c.,  
JAMES YEO,  
Overseer, Public Watering Places.

Harry Gilliat, Chief Inspector, Public Watering Places, Sydney.

Miscellaneous.—Roads.

Wells and Tanks.—Clare and 34-mile Tanks ready to hand over.

Sydney 31st December, 1885.

THE Mining Department might be informed that the Clare and 34-mile Tanks on the road from Balrauld to Ivanhoe are completed and ready to be handed over. The local Stock Inspector might be instructed to visit with Mr. Stillwell, and accept transfer if the work is satisfactory.

P.W.P.,  
86-61.

ARTHUR P. WOOD.

The Commissioner for Roads.

Under Secretary for transmission.—W.C.B., B.C., 31/12/85. The Under Secretary for Mines.—J.R., B.C., 6/1/86.

Instruct Mr. Overseer Yeo to arrange with the local Works officer, Mr. Stillwell, for the delivery of these watering places, and to make arrangements for caretaker, and to report fully upon the watering place and all public property there.—H.G., 11/1/86.

Inform Works.—H.G. Mr. Yeo and Works informed —R.W.G., 12/1/86.

Sir, Stock Offices, Ivanhoe, 16 January, 1886.  
Your letter of January 12th has been duly received *re* taking delivery of Clare and 34-mile Tanks. I beg to inform you that I shall proceed to take delivery of the Clare and 34-mile Tanks on Monday 18th instant with the local officer.

P.W.P.,  
86-276.

I have, &c.,  
J. YEO,  
Overseer, Public Watering Places.

The Chief Inspector of Public Watering Places, Sydney.

Sir, Stock Offices, Ivanhoe, 28 January, 1886.  
I proceeded by appointment with the assistant local Roads officer, to take delivery on the 21st instant of Gunnaramby or 34-mile and Clare Tanks; but on inspection, I found no water in the Gunnaramby Tank to test the works, and the pump at the Clare Tank would not work, so I declined to take over the Gunnaramby Tank until there is some water in the main tank, and the Clare Tank I declined to take over until the pump is put in proper order.

P.W.P.,  
86-428.

I have, &c.,  
J. YEO,  
Overseer, Public Watering Places.

The Chief Inspector of Public Watering Places.

A copy of this should perhaps be forwarded for the information of the Department of Public Works.—H.G., 3/2/86. The Under Secretary for Mines. Approved.—H.W., 4/2/86. Letter and copy of this to Works, 5/2/86.

XXVII.

Troughing Railing.

Troughing Rails, Ivanhoe Tank.

Extract from Report by Mr. Overseer Yeo, of Ivanhoe Tank.

Ivanhoe Tank. 16 October, 1886.

\* \* \* \* \*  
The troughing is in good order, but the rail over which cattle have to drink is much too high; this I pointed out to Mr. Stillwell, and he has since made arrangements to raise the ground.

P. W. P.,  
86-5,108.

JAMES YEO,  
Overseer, Public Watering Places.

Mr. Yeo.—Cannot the caretaker make a better job by lowering the rails?—H.G., B.C., 28/10/86. If this rail is lowered it will be too close to the troughing to allow rams to get their heads between the rail and troughing.—J. YEO., 1/11/86.

Mr. Boulbee for report.

The height of this rail is, inside measurement, 12 inches from edge of trough, and outside, 16 inches. As an alternative; I think lowering the rails preferable to banking up the earth, since constant trampling moves it outwards, and these rails might be lowered 3 inches, and yet leave ample room for rams to drink. As they are, the ground has been banked, it is a difficult matter for small cattle to drink.—J. W. BOULTBEE, Acting Inspector, Public Watering Places, Ivanhoe, 26/11/86. A

A comparatively small space is required for rams to drink. Mr. Yeo will please instruct the caretaker to lower the rails 3 inches, and to incline the posts inwards.—H.G., B.C., 9/12/86. Caretaker instructed, and will proceed with the alterations as requested at once.—J. Yeo, 13/12/86.

Extract from Report on Ivanhoe Tank.

23 November, 1886.

P. W. P.,  
86-5,587.  
Original with  
Ivanhoe Tank  
papers.

Travelling stock are watering at Elliot's Tank in preference to the Government Tank. Since the rails are inconvenient, the ground has been raised, but the rails seem to block wild cattle. We are losing hundreds of pounds all over the Colony owing to this one defect.

J. W. BOULTBEE.

Ivanhoe Tank.

Extract from Mr. A. W. Stillwell's Report on Ivanhoe Tank, dated 22 December, 1886.

\* \* \* \* \*  
The caretaker was lowering the dwarf fence rail of the troughing to 7 inches from bearer; this will prevent sheep watering on that side practically curtailing the length of troughing one half for sheep; he said it was by the Mines Overseer's instructions, and to facilitate watering of cattle, the rail having been found too high for them. It is of the same height as at the troughing in the district, and the raising of ground level along that side would have answered the purpose if there were any *bonâ fide* complaints, which I doubt.\*

P.W.P.,  
87-34.

Mr. Wood,—Should not alterations of this sort at the caprice of the overseer be prevented?—W.C.B., 24/12/86. Yes; I do not think as we are responsible for these works that this should have been done. The same levels suit in other places, and should do in this case.—A.P.W., 24/12/86. Under Secretary for transmission to Mines.—W.C.B., 30/12/86. Under Secretary for Mines.—J.R., B.C., 31/12/86.

This action was taken under the authority of the Secretary for Mines, and by statutory power, conferred by the Public Watering Places Act, the only statute empowering construction, the administration of which is vested in him.—H.G.

\* The following grounds for complaint appear.—J.W.B., 12/1/87 :—

From the *Australasian* (Melbourne), 11 December, 1886.

Bad management of New South Wales Water Tanks.

To the Editor of *The Australasian*.

Sir,

1 December, 1886.

Along the travelling stock route, the New South Wales Government have constructed large and costly tanks for supplying travelling stock with water. These tanks are utterly inadequate owing to the badly designed railings protecting the troughing into which the water is pumped from the reservoirs. Cattle cannot drink over the rails, and sheep can walk under into the troughs where they wallow about, splash out and dirty the water, and frighten the other sheep away. At present, the season being good, drovers are making arrangements with station owners to purchase water from open tanks, so that the New South Wales Government has lost some hundreds of pounds in water fees (in a bad season squatters would not sell water). A small outlay superintended by a practical man would put all the troughing in a thoroughly efficient state, and it is the duty of that Government, while they charge for water, to give value for the money.

QUEENSLANDER,

Hillston and Bourke Road.

Mr. Boulton please connect this with papers relative to troughing.—H.G., 14/1/87.

Minute by Mr. J. W. Boulton, Inspector of Public Watering Places.

Public Watering Places, Mines Department, 5 January, 1887.

I HAVE already, upon more than one occasion, drawn the attention of the Chief Inspector to this grave fault in the construction of the rails at the Government tanks, and acting upon his instructions, I have given the necessary orders to the overseers to amend the fault by lowering the dwarf rail to enable cattle to drink.

The complaints have been universal, and it appears to me excessively strange that they have not reached Mr. Stillwell's ears. They have culminated in a drover removing the rails, for which he was fined £10, backed up however by a strong recommendation from the Mossiel Bench of Magistrates that steps should be taken at once to remedy the defect. The instructions given were to bring the dwarf rail the lower edge to 9½ inches from edge of trough, which will give ample room for the largest ram to water. Mr. Stillwell does not seem to be alive to the fact that raising the ground makes the difficulty greater for large stock to water. Mr. A. P. Wood makes a minute to the effect that "the same levels suit in other places and should do in this case." I however beg leave to inform that gentleman, that wherever Government tanks are in the Colony, and that have the measurements and construction as these referred to, the complaints are general and loud. As to Mr. Stillwell's remark as to *bonâ fide* complaints, it is a remark that perhaps might have been expected from him. The Commissioner and Engineer might perhaps be informed that no overseer's caprice dictated the alteration, but a strong desire to attain the highest efficiency in these works, and I am sure that the benefit of the alteration will be marked.

The papers relating to the question of troughing rails is still under your consideration. I may add the lowering of the dwarf rail will not prevent sheep from watering.

JAMES W. BOULTBEE,

Inspector of Public Watering Places.

Ramsay,

Ramsay, Wuttagoona; Miller, Bourke; Alison, Cannonbar; Moffat, Brush, Evans, Webb, Brougham, Williamson, Parsons, Tully—for reference.

Telegram from W. H. Playford, Ivanhoe, to Mr. J. W. Boulton, Inspector, Public Watering Places.

Ivanhoe, 6 January, 1887.

SPACE left, about 8 inches; last sheep watered all right.

W. H. PLAYFORD.

W. H. Playford, Ivanhoe, to Mr. J. W. Boulton, Inspector of Public Watering Places.

Ivanhoe, 7 January, 1887.

SPACE left is 7½ inches.

W. H. PLAYFORD.

The space ordered by Mr. Boulton, in accordance with my instructions, was not less than 9 inches. Mr. Yeo must see that it is raised to that at once. Inform Mr. Yeo by wire.—H.G., 7/1/87.

*Re Troughing at Ivanhoe Tank.*

Sir,

Stock Office, Ivanhoe, 8 January, 1887.

P.W.P.,  
87-134.

Your telegram of 7th January, 1887, duly to hand as follows:—

“Space ordered by Mr. Boulton, in accordance with my instructions, was not less than 9 inches between lower edge of rail and edge of troughing; please see rail is raised at Ivanhoe to that at once.

“HARRY GILLIAT,

“Chief Inspector, Public Watering Places.”

I beg to inform you that Caretaker Playford has been instructed to raise the rail to the height according to your instructions.

When Playford altered the rail I instructed him (verbally) to leave a space of 9 inches between lower edge of rail and edge of trough. After the alteration had been made, Playford informed me that he had not left quite so much space as he was instructed to do, but that he had watered a mob of sheep, and that they could drink very well, consequently I thought it would be as well to let it remain. In any case the rail cannot be lowered to be 9 inches all through, owing to the rails having warped, which will make at least an inch difference in places.

I have, &c.,

JAMES YEO,

Chief Inspector of Public Watering Places.

Overseer, Public Watering Places.

Extract from Mr. Overseer Keighran's Report for month of May, 1885, on Crow's Nest Well.

Crow's Nest Well.

May, 27 May, 1885.

This work is in a fair condition; the timber having shrunk, the joints require closing.

Tanks & Wells,  
85-1,471.

State of supply tank.—New, of wood and galvanized iron, full of water at date of inspection, a leakage from valve.

Troughing.—New and strong, but construction bad for watering stock expeditiously. Noticed a slight leakage caused by timber shrinking.

Remarks.—I would recommend the reserve from lease should be fenced in at once; and consider that this well will be readily leased, and fetch more money than any other watering place on the road.

JOHN A. KEIGHRAN,

Inspector of Stock.

Will Mr. Overseer Keighran please state the objection to the troughing. I shall be glad to be furnished with Mr. Keighran's full report on taking delivery of this well.—H. GILLIAT, B.C., 10/6/85. Mr. Keighran,—Please furnish particulars of your objection to the troughing.—A.B., B.C., 21/6/85.

*The Chief Inspector of Stock.*

THE troughing at all the public watering places has on one side a strong substantial two-rail fence, about 4 feet high, to prevent large stock from damaging troughing. On the opposite side there is a dwarf fence, say 2 feet 6 inches high, where large stock have to water (one rail). Sheep are supposed to water from under bottom of rail on either side, and in many instances get their heads fast or tumble into the troughs. In my opinion there was no occasion for these fences whatever; the troughing being a rail or piece of timber laid on blocks, and placed down the centre of the troughs, stock of all descriptions could water freely from either side. Cross-legs—pieces of timber placed over the trough with rail laid on—would prevent large stock from damaging troughs, and has been proved to answer admirably, and last for years.

JOHN A. KEIGHRAN,

Inspector of Stock.

Extract

Extract from Report by Mr. Overseer Keighran.  
Crow's Nest Well.

Tanks & Wells, 85-1,738. Troughing could be made to water stock more expeditiously than at present by doing away with the fence (which is a mistake).

Troughing can be protected from being damaged by stock without the two fences, which has been a costly affair, and for no good purpose.

Have had forty years' practical experience among stock, and seen all devices for watering, consequently should know which is the best.

J. A. KEIGHRAN,

Overseer, Public Watering Places, Hay.

Memo. from Chief Inspector of Stock.

Tanks & Wells, 85-1,974. WITH reference to Mr. Keighran's proposal, I would imagine that the dog-legs would be in the way of the sheep, and I would suggest that in place of the single rail supported in the way he proposes, it would be better to have two rails of sawn stuff, say 4 inches by 4 inches, 10 feet long rounded, one on each side of the trough, and bolted at the proper height to strong posts, which should be let well into the ground, and should stand perpendicularly at the side of the troughs. The rail should be fitted at such a height as would admit of large stock drinking over it, and sheep under it; and at the same time keep large stock from going over, or putting their feet into the trough. Should that leave so big a space as to allow sheep to get through underneath into the trough, a second narrow rail could be bolted on.

The posts would have to be let well into the ground, and to be supported as shown on the accompanying tracing.—A.B., B.C., 27/7/85.

The Chief Inspector, Public Watering Places.

Sir,

Condobolin, 10 September, 1885.

Tanks & Wells, 85-3,383. I have the honor to state for your information that drovers in charge of travelling cattle complain of the troughing at the public tanks in this district being unsuitable for cattle of all ages to drink at. The fencing constructed along each side of the troughs is as follows:—Upon the one side, two rails high, under the lower rail of which sheep can drink, upon the other side of trough there is a low one rail fence, over which cattle, and under which sheep, are supposed to drink. The two rail fence being placed in position to prevent cattle or horses from crossing over the troughing. The one rail fence above referred to is too high for all aged and sized cattle to drink over, and as a consequence many cattle do not get a drink. Should one side (the low fence side) be filled up with earth sufficiently high to enable cattle to drink over it, it would then be too high for sheep to drink under.

In my opinion this difficulty might be surmounted by removing the lower fence away and substituting a line of rails along the centre of the troughing, which would enable cattle and sheep also to drink on both sides of centre rail, the cattle by protruding their heads over (the rail being placed sufficiently low for that purpose)—it must also prevent cattle from getting into the troughing; either this course, or a separate line of troughing for cattle and horses would be an improvement upon the present arrangement in my opinion. Of course the centre rail would be much cheaper, and I think quite as useful.

In order to induce stock to travel these roads, it is I think advisable to make the arrangements for water at the different tanks as easy of access, and suitable as possible.

I have, &c.,

R. D. JONES,

Inspector of Stock.

The Chief Inspector of Stock.

Mr. Gilliat.—A.B., B.C., 14/9/85.

Minute by The Chief Inspector of Public Watering Places.

Fences at Troughing.

Department of Mines, Stock Branch, Sydney, 21 September, 1885.

THE cross-legs suggested by Mr. Keighran have been frequently tried, and, where sheep alone are to be watered, been found satisfactory, but with large stock, particularly cattle, the centre rail is found inconvenient, entangling their horns and being torn out of its place, or else breaking the horn of the animal. The centre rail at the Jumping Sand Hill cattle trough has frequently been broken in this way.

To a certain extent the cross legs would reduce the space for sheep watering along the troughing, which is what I understand Mr. Bruce to refer to in his minute.

Mr. Bruce's proposed fencing appears to be only a modification of the present form, as adopted by the Works Department, to the extent of shortening the posts and taking off one of the rails along one side of the present fencing, with an addition of cross-stays bolted to the posts. It would certainly enable cattle to draw up to each side of the troughing, but I question if, with the present width of that, it would enable a greater number to drink. To make it effective, however, the top rail should, I think, be bolted on top or to the inside of the post.

But, as I have stated in my minute to Mr. Overseer Jones' report *re* fencing (minute and sketch herewith), I consider the present fencing a very good one, if proper attention is paid to the height of the rails in proportion to the position of the troughing upon the ground; and I think a little energy, combined with a desire to make the best of what I think are substantially good, although not perhaps perfect improvements, yet certainly far in advance of anything done for the convenience and comfort of travelling stock, as far as my experience goes, in any part of the world I have visited, would enable the overseer, with the labour of the caretaker, to remedy the defects that exist in the height of the rail. This depends to a great extent upon the formation of the ground, and may not be the same along the length of the troughing. The sketch submitted will show the plan I think may preferably be adopted.

I

I may repeat what I said on Mr. Jones' report, that it will perhaps be well for the overseer in future to examine the trough fencing very carefully before taking over, in order that any required alterations may be made by the Works Department.

At the same time, too hasty criticism upon the details of these new works should be, I think, avoided, at least until they are proved defective, and until the overseers have shown that, with the means at their disposal, they are not to be remedied.

Mr. Bruce's plan might perhaps be forwarded to the Works Department.

HARRY GILLIAT.

Minute by The Chief Inspector of Public Watering Places, re Mr. Overseer Jones' Report on defects in Troughing.

Department of Mines, Stock Branch, Sydney 17 September, 1885.

I have closely observed the fencing here referred to by Mr. Overseer Jones at a number of the Public Watering Places, and, when properly erected, consider it very effective. It has undoubtedly in a number of cases, been put in such a way as to require alteration, but I think a little energy on the part of the overseers will in nearly all cases enable them, with the labour of the caretakers, to correct it. Tanks & Wells,  
85-3,445.

I attach sketch, showing how this can be done most effectively.

The post is taken out of the ground, lowered slightly by deepening post-hole, a check cut, as shown at A, to rest upon edge of troughing, and the post reset, with a slight tilt inwards, as shown by the post in red ink on sketch.

The overseer can judge for himself by the formation of the ground the best height to allow between trough and rail.

It will perhaps be as well if in future overseers examine the trough fencing carefully before taking over from the officers of the Works Department, in order that these or any other alterations may be made before taking delivery.

HARRY GILLIAT.

Minute of The Chief Inspector of Stock.

Fences at Troughing.

Department of Mines, Stock Branch, Sydney, 28 September, 1885.

I understand the object of the two rails at what may now be termed the back of the troughs is to keep cattle from getting into them. This can, I think, be equally well attained by fixing a rail at each side of the trough as proposed by me, over which the cattle can drink at each side, but will not attempt (through there being a rail at each side) to leap or to put their feet into the trough, and where this is the case the sheep can freely drink under the rail at each side. Tanks & Wells,  
85-3,536.

There can be no doubt but this plan would enable a great many more stock to water at one time, especially in the case of cattle, as those that are at different sides could not horn and knock each other about as they can now do when drawing up side by side.

Where, therefore, Mr. Gilliat's recommendations with respect to the existing fencing at the troughs might be adopted, the sort of fixing proposed by me might perhaps be brought under the notice of the Works Department, and if approved some of the troughing at the new works in course of construction could be put up in this way, and if the plans were found to answer to such an extent as to call for an alteration in the troughs, as now fixed, it could afterwards be made.

A.B., 28/9/85.

Submitted.—H.W., 1/10/85. I entirely agree with Mr. Gilliat's report of the 21st instant, and see no reason to ask the Works Department to make the alterations suggested.—J. P. ABBOTT, 2/10/85. Mr. Gilliat.—A.B., 2/10/85. Messrs. Jones and Keighran should be informed, and a copy of my minute with sketch sent to each.—HARRY GILLIAT, B.C., 7/10/85. Inform.—A.B., 7/10/85. Informed, 8/10/85.

Sir,

Condobolin, 22 October, 1885.

I have the honor to acknowledge receipt of your letter dated 8th instant, with accompanying minute and sketch of Mr. Gilliat's, referring to troughing and fencing at the public tanks in this district, prior to receipt of which, I had instructed the different caretakers to make some alterations which I think will meet the cases complained of. Tanks & Wells,  
85-3,885.

I have, &c.,

R. D. JONES,

Overseer, Public Watering Places.

The Chief Inspector of Stock.

Seen. Put away.—H.G., 26/10/85.

Sir,

Condobolin, 23 October, 1885.

I have the honor, in reply to your minute upon my report upon troughing and fencing at the public watering places in my district, to inform you that, prior to receipt of your minute, and whilst making my last inspection of these tanks, I instructed the caretakers to make some alterations at some of the troughs to enable cattle to drink more readily. Tanks & Wells,  
85-3,889.

I have, &c.,

R. D. JONES,

Overseer, Public Watering Places

The Chief Inspector, Public Watering Places.

## Extract from Report by Mr. Overseer Keighran on Tom's Lake Tank.

## Tom's Lake Tank.

Tanks & Wells,  
85-1,742.

Troughing could be made to water stock more expeditiously than at present by doing away with the fence, which is a mistake.

I could suggest a more simple and cheaper plan for protecting the troughing from being damaged, and, at the same time, allow stock free access to water.

J. A. KEIGHRAN,  
Overseer, Public Watering Places, Hay.

Extract from letter of 7th March, 1886, from Mr. J. A. Keighran, Overseer of Public Watering Places, Hay, to The Chief Inspector of Public Watering Places.

## Tom's Lake Tank.

P. W. P.,  
86-1,396.

The pump requires slight repairs. It requires a small brass plate, the iron one having worn away. Mr. Stillwell's assistant promised to have this repaired when the works were handed over to the lessee. The troughing also requires to be lowered, to allow large stock to water with greater ease.

J. A. KEIGHRAN,  
Overseer, Public Watering Places.

This may, perhaps, be forwarded for the information of the Commissioner and Engineer for Roads and Bridges.—H.G., 20/3/86. The Under Secretary for Mines. Approved.—H.W., 25/3/86. The Under Secretary for Works.—H.W., B.C., 25/3/86. Roads.—J.R., B.C., 29/3/86. Mr. Stillwell, urgent.—W.C.B., 30/3/86.

I have, as reported (86-406), had the alteration made to dwarf fence of the troughing to facilitate watering of large stock. There is nothing at all wrong with the pump; it was working well when I visited subsequently to date of this report of Mr. Keighran's. The central bearing of horse-works requires bushing, and the repairer has instructions to do it. In the meantime, the working of the pump is not affected.—A.W.S., 2/4/86.

Mr. Wood,—Bushing should be done.—W.C.B., 5/4/86. It appears that troughing has been altered, and that bushing will be done as soon as possible, but the delay is not in any way prejudicing the lessee's interests. This may, perhaps, be forwarded for the information of the Inspector of Public Watering Places.—A.P.W., 5/4/86. Under Secretary for transmission.—W.C.B., 5/4/86. The Under Secretary for Mines.—J.R., B.C., 7/4/86.

## Extract from Report A1 of Mr. Overseer Yeo. 16 February, 1886.

## 12-mile Tank.

P.W.P.,  
86-1,005.

Messrs. Robertson and Wagner's manager complains to me that the cattle troughing is much too high, and that a mob of young cattle which passed a few days since had great difficulty in drinking, and a great quantity of them had to go away without water. I would recommend that the troughing be lowered so that young cattle can reach it.

JAMES YEO.

Mr. Overseer Tully,—When you are inspecting the 35-mile Tank next be good enough to furnish me a report on this, and whether, if an alteration is required, it can be made by a caretaker.—H.G., B.C., 5/3/86.

This troughing is situated on an incline; therefore, at the outer end, it is quite low enough for the smallest cattle to drink from. Some new sheets of iron will require to be put in, as there are innumerable patches which are difficult to keep water-tight. Caretaker could do this, but would recommend any repairs to be made by the contractor now at work as they are likely to be better done.—M. J. C. TULLY, 10/3/86.

This may perhaps be forwarded for the information of the Department of Public Works.—H.G., 15/3/86. The Under Secretary for Mines. Approved.—H.W., 17/3/86. The Under Secretary for Works.—H.W., B.C., 17/3/86.

This troughing, as Mr. Tully states, is rather high at one end, but this defect can be easily remedied by spreading a few cubic yards of earth. This will also prevent the water lodging under the trough, and be much better than lowering the troughing, which would leave one end too low.—W.J.H., 31/3/86.

Under Secretary for transmission to Mines.—W.C.B., 31/3/86. The Under Secretary for Mines.—J.R., B.C., 2/4/86. Mr. Yeo,—Instruct the tenant to this effect.—H.G., B.C., 12/5/86. The tenant has been instructed.—J. Yeo, 25/5/86.

## Extract from Report of Mr. Overseer J. A. Keighran, for November, 1887.

## Crows' Nest Well.

P.W.P.,  
87-6,600.

I would also recommend that the troughing fence be removed. It is no earthly use, but a hinderance to stock watering. A rail or plank placed along the top would be sufficient to prevent the troughs from being damaged.

JOHN A. KEIGHRAN,  
Overseer, Public Watering Places.

Cowl Cowl, 3 December, 1887.

Sir,

Albury, 10 July, 1886.

P.W.P.,  
86-3,438.

I have the honor to inform you that stockowners complain that their young cattle cannot get water at the public tanks owing to the defective construction of the break fence on the watering side of the troughing, it being too high for them to reach over and too low for them to put their heads under the

the rail as sheep do. I might suggest that in future this break might be made with the rail high enough for stock to get their heads underneath, and that the foundation of the troughing be deck-planked to the curve of the trough, so that if a beast got into it, its feet would not go through the iron.

I have, &c.,

G. E. MACKAY,

The Chief Inspector of Public Watering Places.

Overseer, Public Watering Places.

The same fault has occurred at several of the troughings. I have cured it by directing the overseer to let the caretaker slightly lower the post and tilt it inwards.—H.G., B.C., 26/8/86. Mr. Overseer Mackay.—Will instruct caretaker as to this.—G.E.M., 30/8/86.

Sir,

Albury, 3 January, 1887.

I have the honor to inform you that on visiting the Jindera Tank last week I found that the caretaker had taken out the rails. He said that a mob of Queensland cattle had been there a few days before, and would not or could not water until the rails were taken out. You suggested some time ago, as per attached memo., altering the position of the posts. This will not do. What I would suggest is that each alternate rail be lowered, which would not be hard to do.

P.W.P.,  
87-29.

I might suggest that, in constructing troughing in future, a solid bottom should be fixed to the curve of the iron, as in the event of a beast getting into a trough he would not put his feet through the iron, as I have seen a horse do lately in a stable with a manger made of sheet iron.

I have, &c.,

G. E. MACKAY,

The Chief Inspector of Public Watering Places.

Overseer, Public Watering Places.

Extract from Mr. Inspector Boulton's report on Corilla Tank for 17th July, 1886.

\* \* \* \* \*

Here, as at other places, the rails to the troughs are too high.

J. W. BOULTBEE.

P.W.P.,  
86-3,657.  
Original with  
flaming papers.

Extract from report of Mr. Overseer Keighran for month of June, 1885.

Dry Lake Well.

Hay, 15 July, 1885.

\* \* \* \* \*

Troughing good, but do not approve of construction of fence, consider it an impediment to stock watering expeditiously.

Tanks & Wells,  
85-1,832.

JOHN A. KEIGHRAN.

Extract from Mr. Overseer Keighran's report for November, 1887.

One Tree Tank.

Hay, 26 November, 1887.

\* \* \* \* \*

Would recommend that the tank be leased at once (or put up for tender), and get rid of the expense of paying a caretaker to do nothing, as there has not been 1s. taken here as fees for the last nine months, nor is it at all likely there will be for some months longer, as the publican close by has a tank where persons prefer to water their stock, because the tank is open, and they get a better drink than they do out of the Government troughs.

P.W.P.,  
87-0,442.

JOHN A. KEIGHRAN,

Overseer, Public Watering Places.

Extract from Report of Mr. Inspector Mackenzie, of 23 July, 1887.

Baradine Well.

Coonabarabran, 23 July, 1887.

\* \* \* \* \*

The railing at troughings far too high—2 feet 9 inches from ground, and cattle would not be able to reach the water in trough over the rail, while sheep can get into trough by squeezing underneath the rail. I propose overcoming this by raising the ground along the troughing which has been considerably cut away.

P.W.P.,  
87-3,548.

F. MACKENZIE,

Acting Inspector of Public Watering Places.

Extract from Mr. Inspector Boulton's report on Gunnaramby Tank.

6 December, 1886.

Troughing.—Fair order, leaks slightly, rails too high.

JAMES W. BOULTBEE.

P.W.P.,  
86-5,780.

Extract from report of Acting-Inspector Boulton, of 4th October, 1886.

The Lake Tank.

\* \* \* \* \*

The arrangement of trough fencing is much complained of. The lessee, C. J. Hughes, reports that 10,000 head of cattle last year tried to drink, but were unable. Permission might perhaps be granted him to alter them.

P.W.P.,  
86-5,048.

J. W. BOULTBEE,

Inspector, Public Watering Places.

Mr. Mallon,—Has the tenant applied to you to alter fencing? There can be no objection to the rail being lowered under your supervision.—H.G., 28 October, 1886.

Tenant has not applied to me for leave to alter height of rail, but I am of opinion that the rails are too high for small cattle to drink freely at, and under present instructions will suggest an alteration.—JAS. MALLON, Bourke, 30/10/86.

Extract from Mr. Inspector Low's report on Walla Walla Tank, 26 July, 1887.

\* \* \* \* \*

P.W.P.,  
87-3,822.  
Original with  
Walla Walla  
Tank papers.

THE single rail fence along this (the trough) is quite unsuitable, a space of 1 ft. 3 in. intervening between rail and troughing. I would recommend that this space be lessened to 9 in., and rail be fastened on inside of post with bolts instead of being as at present, let into the middle of post, the angle thus increasing the height large stock have to drink over.

J. LOW.

Extract from report of Mr. Overseer Yeo, to 30 December, 1886.

Mossgiel Tank.

\* \* \* \* \*

P.W.P.,  
87-32.

THE rail at this troughing is the same height as the troughing at the Boonoono and Ivanhoe Tanks, which has been found to be too high for cattle, consequently I have instructed the caretaker to lower it about 3 inches and bring the rail in fair with the edge of the trough.

JAMES YEO,  
Overseer, Public Watering Places.

Ivanhoe, 1/1/87.

Ivanhoe, 17 January, 1887.

P.W.P.  
87-317.

Sir, I am in receipt of communication from the caretaker of the Mossgiel Tank, which I enclose under same cover.

Re alteration of rail. This rail is exceptionally thick and heavy, it being 6 inches x 6 inches square, and when inclined inward the top edge comes about the same height as it is at present. I would beg to recommend that the caretaker be allowed to saw the rail in half, which would make it lower for cattle and leave plenty of room for sheep at the same time. It would leave the rail sufficiently strong.

I have, &c.,  
JAMES YEO,  
Overseer, Public Watering Places.

Chief Inspector of Public Watering Places.

The rail should be sawn in half, as suggested, but from corner to corner, as shown by dotted line.—H.G. Mr. Overseer Yeo.—H.G., B.C., 25/1/87. Contents noted. Caretaker instructed to saw the rail in half.—J. YEO, 30/1/87.

P.W.P.,  
87-316.

Sir, Government Tank, Mossgiel, 8 January, 1887. According to your instructions I have altered four panels of the Mossgiel Government Tank troughing, and in no way can make it suit better than it is at present. The top rail is too heavy to slant it the way you require, and if done that way cattle or sheep could not drink out of it, and especially rams with horns. Drovers say now what we want is opened tanks and pump water into them for their cattle to drink. It is very hard to please them.

I have heard the Wilandera Creek is coming down a banker.

I have, &c.,  
P. WELSH,  
Caretaker.

Mr. Overseer Yeo, Ivanhoe.

Ivanhoe, 21 May, 1887.

P.W.P.,  
87-2,202.

Sir, Referring to your instructions of 25/1/87, re lowering rail of troughing at Mossgiel, I beg to inform you that on my visit of inspection on 18/3/87, the caretaker had taken off the rails, but had not commenced to saw them in half, as instructed, from corner to corner. Since then he commenced the work, as instructed, and found that the rails were Colonial pine, and by cutting them in the way which was suggested would have a tendency to weaken the rail. Consequently he communicated with me on the matter, and I informed him to let it remain until I saw it again. At the time I suggested that the rail should be cut in half I was under the impression that it was red gum timber, but I would beg to recommend that instead of cutting the rail in half that a piece should be taken off the ends of rails where they rest on the post, as shown on rough sketch attached, which would lower the rail about 2½ inches, and leave a space of 9 inches between bottom of rail and troughing, which would be quite sufficient, and I consider it would not interfere with the strength of the rail.

Trusting this alteration will meet with your approval,

I have, &c.,  
JAMES YEO,  
Overseer, Public Watering Places.

The Chief Inspector of Public Watering Places.

Ivanhoe, 3 June, 1887.

P.W.P.,  
87-2,437.

Sir, I have the honor to acknowledge receipt of your memo. of 26th May, 1887, on alteration of rails at Mossgiel troughing, which shall receive my attention with the least possible delay.

I have, &c.,  
JAMES YEO,  
Overseer, Public Watering Places.

The Chief Inspector of Public Watering Places.

Troughing

Troughing railing, Ivanhoe District.

Telegram from Mr. Overseer Yeo to The Chief Inspector of Public Watering Places.

Ivanhoe, 4 December, 1886.

M'DONALD, drover, has let his cattle into Boonoona Main Tank. Cattle would not drink at trough; had travelled 12 miles without a drink: would not drink at troughs on Mount Manara. Embankments are damaged. Report from caretaker will follow. Must M'Donald be prosecuted?

W.P.P.,  
86-5,632.

I have, &c.,

JAMES YEO,

Inspector, Public Watering Places.

This appears to be an infringement of the Act, and the drover must, I think, be prosecuted. The overseer perhaps should be instructed to this effect by wire.—H.G., 5/12/86. The Under Secretary for Mines. The drover should be prosecuted.—G.E.H. (for the U.S.), 6/12/86. Submitted.—Approved.—J.F., 6/12/86.

Sir,

Ivanhoe, 4 December, 1886.

I telegraphed to you this morning that F. M'Donald, a drover, had let his cattle into Boonoona main tank as they would not drink at the troughs, asking instructions if I must prosecute M'Donald. It appears the cattle did not get a drink after leaving the 12-mile Tank. Some of the rails over which the cattle have to drink were taken out, but still the cattle would not drink, consequently the drover persisted in letting his cattle into the tank, contrary to the caretaker's instructions to him. Under same cover please find Caretaker Kellick's report to me, where he explains the matter fully. I have written to him and instructed him to adhere to his previous instructions—not to allow cattle into the main tank.

P.W.P.,  
86-5,664.

I await your instructions by wire, on receipt of caretaker's report, before taking action in the matter.

I have, &c.,

J. YEO,

Overseer, Public Watering Places.

The Chief Inspector of Public Watering Places.

In this case the difficulty appears to have been occasioned in a great measure by the rail of the troughing being too high, and I am of opinion that it is the fault of the overseer and the caretaker; the former should have directed the latter to lower the rail as soon as the defect was discovered. The overseer should perhaps be directed by wire to have the rail lowered at once. The drover, however, removed the rails and still the cattle would not drink. It appears to me there is no course to pursue but to wire Mr. Yeo to carry out his instructions and prosecute.—H.G., 16/12/86.

The Under Secretary for Mines. Submitted for approval.—H.W., 17/12/86. Approved.—J.F., 20/12/86. Telegram to Mr Yeo.—23/12/86.

Sir,

Boonoona Tank, 1 December, 1886.

I have the honor to report for your information that F. M'Donald, in charge of 340 fat cattle, called at this tank and wanted water. He went down and had a look at the troughing, and coming back said the cattle would not drink out of it on account of the rail running in front of it, and asking at the same time if he could take some of the railing away, in order to water his cattle, which he said must have water, as they had come nearly 40 miles without water, and being unable to get a drink at Mount Manara Tank, owing to the cattle refusing to go up to the troughing.

P.W.P.,  
85-5,665.

I said I could not allow it, and on his saying that if he was fined £100 he would get it there or at the main tank, as his cattle were perishing for the want of it, I said, "If you do it, you do it at your own risk." He then removed some of the railings and brought the cattle down, and after a lot of trouble they would not go near the troughing. He then came up to me and said that he was going to go into the big tank and put up with the damages. I said, "Of course I cannot stop you, but if you do go it is at your own risk." He then ran the mob of cattle into the big tank; the cattle ran up and down the embankments and across the tank, thoroughly ploughing it up; but, other than cutting up the embankment and puddling the water, there is no further damage done. The damage done to the railings he paid the groom to repair, which he did.

I beg to report also, that I think one of the reasons for the cattle not going to the troughing was that lately the roads mechanic put a mixture of tar-pitch and fat on the troughing, and not only does it smell, but it tastes the water, and even quiet horses and working bullocks refuse to drink it. As there is still a coating of the same mixture to go on the inside of the service tank, I would respectfully beg that you would mention this to the Department, that if the same stuff is put on the service tank it will not only taste the water, but will melt and run into the water, owing to the excessive heat in this district.

I would also respectfully report, that even if the cattle would come up to the troughing, one-half of them could not get a drink owing to the railing being too high, and they would choke, as their necks are too short to enable them to reach the water. This is a defect that cannot well be remedied, as if the earth were risen underneath the railing, sheep would be unable to get their heads underneath to drink.

I would also beg to state that M'Donald's cattle were in a very bad state for want of water, more so in consequence of them being fat cattle.

As there are, I believe, several mobs of cattle coming down, would you let me know what course I had better pursue in the event of the man in charge wanting to get into the big tank.

I have, &c.,

FRANK KELICK,

Caretaker.

Mr. Overseer Yeo.

Sir,

P.W.P.,  
86-5,835.

Sir,  
Ivanhoe, 13th December, 1886.  
The caretaker, Mr. F. Kellick, at Boonoona tank, will have to be at Mossgiel on the 31st instant as a witness in the case *re* M'Donald, for allowing his cattle into the main tank, &c., consequently Kellick will have to employ some one to take charge of the tank during his absence. Will you please be good enough to inform me how this temporary man is to be paid.

I have, &c.,  
The Chief Inspector of Public Watering Places. JAMES YEO,  
Overseer, Public Watering Places.

Inform Mr. Yeo that he should apply to the Bench in the event of his gaining the case for sufficient expenses for his witness Kellick to cover the expense incurred in employing a substitute.—E.W., 23/12/86.  
Telegram to Mr. Yeo, 24/12/86.

P.W.P.,  
86-3 963.

Sir,  
Hay, 20 December, 1886.  
Referring to your telegram *re* the troughing at Bronoona tank, and desiring me to suggest nature and cost of alterations, I now have the honor to submit for your consideration that it is not at Boonoona alone that the arrangement of the railing is inconvenient, but at all the later constructed watering places, where wood and iron troughs have been erected. The design, plan B, employed on the Ivanhoe and Balranald road, is in every way a preferable one. The high railing of this existing arrangement acts as a check to wild cattle, and the low railing is too high to admit of small beasts drinking at all, and is no prevention against sheep getting into the troughs and fouling the water. The alterations that I submit, plan A, will not necessitate the use of any timber beyond what is employed in the present railing, and such alterations would be easily made and inexpensive; £6 would, I think, cover it if outside labor was employed; and where the caretaker is a carpenter as at Gunnararnby, Til Til, &c., the expense would simply be the caretaker's labor.

I also would suggest that the uprights should be morticed or iron cleets used for the introduction of a moveable 3 x 2 rail, to be put in 9 inches from edge of trough when sheep are watering, and removed when cattle require it. The top rail will prevent cattle from getting into the trough and will not be in any way a block to them. At Boonoona, and at tanks along the same road, and where cattle traffic is large, I think this alteration would be appreciated, and be an immense boon to travelling stock, and furthermore, would largely increase our receipts. The plans A and B could either be used, and at a very small cost.

I have, &c.,  
The Chief Inspector of Public Watering Places. JAMES W. BOULTBEE,  
Inspector, Public Watering Places.

P.W.P.,  
86-5,935.

Sir,  
Ivanhoe, 24 December, 1886.  
Your telegram of 23/12/86 duly to hand as follows, viz., "Have rail of troughing at Boonoona tank lowered at once. Carry out your instructions and prosecute M'Donald.—E. E. WELLER, Pro Chief Inspector, Public Watering Places."

I have the honor to inform you that I have written instructions to the caretaker to lower the rail at once as requested, and to leave 9 inches between the troughing and the rail for sheep to drink.

Farquhar M'Donald is summoned to appear at Mossgiel on the 31st December next.

I have, &c.,  
The Chief Inspector of Public Watering Places. JAMES YEO,  
Overseer, Public Watering Places.

Mr. Overseer Yeo to The Chief Inspector of Public Watering Places.

P.W.P.,  
87-31.

Sir,  
Ivanhoe, 1 January, 1887.  
I have the honor to submit my report *re* proceedings taken against Farquhar McDonald for removing the rail of troughing and driving his cattle into the Boonoona Main Tank, thereby damaging the embankments and polluting the water, on 1st December last.

McDonald was summoned to appear at Mossgiel on 31st December, 1886, but as McDonald did not appear, and the facts of the case having been stated to the Bench he was fined £10 and expenses. The Bench informed me that it was beyond their jurisdiction to impose a higher fine.

I also beg to enclose a letter from the Bench, recommending that some alterations should be made in the troughings at different tanks along this road. I informed the Bench that alterations were being made, and that some of the troughing had already been altered.

I have, &c.,  
The Chief Inspector of Public Watering Places. JAMES YEO,  
Overseer, Public Watering Places.

The Bench of Magistrates, Mossgiel, to Mr. Overseer Yeo.

P.W.P.,  
87-30.

Sir,  
Mossgiel, 31 December, 1886.  
The Bench of Magistrates here are of the opinion that something should be done at once to troughing in connection with several of the Government tanks situated along the travelling stock route between Booligal and Wilcannia, there being a universal complaint as to their inadequateness to water stock, more especially cattle.

Mr. Yeo. H. A. LAIRD, J.P.  
C. BRUSH, J.P.

Troughing Railing, Cobar District.

Extract from Mr. Caretaker Crichton's letter to the Chief Inspector of Public Watering Places.

Tanks & Wells  
85-3,331.

Nymagee Tank, 3 September, 1885.  
THE rail in front of troughs is too high for cattle. They are 22 inches high. If they were 4 inches lower they would not be too high for cattle nor too low for sheep.

DAVID CRICHTON,  
Caretaker, Government Tank, Nymagee.

A copy should be forwarded to the Commissioner for Roads. The letter to be sent to Mr. Cotton for report.—H. GILLIAT, 11/9/85. Copy and write letter.—A.B., 11/9/85. Copy to Works, 17/9/85. Referred to Mr. Cotton for report, and whether this was previously reported to him by the caretaker.—A.B., B.C., 17/9/85. A copy of the letter was forwarded to me by Caretaker Crichton. On receipt I forwarded it to Road Superintendent for the district. \* \* \* \* —JAMES COTTON, Overseer P.W.P., 22/9/85. Mr. Gilliat.—A.B., B.C., 26/9/85.

Minute by Mr. A. P. Wood:—The design of the troughing and fencing has been approved by both Mr. Gilliat and Mr. Cotton. I consider them more capable of forming an opinion than the caretaker.—A. P. Wood, 30/9/85.

Send copies to Mr. Adam, then to Under Secretary for transmission to Mines.—W.C.B., 30/9/85. Under Secretary, B.C. Forward to Dept. of Mines.—F.A.W., 3/10/85. Under Secretary for Mines.—J.R., B.C., 6/10/85. Mr. Gilliat.—A.B., 7/10/85.

Minute by The Chief Inspector of Public Watering Places.

REQUEST Mr. Overseer Cotton to direct the caretaker to lift posts on the low side of troughing, slightly deepen holes and check them inward, notching them to rest on edge of troughing sufficiently to enable cattle to drink without difficulty. The caretaker also to remove the silt from silt tank.

H.G., 13/10/85.

Mr. Cotton informed.—14/10/85.

Department of Mines, Public Watering Places Branch,

Sir,

Sydney, 14 October, 1884.

With reference to Nymagee Tank, I have the honor to request that you will direct the caretaker to lift the posts on the low side of the troughing, slightly deepen holes, and check them inwards, notching them to rest on edge of troughing sufficiently to enable cattle to drink without difficulty.

The caretaker also to remove the silt from the silt tank.

I have, &c.,

HARRY GILLIAT,

Chief Inspector, Public Watering Places.

Mr. Overseer Cotton.

Sir,

Cobar, 23 October, 1885.

I beg to acknowledge receipt of your letter directing me to instruct the caretaker at Nymagee Tank to lower the rails at the troughing, and incline the posts inward. I have the honor to inform you that this can be done by the caretaker, but it would not do away with the difficulty to cattle watering. The real hindrance is that the troughs are set too low in the ground for about half the distance of the troughing, so that the water the animal has to reach is actually below the level of the ground upon which it is standing.

Tanks & Wells,  
85-3,909.

I inspected this tank on the 7th instant, and found that the trough can be raised at least 4 inches without interfering with the valve of the service tank.

I have now the honor to recommend that the alteration should be done by the Department of Works, being too great an undertaking to be entrusted to the caretaker. The rail could be lowered and inclined on to the trough at the same time, and I think with considerable advantage. I instructed the caretaker at Priory Tank to alter the rails in this way, and the alteration is a decided success.

The raising of the troughs at Nymagee Tank will necessitate banking up with earth for some distance at the further end. The ground on which the troughs are laid falls from the service tank, so that at present some distance of the troughing is sunk to the level of the ground, while the extreme end stands considerably above the ground, consequently cattle can only water about midway in the troughs as matters stand.

I have, &c.,

JAMES COTTON,

Overseer, Public Watering Places.

The Chief Inspector of Public Watering Places.

Mr. Overseer Cotton.—Cannot the ground level be cut away and lowered sufficiently to meet this difficulty, at the same time that the posts are sunk and checked forward. The mere raising of the troughing will hardly, to my recollection, cure the evil, as at some points the surface level needed raising, while at others it was as much too high.—H.G., B.C., 27/10/85.

Have instructed the caretaker to lower the rails and incline them inward, also to level the ground as much as possible. This will I think in a great measure do away with the inconvenience complained of.

JAMES COTTON,

Overseer, Public Watering Places.

Cobar, 31/10/85.

Extract from Report "A" of Mr. James Cotton, Overseer, Public Watering Places, Cobar, for period ending 13th October, 1886.

*Tindary Tank.*

16 October, 1886.

I propose, with the consent of the Chief Inspector, to make an alteration at this tank, which I think will answer very well. The railing at the troughing at this, and in fact at all the tanks, does not answer the purpose intended, and prevents many stock from obtaining a drink. I propose to lay the rails down the centre of the troughs, using the posts which now support them to span the troughing and carry the rail. The caretaker is a handy man with tools, and could do the work required. Some alteration is necessary, and I should like to try this as an experiment.

P.W.P  
86-5,049.

JAMES COTTON,  
Overseer, Public Watering Places.

Mr.

Mr. Cotton,—Please send me sketch showing what you propose. The old plan of rail down centre did not suit at all for cattle, and permitted sheep to get sideways into troughing.—H.G., B.C., 26th Oct., 1886.

Sir,

Cobar, 2 November, 1886.

Appendix L.

Herewith I beg to hand you a rough sketch showing the alteration I propose to make in the railing at Tindary Tank. Drovers complain very much at the present arrangement, and wherever they can avoid the Government tanks they do so, and give as a reason the railing and fence at the trough preventing the stock from obtaining a drink.

I may mention that I have lived on a station in South Australia where 70,000 sheep, besides horses and cattle were all watered out of troughs, and those troughs were in every instance made with a rail over the centre, and the plan answered very well there.

I have, &c.,

JAMES COTTON,

Overseer, Public Watering Places.

The Chief Inspector of Public Watering Places.

I beg to recommend that Mr. Cotton may try this alteration at the Tindary troughing, it will entail no outlay, the work being performed by the caretaker.—H.G., 12 November, 1886. The Under Secretary for Mines. Submitted for approval.—H.W., 25/11/86. Approved.—J.F., 26/11/86. Mr. Cotton informed.—26/11/86.

Department of Mines, Public Watering Places,

Sydney, 26 November, 1886.

Sir,

P.W.P.,  
86-5,049.

Referring to your recommendation of the 2nd instant, that a railing be placed along the troughing at Tindary Tank, as shown in the sketch submitted by you, I have the honor to inform you that the Honorable the Secretary for Mines approves of your experiment being tried—the caretaker to do the work as you suggest.

I have, &c.,

E. C. WELLER,

(Pro Chief Inspector of Public Watering Places).

The Chief Inspector of Public Watering Places.

Sir,

Cobar, 11 December, 1886.

P.W.P.,  
86-5,726.

I beg to acknowledge receipt of your letter informing me that the Honorable the Secretary for Mines has approved of my trying the experiment at Tindary Tank of placing the railing along the trough as shown in the sketch sent by me. The caretaker is instructed to proceed with work, and I shall report to you how the arrangement answers when completed.

I have, &c.

JAMES COTTON,

Overseer, Public Watering Places.

The Chief Inspector of Public Watering Places.

Copy of extract from Mr. Overseer Cotton's report on Tindary Tank.

\* \* \* \* \*

29 January, 1887.

P.W.P.,  
87-662.

The alteration of the railing at the troughs of this tank will be shortly finished. It is a decided improvement, and meets with the approval of the public.

JAMES COTTON.

Do you recommend any alterations at other tanks.—H.G., 16/2/87. Mr. Overseer Cotton, B.C., 16/2/87. Yes; but would recommend iron supports being used for the railing instead of wood, the troughing at all the tanks would be much improved by the alteration. At this tank the railing was especially awkward for stock.—JAMES COTTON, 4/3/87.

Extract from report A1 by Mr. Overseer Cotton, Cobar, for the period ending 28 January, 1887.

Nullamut Tank.

P.W.P.,  
87-570<sup>1</sup>

The tenant complains that the public pass this tank without watering on account of the railing at the troughs.

JAMES COTTON,  
Overseer, Public Watering Places.

Cobar, 29 January, 1887.

This paper may go with other complaints *re* troughing, with a view of the subject being dealt with as a whole.—H.G., 11/2/87.

Mr. Acting-Inspector Boulton to The Chief Inspector Public Watering Places.

Sir,

Bourke, 22 July, 1886.

P.W.P.,  
86-3,656.

While inspecting the Kerrigundi Tank, Mr. Ramsay, the new lessee, called my attention to the manner in which the rails are arranged at the troughs at that tank, and announced his intention of applying for permission to alter them and render them more convenient for stock. While upon the Nyngan to Cobar Road, a Mr. Alison, of Canonbar, called my attention to the same defect. A Mr. Miller, a drover, with 1,000 head of cattle, also referred to the matter, and informed me he was unable to do justice to his cattle at any of the Government tanks on the road from Bourke to Cobar and Nyngan that he called at. At the Corilla Tank, he watered at an old excavation, but could not water all his mob there, although the troughs were full. Mr. Alison also informed me that he had given his drovers instructions in the event of his stock not watering to chop down the rails.

I have had considerable experience in watering stock at troughs and wells, and for your information I do not hesitate to say that the arrangement of the rails at nearly all the Government tanks is inconvenient. The defects are in my opinion as follows:—The rails are cumbersome and set too high from the

the edge of the troughing, and are outside the line of troughs instead of being over the edge, allowing sheep to get into the troughs, and their height making it a difficult matter for cattle and horses to drink, and in places where the earth is cut away an impossibility. When the earth is banked up to the edge of the trough it is again difficult for sheep to water. The high fence is, I think, a block to paddock sheep and cattle, both having, unless very thirsty, a disinclination to face it. I therefore beg to submit for your consideration a plan based somewhat on the railing fitted to the new steel troughing, and which I venture to think is very workable and inexpensive. To apply it to existing troughs would be a very great improvement, though perhaps it would be a work of time and additional expense. The present rails, however, could in nearly all cases be utilized. To troughing about to be constructed I venture to think it could be applied with satisfaction to all concerned, observing that the new steel troughing has only the top rail, and nothing to prevent sheep getting into them.

By reference to the sketch enclosed it will be seen that the only alteration made is with the rails. I propose that T iron or flat iron standards and wooden rails should be used, and a space of 10 inches from the edge of the trough to the lower side of the rail be left, bringing the rail exactly over the edge of the water, and ample for any sheep or ram to water at, and not too high for the smallest horse or beast to drink over. The top or centre rail effectually prevents any large stock getting into the trough.

If this proposed arrangement cannot be applied to the existing troughs, I would urge most strongly that some plan by which the rails can be lowered and altered, may be adopted. I feel sure in my own mind that plenty of stock would water at Government tanks that now, owing to the inconvenient arrangement of the rails, pass by. From inquiry made by me from the caretakers I find that almost without exception drovers have complained to the caretakers about the troughing rails, and I think that on reference being made to the different overseers of Public Watering Places it will be found that the complaint is nearly general.

I have, &c.,

JAMES W. BOULTBEE,  
Acting-Inspector Public Watering Places.

Extract from letter of Mr. James Ramsay, lessee Booroondara tank.

16 October, 1886.

\* \* \* \* \*  
The troughing is now protected by a low railing on one side and a two-railed fence on the opposite, making it a most difficult and dangerous place for stock to water.

Many sheep either go away without getting a drink or jump into trough, fall down, and pollute the water. Cattle walk into it, endangering the safety of the troughing, and when very thirsty occasionally throw one or more beasts on their backs in the troughs. This invariably frightens all the stock away, and when the troughing has been again cleaned it is with the utmost difficulty they can be brought back to water. Each drover complains most grievously of this very awkward arrangement.

JAMES RAMSAY.

P.W.P.,  
86-5,165.  
Original with  
papers re  
Kerrigundi  
Tank

Extract from Mr. Overseer Cotton's report upon Mr. Ramsay's letter of 11th October, 1886, relative to Booroondara Tank.

\* \* \* \* \*  
The lessee's idea of a rail down the centre of the troughing over the water has been previously recommended by me at other watering places, and I think it would be an improvement.

JAMES COTTON.

Sir,

Cobar, 7 December, 1887.

In reply to your letter instructing me to alter the troughing to the design approved of by this Department, I have now the honor to inform you that the Department of Works have taken the matter in hand, and I am informed that it is the intention of that Department to make the alteration at all the public watering places in my district. The troughing at Nullamut has been completed, the side rail having been put over the centre of the troughing, as reported in my report of the 5th instant.

I have, &c.,

The Chief Inspector of Public Watering Places.

JAMES COTTON.

P.W.P.,  
87-6,656.

The alteration to the troughing alluded to as being undertaken by the Department of Public Works is simply carrying out a re-modelling of the railing of the existing troughing upon a pattern adopted by this Department at Tindarie and Mossiel. The disadvantage of the course taken by the Works Department is that in most cases the caretaker would have been able to do the work.—H.G., 20/12/87. Submitted.—H.W., 23/12/87. Seen.—H.A., 23/12/87.

Extract from Mr. Overseer Cotton's report on Brura Tank for period ending 14th September, 1887.

Cobar, 13 September, 1887.

\* \* \* \* \*  
While inspecting the tank I saw 1,300 cattle watering at the troughs, and am more than ever convinced that the railing at the side of the trough is a mistake, and that the rail should be over the centre of the trough. Further than this the person in charge, Mr. J. H. Harding, informed me that he had watered his cattle at the Tindarie Tank, where I have had the railing placed over the centre of the trough, and he was much pleased with the alteration, his cattle having obtained the most satisfactory drink since he had been on the road, at the Tindarie Tank.

JAMES COTTON,

Overseer, Public Watering Places.

P.W.P.,  
87-4,764.

Extract

Extract from Mr. Inspector Mackenzie's report on the Tindarie Tank.

Cobar, 11 December, 1887.

P. W. P.,  
87-7,070.

The troughing has been much improved at this tank by the alterations made to the railing. The side rail has been removed, and is now placed along centre of troughing and supported on a piece of 6 x 2 sawn timber, which is securely bolted to the posts on each side of the trough, and about 4 inches above the top of it.

F. MACKENZIE,  
Inspector, Public Watering Places.

## XXIX.

### Drains.

Tom's Lake Tank.

Extracts from Mr. Overseer Keighran's Report on Tom's Lake Tank or Dam.

12 August, 1886.

State of Drains.

Bad; no water during the late rains made its way into the tank from the drains, on account of the embankment at the head of main drain having given way, as shown by rough sketch enclosed herewith.

Remarks.

With the exception of main drain, this watering-place is in good order; but I am of opinion that the drains will always be a source of annoyance and trouble on account of the loose nature of the soil, which cuts away.

Remarks and recommendations on Report.

Booligal, 19 August, 1886.

The main drain, which is over one mile in length, was, in my opinion, badly laid out at the first; the levels not properly taken, as, at its head, there is a swamp, where an embankment of earth had to be formed to force the water from there into the drain, which embankment has given way. The consequence is that the drain renders no assistance in conveying water from the plain into the tank; besides, this drain is on the main route where travelling stock has to pass along, and is constantly getting damaged by being trampled in, and again, at its junction near the tank, teams, coaches, &c., have to cross over, and get bogged. At the time of my inspection it was a perfect quagmire, and a hindrance to the travelling public. Two culverts are required here, otherwise the drains are useless.

JOHN A. KEIGHRAN.

Extract from Mr. Assistant-Engineer Stillwell's report, dated 21st October, 1886.

P. W. P.,  
86-5105.

The main drain was in a most neglected state, silted up, batters scoured down, and a large gap close to tank, which had allowed all the water brought down to escape into the swamps near the troughing; but for this there would have been perhaps two feet more water in the tank, and, correspondingly, less to deal with in the swamp outside. Owing to the drain not being attended to, the embankment across the swamp at northern end has been cut away for about a chain at one end, from water accumulating, which the drain otherwise would have allowed to escape into the tank. The lessees should also be made to repair this.

The Under Secretary for transmission to Mines.—W.C.B., 25/10/86. The Under Secretary for Mines.—B.C., J.R., 27/10/86. Mr. Inspector Boulton for report.—H.G., B.C., 1/11/86. Report herewith.—JAMES W. BOULTON, Mossiel, 20/11/86.

Sir,

Mossiel, 20 November, 1886.

P. W. P.,  
86-5,491.

Referring to the enclosed papers, and more especially to Mr. Stillwell's report upon the damage at the Tom's Lake Tank, I now have the honor to inform you that I visited the tank in question and find that, with reference to the repairs required, that at present, with the exception of the broken dam, it is quite impossible from the amount of water lying about for the lessees, Messrs. Cobb & Co., to undertake the work at present. The silt tanks are full and under water respectively, and the lower drains mostly under water.

With reference to the main drain and the broken dam, the drain is, I should say, considerably over a mile long, from 12 to 14 feet wide, and from 3 to 5 feet deep. It starts from a watercourse, and a wide low dam across this forces the water into the drain. The water will have, I think, to rise 3 feet in this dam before it enters the drain. From appearances, the water has been within an inch of flowing over the dam, the break, which is a cutting in the solid earth about 20 yards wide, evidently saving the dam, the bottom level of the drain being in places too high to carry the amount of water. If this cutting or by-wash is to be repaired, I think the whole dam should be raised 2 feet for safety. The water will then flow down the drain to the place where the water has escaped into the swamp, and where I think the ground surface is lower than at the tank. The earth excavated from the drain is placed in irregular heaps each side without making a continuous bank, and it is between these heaps the water has made its way and cut down. The drain continues and ends abruptly about a chain from and parallel to the tank. A small

small dam throws the water by a small drain into the tank. I was informed the drain was originally an uniform size, but owing to the obstruction to the traffic was filled in. The main road, I must mention, passes between the drain and tank, and follows the drain the whole way, and I am told that when the water came through to the tank the space here was a perfect bog-hole. The original intention was, I suppose, to bring sufficient water down to fill up the embankments, and to do this I think it will be necessary to raise the dam and bank the earth along the low portion of the main drain in a form that can be utilized as a roadway, and to construct a culvert and open up the drain again. I found the drain scoured and cut, which, owing to the friable nature of the soil, is inevitable, but not so much silted. The caretaker informs me that he and a man were at work in the water endeavouring to arrest the flow of water from the drain into the swamp, but were unsuccessful. I do not think it is a case so much of neglect but of fault in construction. Mr. Overseer Keighran's report on this tank is attached, and is, I think, corroborative of my view. I append a rough sketch\*, which may perhaps make my remarks\* clearer. The dam and drain also, I believe, are off the public watering place, and the amount of water lodging in the dam militates against the tank, since the lessee cannot charge for water from it.

I have, &c.,

JAMES W. BOULTBEE,

Acting Inspector, Public Watering Places.

The Chief Inspector of Public Watering Places.

## Hulong Drains.

### Hulong Tank.

Sir, Public Watering Places Office, Narrandera, 7 October, 1886.

When the first rain came after this tank was taken over it was found the drains were most uneven, and the water actually ran from, instead of to, the tanks. On my last inspection (15th September) I heard Mr. Stillwell had, a few days previously, inspected and had tested the machinery.

P.W.P.,  
86-4,760.

The caretaker had just finished painting the engine and pump, and had given the service tank one coat of paint, and it has subsequently had another coat.

When Mr. Stillwell found him absent the caretaker was on his way to Whitton to bring out some tools, &c., which I had sent him, and this trip was rendered necessary as the agents refused to give up the goods until the carriage was paid (a rather sharp trick), so I told the caretaker to get them himself.

He has been levelling the drains, and got the water to run into tank, but advises me the new drains made by the Works Department are so low he will have to deepen the other drains for several chains to make them of service.

The caretaker's camp is 100 yards from tank.

I have, &c.,

W. J. ELWORTHY,

Overseer.

The Chief Inspector, Public Watering Places.

Can you bring evidence to confirm your statement with respect to the drains, an assertion of this kind requires proving; report fully before further action is taken in this case.—H.G., B.C., 11 October, 1886.

Mr. Overseer Elworthy,—My statement is being based on that of the caretaker. Report herewith.—W.I.E., 20/10/96. Machinery in good order and works well.

### Drains at Hulong Tank.

A to B is now in order, the caretaker having deepened it a foot near silt tank.

C to D, a good drain and requires no alteration.

E to F has also had to be channelled by caretaker, and water led into same from various crab-holes near.

G to H has had to be channelled and deepened as the water used to run backwards.

J to K is a bad drain, and the Works Department are proposing to close it. The caretaker commenced to level this, but when rain came, he saw it would be useless, as the water level between, was 13 inches below that of drain G to H.

The water is now lying in this drain and being fed by L to M and N to O, is so much waste, as the water lays at the junction of these drains.

P to Q is a new drain along main road and the water lays in northern end of it. To make this drain a dead level, would bring it below the water level in silt tank, and the caretaker has not interfered with it.

R to S is a useful little drain as it stands at present.—W.J.E., 25/10/86.

Appendix J

Sir, Public Watering Places, Narrandera, 25 October, 1886.

I have just returned from Hulong Tank, where I have made a careful inspection of the drains, machinery, embankments, &c., and report as follows:—

P.W.P.,  
86-5,080.

The statement made by me on 7th October is based on the assertion of the caretaker, who has confirmed same, and further says Mr. Stillwell, Assistant Engineer of Works Department, Hay, was at tank during a hail-storm and saw the water going the wrong way, in consequence of which he has since had the inlet flume and valve lowered 1 foot, to try and remedy the defect.

I enclose a plan showing position of tank and drains, and as the latter had water in them, I was enabled to notice the levels, and I have marked the drains alphabetically to explain the various defects.

A day or two previous to my visit another officer from Hay (Works Department) inspected the drains and told the caretaker some alterations would have to be made.

I have, &c.,

W. J. ELWORTHY,

Overseer.

Mr.

Mr. Boulton for report.—H.G., 10/11/86. Report attached.—J.W.B., 23/12/86, Whitton.

Hulong Tank.

Extract from Mr. A. W. Stillwell's report of 9th December, 1886.

P.W.P.,  
86-5,855.

I inspected this tank on the 3rd instant. There was then 6½ feet of water in it, which has been increased to 8 feet by late rain. The drains require much more attention during wet weather than the old man stationed here, as caretaker, gives them.

The embankment was in good repair, but the wires were very slack in the fence around the tank.

The Under Secretary for transmission to Mines.—J.W.B., 15/12/86. The Under Secretary for Mines.—J.R., B.C., 16/12/86. Mr. Overseer Elworthy for report.—H.G., 20/12/86.

I have just inspected this tank with Mr. Boulton, who will give you a concise report on same.

Had the Works Department taken a little more trouble regarding the level of the drains at this tank, it would have saved the caretaker an endless amount of work. There is now a large supply of water at this tank, more than sufficient for our requirements for many months. I will write the caretaker again, and stir him up.—W.J.E., 22/12/86.

Sir,

Whitton, 23 December, 1886.

P.W.P.,  
86-5,964.  
\* Appendix K.

Referring to the enclosed papers relative to the drainage at the Hulong Tank, and to the complaint of Mr. Road-Superintendent Stillwell against the caretaker, that he is not giving the drains proper attention, I now have the honor to submit a rough plan\* of the drains which I inspected, and from my own observation, and from the statements of both Mr. Elworthy and the caretaker, who have seen the drains full of water, I have no hesitation in saying they have been very badly and carelessly laid out, and that our caretaker, who has, I think, honestly done his best to remedy the very glaring defects, is being blamed for not neglecting other portions of his work to do what he never should have been called upon to do, namely, grade and level the drains. The inlet flume was lowered 9 in. before the water would run into the tank at all; the main and side drains have been lowered a long distance up, and two of the drains are, I submit, quite useless. The drains at Hulong are not an isolated case; at the Ivanhoe tank the levels are imperfect and water expected to run up hill.

I have, &c.,

JAMES W. BOULTBEE,  
Inspector, Public Watering Places.

The Chief Inspector, Public Watering Places.

The fencing has not been erected more than nine months, and I think should not be in the state described had the work been properly done by contractor.—J.W.B., 6/1/87.

Extract from Mr. Inspector Low's Report on Hulong Tank.

9 July, 1887.

P.W.P.,  
87-3,261.  
Original with  
papers re  
Fencing.

Drains. Nearly all full of water; where bottom can be seen, very free from silt. One of these already blocked up; ought to be banked up nearer to tank to prevent water running from tank.

J. LOW.

Extract from 87-5,614, Report A1 for 3 October, 1887, by Mr. Inspector Boulton on the Hulong Tank.

Narrandera District, 6 October, 1887.

P.W.P.,  
87-6,062.

Mostly full of water. I was enabled to confirm my report upon the drains here, and two of the drains are now blocked, as they run the wrong way.

JAMES W. BOULTBEE.

Extract from report of Mr. Acting Inspector J. W. Boulton, on the Hermitage Tank.

19 July, 1886.

P.W.P.,  
86-3,548.

State of drains.—Wide shallow drains, free from silt, cut on road. The road crosses these among some gilgai holes, and they are much cut by teams. Stone pitching or logging very necessary.

*Watering Appliances.*

State of supply tank.—A buckle plate in good order on iron cylinders, filled with cement, the best arrangement I have seen yet. A mistake has been made in putting the heads of the bolts outside and nuts inside tank.

*Remarks and Recommendations.*

The tenants' lease fenced is a hard bit of country, full of gilgai holes and covered with yarran, &c. I saw Mr. Alison, of Cannonbar, here, and he drew my attention to the inconvenient way the troughs are fenced here and at most of the tanks (see separate memo.) and in Keegan's hearing, informed me he had given his drovers instructions, in the event of his sheep not drinking, to cut down the rails. The rails are inconvenient, but I hardly think he would venture on such strong measures.

JAMES W. BOULTBEE,

14/7/86.

Inspector, Public Watering Places.

Extract from Mr. Inspector Boulton's report, on Booroondara Tank.

29 June, 1886.

P.W.P.,  
86-3,331.  
Original with  
papers in case 36.

Two long drains converge at the tank from each side of the catchment. No by-wash has been provided; the banks on the low side of the drains have been carried away about a chain from silt tank, and the water has flowed broad side on to troughs and swept over and under them. Caretaker pointed out to me site proposed by Works' officer for by-wash; I am of opinion it will be simply useless, as the ground (without taking level) appears to me to be higher than top of drain embankment on other side.

J. W. BOULTBEE.

Extract

Extract from Mr. Inspector Low's report, on Ivanhoe Tank.

31 August, 1887.

State of fencing.—Not yet transferred from Works Department. This style of fencing cannot be too strongly condemned, by running wire and straining it to any post. Although this is only lately erected, some of the posts are now splitting, owing to being split pine and straining wires to them.

P.W.P.,  
87-4,960.  
Original with  
papers re  
Ivanhoe Tank.

Remarks.—The drains here have evidently been constructed with no respect as to what a drain is for. One drain for a good half mile running water from tank, another is brought along road to Mossgiel, and cut up very badly by both stock and teams. The water from this drain overflows silt tank, which is very small and partly upon main road and runs into Elliot's tank on opposite side of road, which water Elliot afterwards sells to the public. Another long drain runs through township allotments, which have been sold and is now being blocked up.

J. LOW,  
Inspector, Public Watering Places.

I submit this extract from Inspector Low's report upon the Ivanhoe Tank and fencing for the information of the Honorable the Secretary for Mines, as it so strongly confirms my former remarks. It is work of this sort that occasions so much discredit, and for which this Department is so frequently blamed.—H.G., 28/9/87.

The Under Secretary,—Submitted.—H.W., 29/9/87.

Seen. I cannot help saying, after having seen this tank, that, in my opinion, a very improper situation was selected, and the work in my estimation is badly done.—F.A., 12/10/87.

Extract from Mr. Boulton's Report on Ivanhoe Tank.

22 November, 1886.

I believe 15s. per chain was paid for the drains here—work that I got done on the Darling from 3s. 6d. to 4s. 6d. per chain, 6 feet wide 18 inches deep.

P.W.P.  
85-7,030.  
P.W.P.  
85-5,587.  
Original with  
papers, Ivanhoe  
Tank.

J. W. BOULTBEE.

Can you give any information with respect to the cost of these drains.—H.G., B.C., 20/12/87. Mr. Yeo.

The drains at the Ivanhoe Tank were made by Mossrs Farrell and Gallagher, who received 15s. per chain, which was an exorbitant price, as stations in the district were only giving 3s. 6d. to 5s. per chain, and I might mention that a reliable person informed me at the time the contract was let that one of the contractors, while consulting his partner as to what price they should do the work for, said they should ask 7s. 6d. per chain, which he said would pay them well, but the partner said "As it's Government work let us ask 15s. per chain," which they did, and got. I might also mention that the drain running from the north-east corner of the main tank, from a point about half-a-mile from the main tank, should not have been passed by the Road Superintendent, as it was never graded properly, and the water runs in the opposite direction of the tank. No tenders were called for the cutting of these drains.—J. Yeo, 22/12/87.

Submitted for the information of the Secretary for Mines.—H.G., 23/12/87. The Under Secretary. Submitted.—H.W.

Extract from Report on Ivanhoe Tank by J. W. Boulton, for 22nd November, 1886.

There is one drain that for a considerable distance runs up hill, and a cutting 3 feet deep is required to run the water down. Mr. Stillwell had a man at this, but it is now left for our caretaker to do. I instructed him not to touch it until he has everything else in good order. The place is fully half-a-mile from the tank, and working there he can have no check on travellers.

P.W.P.,  
86-5,587.  
Original with  
papers, Ivanhoe  
Tank.

J. W. BOULTBEE.

XXX.

Yentabangee & Warramurtee Tanks.

Copy Extract from Mr. Road-Superintendent Cambridge's Report on Paroo Road, 30th June, 1879.

- \* \* \* \* \*
- 4. Nipper's Creek or Yentabangee holes, good sites for tanks at either.
- 5. Warramurtee Tank.
- \* \* \* \* \*

Original with  
Peri Springs  
paper.

The sites recommended have been suggested by some of the oldest residents in the district, to whom I am indebted for a great deal of information respecting the road and sites suitable for tanks.

H. CAMBRIDGE.

Extract from letter by Mr. H. Gilliat to Mr. Hogarth, Manager Mombi P. Company.

My dear Mr. Hogarth,

18 January, 1883.

I wish to obtain an opinion from an independent observer with regard to Peri Sand Hills, Yentabangee and Warramurtee Government Tanks, whether they are or are not so close to other sources of water supply as to interfere with their being leased, &c.

Original with  
Peri Springs  
papers.

\* \* \* \* \*

H. GILLIAT.

Letter on similar terms to W. H. L. Ranken, Esq., Tongo, dated January, 1883.

Extract

Extract from letter of Mr. Hogarth, in reply to Mr. Gilliat's letter of 18th January, 1883.

\* \* \* \* \*  
 Original with Peri Springs papers.  
 Tanks & Wells, 83-319.  
 Yentabangee is almost similarly situated, being within 3 miles of the Tongo Waterhole, which is almost permanent on the one side, Olpoloko Waterhole on the other side, also about 3 miles distant from tank. In my opinion this tank should have been put down at the Olpoloko Waterhole, as it would have divided the distance from Peri Springs to Tongo Waterhole, making about 10 miles from the former, and 6 or 6½ miles from the latter.

\* \* \* \* \*  
 W. HOGARTH.

Letter from W. H. L. Ranken, Tongo Station, Paroo.

My dear Gilliat, Melbourne, 6 February, 1883.

Tanks & Wells, 83-301.  
 Your note was forwarded to me from Tongo.  
 The Tank at Nipper's Creek has no permanent water near it, strictly speaking, but the water in Wonko or Purnanga Creek at Murphy's Inn has only failed twice during the last five years, and then for a very short period in mid-summer; that is 3 miles from Nipper's Creek.

Warramurtee Tank is 2 miles from a station dam containing the old original "Warramurtee." "Murtee" is the native for a lagoon.

There is a comparison in calling Nipper's Creek by the name of Yentabangee in official notices, &c., which causes drivers and others much trouble. No such name is known there, and it is sometimes set down as meaning Yentabangee, that is 4 miles from Nipper's Creek Tank.

We have been in Tasmania all the summer, and look forward to returning to Tongo in May. I hope you will visit us during the winter.

I remain, &c.,  
 W. H. L. RANKEN.

Copy of extract from Report by Mr. Gilliat, 22nd February, 1883.

Tanks & Wells, 83-302.  
 Original with Peri Springs papers.  
 Referring to Mr. Overseer Hansen's report on the Paroo Tanks and other papers herewith, it appears that the Peri Sand Hills Tank and Warramurtee Tanks have permanent water close by, and that the Nipper's Creek, or Yentabangee Tank, has the Tongo Waterhole about 3 miles distant on the one side, and the Olpoloko Waterhole on the other.

\* \* \* \* \*  
 I agree with Mr. Hansen that it is unlikely that the first three tanks will find tenants on this account. So far, I believe, no tenders have been received.

\* \* \* \* \*  
 H. GILLIAT.

Yentabangee Tank.

Sir, Tongo, 10 February, 1883.

Tanks & Wells, 83-310.  
 I have the honor to hand you my report on Yentabangee Tank.  
 This tank is very much out of order, and there is, at the present time, very little water in it—about 2 feet. The drinking tank has about 6 feet of silt in it, and the service pipe buried. The caretaker is now busy in clearing a space of 15 feet square at the mouth of the service pipe, so as to give the water a chance to get through when the main tank fills again. The pipe on the inside is quite clear, but whether the water will force the mud through that is now in the pipe remains to be seen. These small 4-inch pipes are of no use whatever, and once they get blocked up with silt, there is no chance of clearing them. The connecting valve I found broken; I have removed this, and will send it to Wilcannia for repairs. The caretaker will replace it when returned. The inlet pipe is a 12-inch cast-iron; this, also, was blocked up, but is now clear. There was rain enough in November last to fill this tank, but no water could get in. The silt tank requires to be cleaned. The fencing is in a very bad state, cut in several places, and about thirty rails are gone. The front of the drinking tank was never fenced,—this should be seen to. I would advise that early steps be taken to have this tank put in order, as it is next in importance to the Goombalara Tank. The site is a very good one, and this tank is often used; yet, at the present time, there is plenty of water 6 miles on the Peri side, in Poloko Creek, also in the creek at Murphy's hotel, 4 miles from Yentabangee.

On separate sheet you will find statement of repairs required.

I have, &c.,  
 JOHN HANSEN,  
 Overseer, Public Tanks and Wells.

Harry Gilliat, Esq., Inspector, Public Tanks and Wells, Ivanhoe.

Tank at Nipper's Creek, Road Wilcannia to Hungerford.

Extract from *Western Grazier*.

The Nipper's Creek Tank.

Sir, To the Editor.

Stock, 82-1,083.  
 Owing to some defect in construction, or stoppage in pipes connected with this tank, no water from the rain that fell in the vicinity of the tank on 21st instant was conserved, notwithstanding that a sea of water surrounded the tank, and only required a little attention to make it run in. The questions arise: Who is responsible for the neglect? and, if immediate attention is given, cannot some of the water that still remains round the tank, and must otherwise be wasted, be still conserved.

Wilcannia, November 29th.

Yours, &c.,  
 ANXIOUS DROVER.  
 [We

[We judge this to be a matter for Mr. Ilberry's immediate attention, and we trust that, under his control, such an instance of gross neglect as that complained of will become impossible. We are not so often favoured with rain that we can afford to let it run to waste when it does come.—ED.]

The watercourses and pipes were all clear when I visited this tank early in the year. The *débris* brought down by late rain must have stopped inlet pipe.—H.C., 13/12/82. Mr. Wood to see.—W.C.B., 19/12/82.

This tank has been handed over to the Mining Department, and they are solely responsible for this "*instance of gross neglect*." This is another fact supporting my long since expressed views as to the evil of taking control of these works out of our hands.—ARTHUR P. WOOD, 19/12/82.

I think this might be sent on to Mines.—W.C.B., 19/12/82. Under Secretary, B.C. The Under Secretary for Mines.—J.R., B.C., 20/12/82. Urgent. Mr. Inspector Gilliat.—A.B., B.C., 22/12/82.

Mr. Bruce.—Mr. Hansen instructed to make an early report. The inlet pipe to this tank is the usual 9-inch supplied by the Works Department, and is quite insufficient to take in the water required. I refused, in my report on this work, to recommend any outlay, on account of its neighbourhood to more permanent water.—H.G., B.C., 28/12/82. Returned, 2/1/83.

You will, I think, on reconsideration, see that as this and other works on the Paroo have been taken over by this Department, they should have been made as efficient as possible, and that the inlet here, and at the other tanks (which are so very unsuitable), should have been altered. I hope Mr. Hansen will see to this immediately.—A.B., 4/1/83. Mr. Gilliat.

Copy from Mr. Gilliat's Report on Peri Springs Public Tank.

\* \* \* \* \* My report was submitted in April, 1881, and pointed out that it was impracticable that tenants would ever be obtained for Peri, Nipper's Creek, or Warramurtee Tanks, on account of their neighbourhood to good water supply. \* \* \* \* \*

Tanks & Wells,  
84-583.  
With Peri Springs  
papers.

\* \* \* \* \* The Nipper's Creek has Olepoloko Waterhole situated on one side, and Tongo Waterhole situated on the other. The Warramurtee Tank is about  $\frac{1}{2}$  mile distant from the Warramurtee Waterhole, one of the finest on the lower Paroo. The attention of the Department has on various occasions been directed to these works. I may add that it is only within the past ten months that the Department of Mines has been admitted to have any voice in the selecting of sites of works, and that I am not aware of any instance in which it has been consulted with regard to their construction. \* \* \* \* \*

H. GILLIAT,  
20th May, 1884.

## XXXI.

### Roto Well.

Sir,

Hay, 3 May, 1886.

I have the honor to forward the attached report received from Caretaker Ross, at Roto Well, in which he says that one of the runners down the shaft has got out of place. I suppose that Mr. Stillwell will say it was caused by the carelessness of the Mines caretaker.

P.W.P.,  
86-2,207.

Please inform me what I am to do in the matter of having it repaired.

I have, &c.,

JOHN A. KEIGHRAN,

Overseer.

The Chief Inspector of Public Watering Places, Sydney.

A copy of Ross' report may perhaps be forwarded to the Department of Public Works.—H.G., 14/3/86. The Under Secretary for Mines. Approved.—G.E.H. (for U.S.), 19/5/86. Forward copy to Department of Public Works.—H.G., 21/5/86. Letter and copy of Ross' report to Works, 25/5/86.

Copy of Letter from Joseph G. Ross, Caretaker, at Roto Well.

Sir,

Hillston, 27 April, 1886.

I herewith inform you that during baleing water on Saturday one of the runners down the shaft came out of its place, and stopped me from pulling any more water. I went down shaft and found it out of place under water. Please to inform me what I am to do. I cannot replace it myself; the water must be taken down before anything can be done. It will require a canvas bucket for the broken side. And I am,

P.W.P.,  
86-2,208.  
Original  
mutilated.

Yours, &c.,

JOSEPH G. ROSS,

Caretaker.

Mr. John Keighran, Overseer of Public Watering Places, Hay.

Copy of telegram from Mr. A. W. Stillwell, Assistant Engineer, Hay.

MECHANIC sent to repair Roto Well from Hay yesterday. No urgency, as there is plenty of surface water there now.

P.W.P.,  
86-813

A. W. STILLWELL,

Assistant Engineer.

The Commissioner and Engineer for Roads and Bridges, Sydney.

I recommend that this paper be transmitted to Mines for the information of the Inspector of Tanks and Wells.—W.C.B., 3/6/86. Under Secretary, B.C. The Under Secretary for Mines.—B.C., 4/6/86. The urgency in this case was that the well is about to be transferred to the tenant.—H.G., 7/6/86.

Extract from Report by Acting-Inspector J. W. Boulbee, at the Roto Well.

\* \* \* \* \*  
 P.W.P., 86-3,134. State of shaft.—Out of order. A runner has come away, and will not allow the bucket to descend. The engineer is expected shortly to put this right. Caretaker has tried to repair this himself.  
 \* \* \* \* \*

There is a fine dam close to this well, which is used by travelling stock, hence the poor returns.

JAMES W. BOULTBEE,  
 Inspector of Public Watering Places.  
 13 June, 1886.

Roto Well.

Sir, Hay, 29 March, 1887.  
 P.W.P., 87-1,576. Mr Nicholson visited this well on the 24th instant. Reports considerable neglect on part of lessee. There is no one in charge, nor had there been apparently. The horse-walk was washed down at sides, in one place exposing king post to ground surface. The troughing was all overgrown by burrs, and the surface tank needed filling.  
 I have, &c.,

A. W. STILLWELL,  
 Assistant Engineer.

The Commissioner for Roads.

Under Secretary for transmission to Mines.—W.C.B., 1/4/87. The Under Secretary for Mines.—J.R., B.C., 2/4/87. Mr. Oversecr Keighran.—H.G., B.C., 18/4/87.

87-1,576. This report of Mr. Stillwell is partly correct. For full information see my report on this well, which goes by same post as this.  
 JOHN A. KEIGHRAN,  
 Overseer.

The Chief Inspector of Public Watering Places.

Report by Overseer John A. Keighran on the Roto Well, Road from Hillston to Cobar, in charge of Evan Evans, tenant, for May, 1887.

P.W.P., 87-2,247. State of shaft.—In good condition. The water in this well is very good, equal if not better than the river water.  
 Whim, &c.—Good, but the horse walk is damaged in two places by rain, close to king posts.  
 Ropes, buckets, &c.—In good condition.

*Watering Appliances.*

State of supply tank.—Good; full of water to within 18 inches.  
 Troughing.—Good, but burrs have been allowed to grow along the sides, and should have been cut down.

State of fencing—Six wire enclosing tenant's lease, in good condition; trough fence good.

State of gates.—Good.

Remarks.—On my visiting this well, on the 14th instant, there was no one in charge, that is, residing at the well, nor has there been since the works were handed over. The lessee and his manager were away from the station, so that I did not see either of them. No stock will require watering at their well for the next twelve or eighteen months, there being sufficient water in the creek to last that time.

*Rates collected since last report.*

No stock has ever been watered at this well.

*Weekly depth of water since last report.*

16 feet 6 inches.

Remarks and recommendations.—This work shows neglect, on the part of the lessee, by not having the horse-walk repaired, and keeping of the surroundings clean, and free from burr. The whole of the work required to be done would not take a man more than one hour to do it. I do not know who has the clearing of the burr from off the public road, but the roadway here for over a mile, between the Government and station fence is thickly covered with this Bathurst burr, and is an impediment to stock travelling.

JOHN A. KEIGHRAN,  
 Overseer of Public Watering Places.

Hillston, 24th May, 1887.

The tenant is reported by the Overseer to have no one in charge of the well or residing at it. This is a breach of regulations 41 and 47. Mr. Keighran should, I think, at once have instituted proceedings against him under the 13th clause of the Act, and I submit may be now instructed to take that course.—H.G., 31/5/87. The Under Secretary.

Submitted for approval.—H.W., 1/6/87. Approved.—F.A., 2/6/87. Is this a notified public watering place? No, this has not yet been notified.—R.W.G., 9/6/87. Is it notified in Mr. Bruce's list?—J.W.B. Yes; this public watering place is included in travelling stock reserve 2,447, notified 19/9/81, and in travelling stock reserve 253, notified 26/4/76, both of which are notified in Mr. Bruce's list as reserves for the purposes of the Public Watering Places Act.—J.W.B., 30/6/87.

Instruct

Instruct Overseer to proceed, and to furnish a full report. He should have *Gazette* notice of the reserve and his appointment under the Act to produce in Court.—H.G., 30/6/87. Mr. Keighran instructed.—J.W.B., 4/7/87. Request Mr. Keighran to explain without delay his reasons for not informing the Department of his action in this case.—H.G., 1/9/87. Letter to Mr. Keighran.—7/9/87. The clerk in charge should keep such cases as this constantly in view until they are settled.—H.G., 1/9/87. Mr. Ramsay.

Sir,

Hay Stock Office, 10 September, 1887.

Referring to your public watering places 2,247, of 7th September, I have the honor to give the following reasons for not proceeding against the lessee of Roto Well, which I trust will be found satisfactory.

P.W.P.,  
87-4,669.

Before taking action in the matter I wished to make certain whether the lessee had, during the interval, complied with regulation 47 of the Public Watering Places Act by having a caretaker residing at the works for that purpose. I again visited at the well on the 24th August, and in company with the lessee (Mr. Evans) found it in the same condition as on my last inspection. To the fact of this I drew Mr. Evans' attention, and informed him that my instructions were to prosecute. He replied by saying that he would, at the termination of his lease, deliver over the works in the same order and condition in which they were received, and what more did the Government require; and as to not having a man residing at the well he considered his residence, half mile from the works, was sufficient protection. Moreover, no stock would require watering from the well for the next two years, there being sufficient in the creek to last during that period, and that he would not place a man there to do nothing. On my returning to Hillston to procure a summons I found that the police magistrate (Mr. O'Neill) was absent in Sydney, on leave. In consequence of that I have allowed the matter to stand over, but as soon as I hear of Mr. O'Neill's return, it is my intention to institute proceedings, as I should wish that gentleman to be on the Bench at the time to adjudicate. It being the first case of the kind that has happened in the district, I would not care to be bested.

I have, &c.,

JOHN A. KEIGHRAN,

Overseer, Tanks and Wells.

The Chief Inspector of Watering Places, Sydney.

Mr. Keighran's explanation is satisfactory; it would have been more correct if he had informed the Department at once of the cause of delay. I trust he will take great pains with this case. As soon as summons issues he will inform me and Inspector Boulton, at Narrandera, by wire, of the date case will be heard.—H.G., B.C., 16/4/87. Mr. J. A. Keighran.

Report by Overseer John A. Keighran on the Roto Well, Road from Hillston to Cobar—in charge of Evan Evans, for November, 1887.

State of shaft.—Apparently in good condition. No water has been baled for some considerable length of time.

P.W.P.,  
87-6,599.

Whim, &c.—Good, but requires tarring.

Rope, buckets, &c.—Rope good; buckets good.

#### Watering Appliances.

State of supply tank.—About three parts full of water, and apparently sound, but requires tarring.

Troughing.—Sound, but as no stock has been watered at them, burrs and grass have been allowed to grow up alongside without being cut down.

Machinery.—None.

State of fence.—Paddock fence, tenant's lease, in good condition.

State of gates.—(2). Good.

Remarks.—With the exception, that the horse walk has been repaired, nothing else has been done since my last inspection; no caretaker or man residing at the well; prosecuted the lessee, but the case was dismissed by the Hillston Bench of Magistrates.

Rates collected since last report.—No fees have been collected here during the tenant's time of lease.

Work done by caretaker.—None, with the exception of repairing horse-walk, which had been damaged by rain.

Work laid out for caretaker.—Instructed the lessee to have all the wood work above ground tarred and the troughing freed from burr and grass. He promised to have the tarring done at once, but as to clearing away the burr, &c., he said he would not do unless the Government cleared the road which adjoins the works.

Remarks and recommendations.—In accordance with the Chief Inspector of Public Watering Places' instructions I prosecuted the lessee, Mr. Evan Evans, under section 13 of the Public Watering Places Act, for not having a man residing in the immediate neighbourhood of the well, and although I proved my case, it was dismissed by the Bench of Magistrates then sitting, on the grounds that the well was not required, it being situated alongside of the Willandra Creek, on which there was a large dam of water, which was open to the travelling public free of charge, and that it would be persecuting the lessee by compelling him to pay and keep a man there to do nothing. The Police Magistrate remarking that their decision must not be taken as a precedent at other wells or tanks where water was required.

JOHN A. KEIGHRAN,

Overseer of Public Watering Places.

Hillston, 3 December, 1887.

Sir,

Hay Stock Office, 8 December, 1887.

I have the honor to report that in accordance with your instructions of the 4th July last, I proceeded against the lessee of Roto Well, under section 13 of the Public Watering Places Act, for having no one residing at the well. The Magistrates adjudicating were Mr. N. C. O'Neill, P.M., and Mr. R. W. Stewart. My authority to prosecute and *Gazette* notice of the 24th April, 1885, I produced to the Court, and gave the several dates of inspection to the well, and found no one in charge. After hearing evidence on both sides, the Bench dismissed the case, on the grounds that the well was situated alongside of

P.W.P.,  
87-6,692.

of the Willandra Creek, on which there was a large dam of water, to which the travelling public had free access, it being part of the travelling stock reserve, and as it has been admitted in evidence that no complaints were made of the non-attendance of a caretaker, it would be unjust to compel the tenant to keep a man stationed at the well to do nothing. The Police Magistrate remarking that in giving this decision, it must not be taken as a precedent to other Public Watering Places, where the attendance of a caretaker would be required at any time.

I have, &c.,

JOHN A. KEIGHRAN,  
Overseer, Tanks and Wells.

The Chief Inspector, Public Watering Places.

The Bench appear to have failed to take into consideration that the defendant was prosecuted for breach of a contract with the Government. The conditions were the same as when he executed his lease, except that the Willandra Creek was then empty. No doubt it would have been more desirable that the Willandra should have been utilized for the public watering place, but with this question, I submit, the Bench had nothing to do.—H.G., 8/12/87. The Under Secretary. Submitted.—H.W., 9/12/87. Approved.—F.A., 10/12/87. Shall the attention of the Justice Department be called to the action of the Bench in this case?—H.W., 12/12/87. Yes.—F.A., 13/12/87. Letter to Under Secretary for Justice, 16/12/87.

87-6,757.

## XXXII.

### Tanks, Bourke to Wanaaring Road.

Minute of the Superintendent of Drills on the subject of Water Supply on the Bourke to Wanaaring Road.

Sir,

23 December, 1887.

P.W.P.,  
87-7,042.

I consider it my duty to inform you that I have received private information to the effect that the Works Department intended constructing a tank on the Cuttaburra Creek, on the Bourke to Wanaaring road; if said information is correct, then all the money expended in boring for artesian water at the 101½-mile, or about 2 miles from the Cuttaburra Creek, will be wasted, as it would not require three different public watering places within 24 miles, viz., the Kulkine Tank, the Cuttaburra Tank proposed to be constructed, and the artesian water supply, of which I have no doubt will be obtained at the 101½-mile.

The 101½-mile bore was started on the 22nd June last, and on Saturday the 19th instant was down to the depth of 611 feet 6 inches.

This bore passed through a very hard layer of quartzite, but the boring is now better, as it is in cretaceous clay, and I fully expect that within the next two months an artesian water supply will be tapped, equal if not superior to the supply at the 75-mile bore, which is 960 feet in depth, and flows at the rate of 30,000 gallons per day.

I have, &c.,

W. H. J. SLEE,  
Superintendent of Drills.

The Chief Inspector of Public Watering Places for any remarks he may have to offer.—H.W., 23/12/87. Ask Inspector Mackenzie to ascertain whether it is true that two new tanks are proposed by the Works Department between Bourke and Wanaaring.—H.G., 23/12/87. Wire sent, 23/12/87.

I have wired Inspector Mackenzie, at Bourke, to ascertain if this report is correct; I can hardly imagine it is, as the neighbourhood of each of the supposed new tanks to permanent water is so well known that it is improbable any responsible officer would commit so manifest a blunder. Such a course would also be in direct opposition to the Departmental arrangements that sites should be selected by this Department, an arrangement however that has been departed from in more than one instance by the Works.—H.G., 23/12/87.

The Under Secretary. The Public Works Department may be asked not to proceed with the tanks referred to without making further inquiry.—H.W., 29/12/87. Submitted. Approved.—F.A., 30/12/87. Letter to Works Department, 3/1/88.

Telegram from Mr. Inspector F. M'Kenzie to The Chief Inspector of Public Watering Places.

Bourke, 24 December, 1887.

P.W.P.,  
87-7,049.

Two new tanks are proposed between Bourke and Wanaaring, one at 63 mile, and one at Cuttaburra supply tanks, 1,000 yards have been let.

F. M'KENZIE,

Inspector, Public Watering Places.

Mr. Inspector M'Kenzie's telegram appears to confirm the information received by Mr. Slee, but the action taken upon that paper renders any further steps unnecessary, pending a reply from the Department of Public Works.—H.G., 3/1/88. The Under Secretary. Approved.—H.W., 3/1/88.

Sir,

Department of Mines, Sydney, 3 January, 1888.

P.W.P.,  
87-7,049.

It having been reported that your Department propose to construct two new tanks on the Bourke Wanaaring road on sites which do not appear to have been approved by this Department, I am directed by the Honorable the Minister for Mines to ask that you may be good enough not to proceed with the tanks without making further inquiry.

I have, &c.,

HARRIE WOOD,  
Under Secretary.

The Under Secretary for Public Works.

## XXXIII.

## Chesney Correspondence.

Dear Sir,

Sydney, 14 April, 1887.

I enclose a memo. I made for you a few days ago up country. I spoke to Mr. Sutherland anent the matter yesterday, but believe that the business belongs to your Department. This is, I assure you, one of the most urgent matters of the kind that has been for some time brought under your notice, and, as a practical man who knows quite well what he is talking about, I would strongly advise the cutting down of a passage at one end of these tanks to admit of stock going straight up to the water to drink. This is as most practical men use their tanks. With travelling stock, however, the thing is an imperative necessity; people who use troughs in the manner which the Government propose to make use of their own stock that have been taught to drink out of them. But nine-tenths of travelling stock have never been so taught when young, and by stock so bred, and hence will perish before they will learn. Had it not been for the private tanks in the neighbourhood of our public one we would have had serious losses in fat stock last summer. This whole business is seriously mismanaged, mismanaged by men who evidently know nothing about it.

The Honorable the Minister for Mines.

Yours, &amp;c.,

JOHN E. KELLY.

P.W.P.,  
87-1,732.

MEMO.—

Tanks public.—Those along Cobar and Bourke stock routes are securely fenced off, and all water must be pumped out into troughs. These are so badly constructed that neither sheep nor cattle can drink out of them. Travelling stock owners prefer paying run holders double the money for a drink for stock. These tanks should be cut down at one end to enable stock to get at the water. Travelling stock for most part are unaccustomed to drinking out of troughs, and, to my own knowledge, have perished around troughs, and could not be made to drink out of them. A return of the takings for the past twelve months of these tanks should satisfy you that there is something radically wrong somewhere. These things should be revenue producing, instead of which I feel sure, if what I hear be anything like true, that they are a heavy cost to the country.

JOHN E. KELLY.

The Honorable the Minister for Mines.

Ask Overseers Tully, Brett, Cotton, and Mallon if the use of troughing at station tanks is being adopted in their districts.—H.G., 18/4/87. Informed, 19/4/87.

Minute by The Chief Inspector of Public Watering Places on (Mr. J. E. Kelly's, M.P., views) the subject of troughing at Watering Places.

Sydney, 2 June, 1887.

With reference to Mr. John E. Kelly's, M.P., letter, objecting to the use of troughing at public watering places, I may say that the question was apparently settled at the time of the passing of the Public Watering Places Act, which provided severe penalties for the pollution of water.

A few of the reasons may be briefly given. The Government having provided watering places at a large cost upon the principal roads of the Colony, it is necessary the water should be economized and distributed with as little waste as possible. Stock, especially sheep, admitted to the tank, bring out more water on their bodies than they drink. When admitted to the tank they pollute the main body of the water by their droppings, as well as by stirring up the mud on the slopes in their passage in and out; and with the frequent watering of stock that would be required at a public watering place, the main body of water would very soon in hot weather become undrinkable.

The public watering places, while enabling the owners of stock to travel in all seasons when there is sufficient feed, were not, I submit, constructed for these gentlemen alone. They are for the use and convenience of the travelling public and carriers, and they are frequently utilized to supply the public-houses upon the dry stages of the western roads. They are to be utilized for human consumption as well as for stock.

If Mr. Kelly's contention was admitted, there is no question the public tanks would shortly become hotbeds of disease, both for human beings and stock.

Where troughing is properly constructed, and the stock rightly brought to it, there is no difficulty in watering them. I say this advisedly, of my own experience; and I submit the attached letters from gentlemen, station-managers in the driest district of the west, in corroboration of it.

HARRY GILLIAT,

Chief Inspector of Public Watering Places.

Submitted.—H.W., 3/6/87. Approved.—F.A., 6/6/87. Mr. Kelly, M.P., may be asked to call and see these papers. It will, perhaps, be more convenient if Mr. Kelly were furnished with a copy of these papers.—H.G., 7/6/87. The Under Secretary. Yes.—H.W., 7/6/87. Copy to Mr. Kelly, M.P., 10/6/87.

Sir,

Sydney, 31 May, 1887

I do myself the honor to lay before you another communication from Mr. Charles A. Chesney, a gentleman whose opinion on such subjects as stock watering and their management is equal to that of any South Australian.

422---2 B

P.W.P.,  
87-2,342.

I

I shall certainly ask for a Royal Commission or something of the kind to inquire into the manner in which public money is and has been ruthlessly wasted for years past in the various public Departments, particularly that of Works.

The work which is now being done at the Nevertire Tank is a wanton waste of money, "robbery" is scarcely a severe enough term to characterize this piece of bungling.

Yours, &c.,

JOHN E. KELLY.

The Secretary for Mines.

P.S.—If this correspondence is to leave your Department to go on to another, I hope that you will direct Sir Henry's attention to it, before you part with it, as I scarcely see anything beyond promises from Works Department.

J.E.K.

Dear Sir,

Cobar, 26 May, 1887.

Your letter of the 19th May with enclosures is to hand. I have also received a letter written by you to Mr. Smith, of Moquilamba, enclosing a copy of Mr. A. P. Wood's report on your complaint.

With reference to the reply of Mr. Wood's to you, that gentleman seems to lay great stress on the opinion expressed by Mr. Peter Waite, of South Australia, on the advantages of trough-watering, but he fails also to show that Mr. Waite's troughs are properly constructed for watering stock, while those erected by the Department under, I presume, Mr. Wood's direction are utterly unsuited for their work. He also fails to notice that the mere fact of Mr. Waite being satisfied with the troughs as suitable for his paddock sheep where they have been broken into such a style of watering from the time they are dropped, does not prove that troughs are suitable for watering stock on the travelling stock roads of the Colony.

As everyone knows who has had the least experience of trough-watering it takes a considerable time to break in stock to approach troughs, and never advocated against the use of troughs on sheep or cattle holdings, where it was necessary to utilize every drop of water and to be free from waste. But I hold that trough-watering for travelling stock is a mistake. If all animals had been accustomed to runs where this method is in use, all might be well, but to bring sheep from country where such a method had never been resorted to, in hot weather the chances are many would die before they could be accustomed to the troughs. And besides, it makes a considerable difference as well in the quantity of water wasted, comparing troughs erected in sheep paddocks and those on main roads.

In the former case sheep come when they are thirsty and water at the troughs in small mobs, while on the road a big mob has to be brought up, and so pollute the water with dirt and muck of various descriptions, that after the first mob has watered, the troughs have to be cleaned out, or the balance of the sheep will refuse to touch the water. In fact the whole of Mr. A. P. Wood's contentions lies in the fact that the Department has made a mess of this troughing business, and of course they must defend themselves somehow, even if they have to go to Mr. P. Waite, of South Australia, as an authority. Surely Mr. Wood might have got an equally competent authority to refer to nearer home. He says this is the first complaint he has ever heard made against the tanks. Well, this may be so; who can prove to the contrary? But his subordinates have heard plenty, and if they have not informed their superior officer he should ask at once for an explanation. Overseer Adam, of Cobar, has heard plenty, but the Department took fine care to keep these complaints back. The time has come for a big row on the subject, and the Royal Commission will be the only thing to unearth the Departmental bungling and incompetency that exists. Keep worrying the matter up, and the drovers and owners whose sheep have suffered through the mismanagement of these watering places will bless you. I would like as a preliminary that you would ask in the House a return showing,—(1) Amount received as watering charges at the various public watering places of the Colony for years 1885 and 1886. (2) Amount of wages of caretakers for same period. (3) Number and names of tanks leased, with the name of lessee and amount received from him. (4) Cost of repairs and supervision of tanks for same period.

Yours, &c.,

CHARLES A. CHESNEY.

Mr. John E. Kelly, M.P.

Minute by The Chief Inspector of Public Watering Places on (Mr. C. E. Chesney's views) the subject of troughing at Government tanks.

Sydney, 2 June, 1887.

P.W.P.,  
87-2,357.

With respect to Mr. Chesney's letter to Mr. John E. Kelly, M.P., a few remarks may tend to give a somewhat different colour to his views.

1. Stock watering from troughing consume and waste certainly less than one-half of what they do when allowed admission to the tank, woolled sheep in particular bring out more in their fleece than they drink.

2. By admission to the tank the water is polluted by the dung and urine, and by the trampling up of the mud upon the slopes, the pollution of the main supply and consequent waste would be generally considered a more serious matter than the pollution in the troughs of which Mr. Chesney complains, and which, when the troughing is properly constructed, rarely, if ever, occurs, and when it does necessitates only the waste of the water left in the troughs.

3. The public watering places are not for the convenience of squatters or pastoral tenants alone, and while the action of the Government in watering the main stock roads enables them to move their sheep and cattle with a minimum of loss in most seasons, they are also for the use and convenience of the travelling public, the carriers, and men seeking work, and, unlike the station tanks, are to be used for human consumption; for this reason the Act rightly provides such stringent measures against the pollution of the water.

These are some of the reasons against Mr. Chesney's opinion, that trough watering for travelling stock is a mistake. Mr. Chesney's assertion, that every one with any experience knows that it takes a considerable time to break stock to approaching troughing, may be replied to by this extract from a letter of Mr. John Low, a gentleman of at least as much experience as Mr. Chesney:—"I have never experienced any difficulty in getting stock requiring water to drink at troughing, while in hand, where the water is properly supplied to the troughs, *i.e.*, by self-acting valves, the great desideratum being to have it supplied regularly and without noise." Mr. Mackenzie, late manager of Nunthorungee, says also:—"I have never had any difficulty in inducing sheep to drink from the troughs, and I have frequently watered weaners in this manner that had been accustomed to water from the tanks."

Mr.

Mr. Chesney further says, that on the road large mobs have to be brought up (*i.e.*, to the troughing). Mr. Chesney is not perhaps accustomed to the road, but I have no hesitation in saying that a drover who would bring his sheep or cattle up in a large mob, either to troughing or when they are admitted to the tank, should be dismissed.

Mr. Chesney's reference to Mr. Peter Waite appears somewhat disparaging. I may perhaps say that Mr. Waite is a partner and general manager of the Sir John Elder's Pastoral Company, probably the owners of the largest number of sheep in Australia. This gentleman's management has always been upon the most advanced methods, and scientific skill has been liberally made use of in the most practical manner.

I have had occasion to prepare a paper upon this subject, in reply to a letter from Mr. Kelly, to the Secretary for Mines, to which the originals of the letters referred to are attached.

In conclusion, I may say it is well known that no one perhaps differs more widely from Mr. A. P. Wood's views upon the construction of tanks and troughing than myself. My dissent from Mr. Chesney's opinion is founded therefore upon what I consider his radical misapprehension of the subject.

HARRY GILLIAT,  
Chief Inspector, Public Watering Places.

Submitted.—H.W., 3/6/87. Approved.—F.A., 6/6/87.

Memo. by Mr. Gilliat.

As Mr. Chesney's letter was forwarded by Mr. Kelly a copy may perhaps be forwarded to that gentleman.—H.G., 7/6/87. The Under Secretary Yes.—H.W., 7/6/87. Copy forwarded to Mr. Kelly, 10/6/87. This need not be resubmitted until a reply is received from either Mr. Kelly or Mr. Chesney, 1/7/87. No reply yet.—R.W.G., 8/11/87. Mr. Chesney's letter to the *Daily Telegraph* may be attached. It is probable the question may occupy the attention of the Commission.—H.G., 17/11/87. Letters of Mr. Chesney attached, 24/11/87.

Memo.—Troughing at Station and Government tanks.

Sir,

20 April, 1887.

P.W.P.,  
87-1,773.

In reply to your inquiry under the above heading, I have the honor to submit for your consideration, that I have had twelve years experience in the Western District as overseer and manager of stations, and can speak from practical experience. In all cases it was found to be far preferable to adopt the plan of supply-tanks and troughs, and pump the water to the stock rather than allow them into the excavation, for the following reasons:—

Stock admitted to it, especially cattle, rapidly puddled and polluted the water by their excreta, and swimming in it, causing excessive waste by the quantity of water carried out, the trampling of the slopes when saturated by the water draining from the beasts, rapidly cutting them down, and filling in the tanks and rendering the necessity for cleaning out very frequent. It was furthermore found an impossibility to use the water even for stock, when low down in the tank, it being simply a solution of dung and urine.

The tanks are now fenced in, and troughing erected, obviating all this, rendering the damage to wool, and loss by bogging, an impossibility, and the water is used to the last drop.

Water pumped to 10,000 sheep from a 10,000-yard tank, would last three months in hot dry weather, longer than if they were allowed into it.

Gnalta, Nuntherungee, Salisbury Downs, Momba, all large western properties, abandoned the old styles for this.

The notion of allowing stock into tanks, except in the cases of selectors or to small tanks, is a poor one, and now quite exploded, and the reverse of economical.

The practice of allowing stock into specially constructed tanks at Government watering places, was first adopted, but eventually abandoned, for some of the foregoing reasons.

The steepness of the slopes, 1 to 1, of the later constructed tanks, renders it an utter impossibility to allow stock into them.

My experience tells me that stock, if thirsty, will drink anywhere, and I never knew cases of stock perishing at the water, unless too far gone when brought to it.

JAMES W. BOULTBEE,  
Inspector of Public Watering Places.

P.S.—Since writing the above I have seen Mr. Farquhar Mackenzie, for many years the manager Nuntherungee Station, and have requested him to give his views in the form of a memo. upon this subject.

Dear Sir,

Sydney, 3 May, 1887.

P.W.P.,  
87-1,947.

After many years' experience on the back Darling (among stock), I am of opinion that troughing is in every way preferable to allowing them to water at the tanks.

In the first place sheep will carry out more water than they drink, besides carrying great quantities of dirt into the excavation, and if kept for any length of time without water they will swim into the tank and carry many gallons of water away in the fleece.

In the event of the water becoming low in the excavation they render it altogether unfit for human consumption, in fact I have frequently known the water to be so much polluted that stock, though requiring water, would not drink it.

I have never experienced any difficulty in inducing sheep to drink from the trough, and have frequently watered weaners in this manner that had been accustomed to water from the tanks.

I have, &c,

F. MACKENZIE,

Late Manager, Nuntherungee.

Mr. Gilliat.

I have seen troughing used successfully at Nuntherungee, Wonnaminta, Morden, Tarella, and other stations in Albert District of New South Wales.

Dear

Dear Sir,

Sydney, 2 June, 1887.

P.W.P.,  
87-2,352.

Referring to our interview *re* watering of stock at tanks, and whether it is preferable to allow them free ingress to the tank or to have it fenced off and stock watered by troughing.

Having had considerable experience in Riverina and Darling country, I have no hesitation in stating that where troughing and appliances are properly fixed, this without doubt is the proper method. Subjoined are a few of the advantages derived from troughing.

The tank being fenced off the water is not polluted with excrement, which any practical man will admit is the custom of stock in hot weather when they get into water; neither are the tanks cut up and the tank thereby filled in, this applies more forcibly to slopes, say 1 to 1, which are sudden for even strong stock, and more so to weak, after being a considerable time without water, which, unfortunately, is often the condition of travelling stock, the great danger being a rush when those in the lead are liable to be pushed in and drowned. I have myself seen this happen where every precaution was taken, it being simply impossible, in fact dangerous, to try to block cattle when they are thirsty.

The water by being supplied to stock in troughs will last much longer, is clean, consequently much better for them, especially should water be scarce, when, were stock allowed to get into the tank, the chances are, if a large mob, the tail would get nothing but mud, or the water would be so nauseous that they would sooner starve than drink it.

I have never experienced any difficulty in getting stock requiring water to drink at troughing while in hand, where the water is properly supplied to the troughs, that is by self acting valves, the great desideratum being to have it supplied regularly and without noise.

The disadvantages of allowing stock to water at tanks are many. Sheep, by getting into tanks and water in hot weather, destroy or perish wool to quite on an average of (6d.) per head.

The water becomes polluted and poisonous from contact with wool, also by dead sheep (getting drowned), thereby causing or spreading disease, a matter of great importance at the present time.

The slopes in many cases get cut up and become quite boggy.

I may further add that this matter has been subject of discussion with many practical squatters, and I have never met one who after having tried troughing would return to the old fashioned and exploded idea of watering at open tanks; certainly I would not.

Yours truly,

JOHN LOW.

J. W. Boulton, Esq., Inspector of Public Watering Places.

Sir,

Marrickville, 16 June, 1887.

With reference to our conversation, *re* the inadvisability of allowing stock to water at open tanks, allow me to refer to the evidence of Mr. Harvey Paterson, in Supreme Court, *Kidman v. Paterson*, 14th instant.

Mr. Paterson is one of the largest squatters in the Western District, and undoubtedly a practical one. In his evidence he distinctly states that on no account would he allow cattle to water at open tanks, for the reasons that they cut up banks, thereby causing them to become boggy, silt up tank, and render the water unfit for drinking.

Yours, &amp;c.,

JOHN LOW,

Inspector of Public Watering Places.

The Chief Inspector of Public Watering Places.

Mr. Ramsay,—Please obtain copy of this evidence, N.S.W. Law Reports, published by Maxwell, Wentworth Court.—H.G., 16/6/87. Mr. Ramsay to apply for copy of evidence to Allen & Allen, solicitors.—H.G., 22/6/87. Asked, 22/6/87.

Sir,

Sydney, 27 June, 1887.

In answer to your letter of 22nd instant, inquiring where a copy of the evidence given by Mr. Harvey Paterson, in the case of *Kidman v. Paterson*, could be obtained, we have the honor to inform you that a copy of, or extracts from, the Judge's notes, of the evidence may be procured from the Clerk Associate to Sir George Innes, the Judge who tried the case.

We have, &amp;c.,

ALLEN &amp; ALLEN,

(Per W. H. PALMER).

The Chief Inspector of Public Watering Places.

The extracts of the evidence referred to may perhaps be obtained from the clerk associate to Sir George Innes.—HARRY GILLIAT, 28/6/87. The Under Secretary. Submitted.—H.W., 1/7/87. Approved.—F.A.; 2/7/87. The Clerk Associate asked, 4/7/87.

Sir,

Supreme Court, 8 July, 1887.

P.W.P.,  
87-3,098.

In reply to your letter of the 4th instant, I herewith send, by direction of His Honor Sir George Innes, that portion of the evidence of Mr. H. Paterson referring to the admission of cattle to tanks, as given in the case of *Kidman v. Paterson*.

I have, &amp;c.,

E. C. L. INNES,

Clerk Associate.

The Chief Inspector of Public Watering Places.

Please acknowledge, with thanks, His Honor Sir George Innes' courtesy.—H.G., 8/7/87. Acknowledged, 12/7/87.

## Extract of Evidence.

"The dams or tanks for sheep were full of water, but cattle would damage them greatly.

"There was no other water for the cattle there, and had I kept the cattle in that night and let them water there, they would have damaged the tanks.

"The nearest water, besides the sheep dams, was 9 miles off, in the direction of the ground where we had mustered the cattle."

Extract

Extract from Report by Mr. Overseer Cotton on Tindarie Tank.

Cobar, 3 June, 1887.

P.W.P., 87-2,620.

The alteration of the rail from the side of the troughing to over the centre is much appreciated by drovers.

JAMES COTTON,  
Overseer, Public Watering Places.

Attach to papers in connection with Mr. J. E. Kelly's complaint, *re* fencing, &c., and troughing.—H.G., 22/6/87.

Tanks for Cattle.

Department of Public Works, Sydney, 13 April, 1887.

P.W.P., 87-2,406.

MR. KELLY, M.P., at a deputation to-day, referred to the tanks made in the Western District for supplying water to travelling stock. Mr. Kelly states that, under the present arrangements of supply, the tanks are comparatively useless. The water is poured into troughs, but cattle or sheep that are not used to troughs refuse to go near them, and drovers have, consequently, to go to the squatter's dams. He urges that a pathway should be made to the water, as is done by squatters, otherwise the dams are of little use, and will not repay the wages of the men attending to them.

I promised to get a report on the matter.

JOHN SUTHERLAND.

Roads.—J.R., B.C., 15/4/87. Mr. Wood.—W.C.B. 16/4/87.

THE question of open watering in the tanks, or of watering from troughing has, from the first initiation of these works by this Department, received grave consideration at our hands, with the result that troughing is now invariably supplied to both tanks and wells.

In some of our earlier works, when the grants were very low and a comparatively large amount of work had to be done with a very small amount of money, open watering was resorted to, as only by such a cheap system could the lines being dealt with be opened for traffic, and on the Cobar to Nyngan Road stock originally watered in the main tanks.

As a compromise on this system, and with the intention of lessening the evils of open watering without very much increase in the expense of the works, the system of double tanks was introduced, a communication between the two being maintained by an iron pipe and a regulating valve. Under this system the larger of the two tanks was used for storage, the smaller, which was given flatter slopes, for drinking purposes, and the water, as required, was admitted from the storage to the drinking tank.

Both these systems were found to involve so much loss of water, carried away in the sheeps' fleeces, so much pollution and consequent loss from urine, &c., always voided by stock when standing in water, and so much silting up from dirt brought by stock into the tanks, that they had to be abandoned; and not only have all subsequent works been provided with lifting appliances and troughing, but similar appliances have, at the recommendation of the Stock Branch of the Mines, been added to the earlier works, and the open watering system generally abandoned.

The troughing now complained of by Mr. Kelly, M.L.A., has been adopted all over the dry districts, and is only a very slight modification of that used in some of the pastoral holdings in Riverina.

My experience of stock is that when they are really thirsty the difficulty is to keep them away from the troughs, not in getting them to them.

With all wells troughing *must* be used, and stock are as much dependent on wells as tanks; they water at troughing in the one case, why not in the other?

We have now about 150 of these works, and this is the first complaint on this score that has, as far as I know, been made.

Our experience, backed up by the expressed views of most pastoral men, not only in this, but in the neighbouring Colonies, is most decidedly in favour of watering from troughing as a system, which is absolutely necessary, to economise the water and protect it from pollution. Such economy must be practised, otherwise, with a small and uncertain rainfall, the storage capacity must be increased to an extent involving an outlay in excess of that required for watering appliances, and this, too, without any protection from pollution and silting up.

ARTHUR P. WOOD.

The Commissioner for Roads. The Under Secretary.—W.C.B., 18/4/87. Submitted.—J.R., 21/4/87. Forward a copy of report to Mr. Kelly.—J.S., 21/4/87. J. E. Kelly, Esq., M.P., 21/4/87.

Sir,

Assembly, 22 April, 1887.

Tanks and Punts, 87-324.

I have your favour of yesterday, covering Mr. Assistant-Engineer Wood's report upon my representations *re* watering stock from troughs, &c., and have sent same on to the persons who have lodged complaint with me. One part of Mr. Wood's report is, to my own knowledge, incorrect, and probably all he says may be disputed by these gentlemen. If you will kindly ask to be furnished with the receipts of the tanks since these troughs have been in use, it is probable that it will throw a light on the subject.

Yours, &c.,

JOHN E. KELLY.

The Under Secretary for Public Works.

Roads.—J.R., B.C., 25/4/87. Mr. Wood.—W.C.B., B.C., 26/4/87.

Mr. Kelly makes no specific statement. What portion of my minute does he consider incorrect? I am afraid that the receipts of these tanks can scarcely be considered as a fair proof of his statement. Change in seasons and variation in the number of stock travelling have to be considered. I may add that Mr. Peter Waite, Sir Thomas Elder's representative in South Australia, was very decided in the opinions he expressed to me on the advantages of trough-watering as compared with open watering, and I think Mr. Kelly will agree that he is no mean authority on the question. I presume there will be further communications from Mr. Kelly when he receives replies from the gentlemen referred to.—A.P.W., 26/4/87. The Under Secretary.—W.C.B., B.C., 26/4/87. Submitted.—J.R., 28/4/87. Inform Mr. Kelly, 2/5/87. J. E. Kelly, Esq., M.P., 16/5/87.

Sir,

Sir,

Assembly, 18 May, 1887.

P.W.P.,  
87-2,407.

I do myself the honor to own receipt of your letter and also extract from a reply given by Mr. A. P. Wood to my former communication on the subject of public tanks and public watering places for stock in the interior. Mr. Wood states that "he is afraid that the receipts of these tanks can scarcely be taken as fair proof of my statement." I hope to be able to furnish you with quite sufficient proof of all that I have said within a few days, but, surely, the fact that since these troughs have been erected there has been little or no money taken at them should be a corroboration of my statement.

As to any opinion expressed by Sir Thomas Elder's manager, that gentleman might be the very worst possible authority, seeing that, for the most part, S.A. stock, amongst which that gentleman probably gained his experience, are taught to drink out of troughs; in which case many of my objections do not come in. I am speaking of travelling stock, not station stock. Can Mr. Wood not distinguish the difference?

I have, &amp;c.,

JOHN E. KELLY.

The Honorable the Minister for Works.

Roads.—J.R., B.C., 25/5/87. Mr. Wood.—W.C.B., 26/5/87. Mr. Wood's explanation, which I concur, herewith.—W.C.B., 26/5/87. The Under Secretary, B.C. This is more a question for Mr. Kelly to discuss with the Mines officers, W.C.B. The Under Secretary for Mines.—J.R., 28/5/87. Mr. Kelly having written to this Department on the question of the troughing, a copy of the minutes sent to him, may perhaps be forwarded to the Department of Works.—H.G., 13/6/87. The Under Secretary. Submitted for approval.—H.W., 14/6/87. Approved.—F.A., 15/6/87. Copy of minutes with letter, forwarded to Works, 23/6/87.

## Minute.

Mr. Kelly, M.L.A., on Trough-watering for Stock.

Sydney, 26 May, 1887.

P.W.P.,  
87-2,404.

MR. KELLY takes exception to my view, that the receipts at the tanks and wells provided with troughing cannot be accepted as proof that the troughing is objectionable.

It appears to me that the seasons must have an important bearing on the fees collected; that when there is an abundance of green feed and plenty of natural surface-water drovers are not at all likely to take stock to the public watering places, whether with or without troughing.

The rates charged have an important bearing; and if drovers can be supplied by private tank owners at lower cost than at the Government works, they will in all probability prefer the former.

Many of the earlier tanks made were not supplied with troughing, provision having been made for open watering. In these cases there was frequent complaint in regard to the impure water; and acting on the advice of the Mines officers, who have been charged with the decision of this question, watering appliances were added and open watering abolished.

The opinion expressed by Mr. Peter Waite, who is Sir Thomas Elder's managing partner, was in reference to watering on the stock routes, not on stations; and I may add that the same views have been expressed on many occasions by gentlemen interested in squatting in this Colony.

The objections raised by Mr. Kelly, M.L.A., have not reached us from other parts of the Colony, where troughing has been used for years, and it is only fair to assume that if these objections were general it would have been brought before us long since.

I am aware that there is a difference in some respects between station and travelling stock; but without any desire to put my views on this question in opposition to such an experienced authority as Mr. Kelly, I may say that two or three days without water on some of the long stock stages has a wonderful effect; and I have seen troughing rushed by stock quite as freely as an open tank would be, and with less risk to the stock itself.

I may add that trough-watering has been imposed on us by the Mines, but that we, as far as our knowledge of stock was concerned, fully endorsed the system.

The Commissioner for Roads.

ARTHUR P. WOOD.

## Government Tanks—Their management.

## I.

(To the Editor of the *Daily Telegraph*.)

Sir,

*Daily Telegraph*, 10 November, 1887.

"The Problem of the West" articles have had in me an earnest and appreciative reader, but I am sorry that the writer of these did not during his trip journey as far as Cobar, as, having only mentioned his mission, he would have been supplied with such facts as on publication would have opened the eyes of your readers to the grievous waste of public moneys—exclusive of the rabbit business—which is now and has been for years taking place throughout the length and breadth of this arid district. Recent events, more especially the action of Mr. John E. Kelly, M.P. for the Bogan electorate, in making inquiries of the Government in the House on September 27 last about the public watering places of the Colony, have induced me to institute inquiries locally concerning these, so that I might be in a position to put facts, not theories, before your readers to enable them to judge whether my conclusions are correct or not. I propose also, to show how the Watering Places Branch of the Department of Mines may be made, instead of being a serious financial drag on the country, to add considerably to the State coffers. According to an answer given in our Legislative Assembly to Mr. Kelly, M.P., by the Minister for Mines, it appears that the total expenditure during the past two years upon the public watering places for travelling stock was £70,259 5s. 9d. sterling. Well, to my mind this way of stating the expenditure is very misleading, as I will show later on. It does not let the public understand whether this amount is for new works constructed during these two years, or whether it is the total loss the consolidated revenue suffers from the way these public works are at present managed. If it represents the former why not give the latter also? so that the public may have an insight into the amount spent on new works, and the loss on the working per year of existing works. If the £70,000 odd represent new works, then the total expenditure during the past 2 years has been understated by £70,000 or £80,000. This, of course, is taking into consideration a low rate of interest on the money invested, the caretaker's wages, less their takings from stock watered, to say nothing of the cost of supervision, engineers' and travelling expenses of the various heads of Departments.

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To many people who have not thoroughly considered the matter in its different bearings it might appear that these watering places are self-supporting, but when it is found that during the year preceding the issuing of the "Report of the Royal Commission on Water Conservation" only £400 was raised as revenue from the various public watering places of the Colony—seven wells, four dams, ten springs, and thirty-five tanks—it is self-evident that both "cost of construction and maintenance are wholly defrayed from the public revenue." But to details. In the first place the Government tanks pass through the hands of two Departments. The Works branch constructs them, and when finished, they are taken charge of by the Mines Department. And while in both hands they are equally mismanaged. In the first place, I shall deal with them while in charge of the Works. Presuming that the best and most convenient sites have been chosen for the tanks; that the plans have been properly prepared; that the trial shafts have been sunk to ascertain the nature of the strata, and that in fact, everything has been made ready for commencing the work, and that tenders have been called for and accepted, the first thing that strikes one on reading the amount of the successful tender is the high, in fact exorbitant, prices ruling for this class of work compared with what work of a similar nature can be done for by private individuals. My business since the discussion has taken place is to find out the reasons for the difference shown, and which I conclude are as follows:—

1. The Government contractor requires to employ so much hand labour after the main work has been finished—in pickdressing the sides of the excavations and making the bottom level enough for a bowling-green or tennis-court, while the embankments require such unnecessary levelling, filling up, and grading—that the contractor calculates a large loss in this item, and consequently adds a considerable margin to his tender to cover it, although this extra labour is mostly done for show.

There are too many superintendents of various grades to supervise the work. If a superior inspector desires to make himself officious or disagreeable to another who may be under him, he may not pass the work when completed through some trivial reason, though the superintending overseer may have been perfectly satisfied with the way the contract had been carried out. The result is that the contractor suffers. His camp in the meanwhile may have been broken up; his men and plant may have gone away, as these contractors, as a general rule, cannot afford to allow their plants to remain idle for even a short time. The contractor has then in a case of this sort to complete the contract to the satisfaction of this superior officer, and consequently, in justice to himself, to allow a considerable factor of safety in the computation of his tender price to cover this risk.

3. After the work has been completed and passed as satisfactory by all concerned, through some red-tape arrangement, the contractor cannot get paid his due for six or perhaps twelve months. What is the result, unless he be a man of means? He cannot pay his labourers, his storekeeper, or his produce-dealer. Thus, the contractor (firstly) has to pay higher rates for labour on the Government contracts than on private ones, as the workmen know they have to run the risk of not getting their money for a considerable time after having been earned; and (secondly) the contractor has to pay exorbitant prices for his stores and produce, because storekeepers as a general rule do not care about waiting too long for the payment of their accounts of this class without a corresponding advantage to themselves; and further, he has also a high rate of interest on the renewed bills to these storekeepers, as it was expected that when the bills matured his contract money would have been in hand to meet them; and (thirdly) the contractor may be forced into the most undesirable position of having to shelter himself in the Insolvent Court, and having at the same time the satisfaction of knowing that could he only get his due he is a solvent member of the community—so we see that a further factor of safety is required to cover this risk.

4. The change of plan that so very frequently takes place during the progress of the work requires also consideration for the trouble and anxiety that the contractor has to endure.

5. The division of what ought to be naturally one contract into a number of smaller ones leads to higher rates. For example, the Department, instead of calling for tenders for everything required about any particular tank, divide the whole up into a number of smaller contracts, somewhat as follows:—

1. Excavating main tank.
2. Enclosing embankment with fence.
3. Fencing in 200 acres round excavation.
4. Erecting troughing and service tank.
5. Erecting pump and engine or horse works.
6. Erecting caretakers' cottages.

6. What one inspector orders to-day, another countermands to-morrow, and refuses to pass often after the work has been completed, alleging as a reason that the one who ordered such work exceeded his authority. A friend of mine, a Sydney gentleman, was in this predicament, and only obtained his contract money after a long delay and much trouble. What is a contractor to do under the circumstances? He has to do the work by order, and, after completion, is refused payment. He can't fight the Government, or, if he does, he is sure to come off second best, although he may get a verdict. For instance, the late arbitration case of Messrs. O'Rourke and M'Sharry. But one thing certain is, that when he next tenders he allows a further margin for this risk.

7. The extraordinarily steep slopes that the Government insist on having on every side of their tank excavations, viz.,  $1\frac{1}{2}$  to 1, raises the price of work to a great degree. No horse could haul a load of earth up such a slope, and as the Government will not allow roadways it stands to reason that it must be a troublesome and expensive job to get the bottom clay out of a cutting 18 feet deep with such slopes. However, the Government contractor sees an easy way out of the difficulty, and his method is worth public notice. In sinking the tank he leaves a roadway with a slope of 5 or 6 to 1 on one side of the excavation as he proceeds with his work. Up this slope a horse can haul the excavated earth. When he arrives at the contract depth he does not then knock off sinking, but continues several feet deeper, according to circumstances. Into this extra depth he puts all his road material, and levels the bottom up to contract depth, so that as a matter of fact in a number of Government tanks with these steep slopes there are several feet of loose earth left, which as soon as the tank gets filled with water for the first time turns into sludge.

These are some of the reasons for the high prices ruling for Government work of all descriptions in the back country as compared with that of a similar nature required in the same locality by private individuals.

individuals. The latter want their tanks for use, not show, and so long as they know that a certain work being done for them is carried out in the true spirit of the contract they are satisfied, and the money is waiting the completion of the job. I have been told by several of the most successful Government contractors in the Bourke and Cobar districts that they would much rather excavate earthwork for a squatter at 9d. per cubic yard than for the Government at 1s. 6d. Their principal reasons for this preference I have pointed out above, and the fact remains that earthwork can be done for pastoralists from 9d. to 1s. 2d. per cubic yard, while the Government have to pay 1s. 6d. to 2s., the contractors making more money at the former price than the latter. The works are equally good, the embankments are as level after the first rains, for, although the Government dams and cuttings look better just at first, still this niceness at the outset is a snare and a delusion, as holes are filled up temporarily to pass the inspector, and after the first heavy rain this filling-up either washes away or sinks, leaving the last state of the dam as bad as the first. I have actually seen a contractor carting earth that had been already been taken out into the excavation again to fill up and level the bottom so that it might pass the inspection; and, furthermore, it is reported, with good foundation, too, I believe, that in one of the Government tanks, on the Nyngan and Cobar road 1,000 or 2,000 cubic yards of earth were filled into the centre of the excavation when full of water to make a horse walk so that the pump might be worked. To my mind all this shows the absurdity of the pick dressing and levelling. I do not see the reason of this absolute precision, as I fancy the great object in constructing a tank is that it may hold so many gallons of water and be of a certain average depth, with provision being made to hold as much water as possible over the surface.

The first remedy I would therefore suggest to obviate the difficulties enumerated would be to design the tanks so that they could be constructed by scoops or other machinery and do away with the great amount of hard labour required to dress them up unnecessarily. So long as a proper hole is made, with slopes fairly near that mentioned in specification, the bottom of cutting fairly level and the embankments of the proper height fairly and honestly made, I would be quite satisfied. This item would reduce the prime cost considerably.

The second remedy would be to place one competent man in charge of the various works of a district and let him reside in the district. He, and he only, would be responsible to a local board or trust, either nominative or elective, or a combination of both systems, for the proper construction and maintenance of the work. If found to be untrustworthy or incompetent, let him be replaced by a more reliable man. It is all very well in theory to have flying visits to the various works of the Colony from Sydney inspectors every year or two; but I hold that a man to be properly in charge of works ought to have the right of determining whether a contract is being properly carried out or not. He must also have the authority to pass the work for payment when finished, and he must not be placed in the disagreeable and unsatisfactory position of having some superior official who may happen to be in the district on one of his flying visits condemn the works when everything has been completed.

The third and most important remedy is when the work has been passed let it be paid for at once.

Yours, &c.,

CHARLES ALFRED CHESNEY, C.E.,  
Chairman Cobar Board of Sheep Directors.

Tindarey Station, Cobar, October 28.

## Government Tanks—Their Management or otherwise.

### II.

*Daily Telegraph*, 11th November, 1887.

THE Government are placing expensive steam and horse pumps, receiving tanks, and troughs at all their watering places. This expenditure, as carried out, I consider a great mistake, and, without entering upon the question whether stock thrive better, as a general rule, by being watered at troughs or allowed to drink direct from the excavation, I hold that travelling stock ought to be allowed to drink direct from the water in cutting, instead of at troughs as proposed, at least until such time as the financial success of the tanks justifies the Government in entering upon a greater expenditure. These engines and pumps are very expensive articles at the outset, and the risk that the public run in case of a breakdown is an unknown factor to most of them. The disastrous consequences may be well imagined that might follow some slight breakage for only a short time of any portion of the pumping-gear or fixings. Supposing during a dry, hot season a mob of, say, 10,000 sheep had travelled 20 or 25 miles without water, and it was expected they would get a drink where the breakdown took place—and these breakdowns are of frequent occurrence—do you think the Government would hold themselves legally or morally bound to recoup the owner for any loss he might suffer through sheep dying before reaching the next watering place? I do not think they would; and it would be impossible, owing to the way that many of the tanks are constructed, to allow the sheep to water direct at the excavation. At first, when everything is new, there may not be many breakdowns; but after a while they are sure to be plentiful, as machinery of this class will not last for ever, and so also it follows that in a few years these engines, &c., will have to be replaced with new ones. If it is necessary to pump the water into troughs, why not minimise the risk of breakage by erecting a hand-pump such as manufactured by M'Comas & Co., of Melbourne? This cannot easily get out of order with fair use; but if an accident did happen, its construction is so simple that any ordinary blacksmith or handy labourer can put it to rights again. The fencing round the tanks is of a description too expensive altogether. An ordinary six-wire fence would have answered the purpose admirably. This would have cost, erected, about £40 per mile, whereas the fencing now put up is said to cost from 35s. to 60s. per chain, or from £140 to £240 per mile. And all this to keep sheep from watering direct at the tank! The caretakers' paddocks, generally of an area of 200 acres, are enclosed with the same expensive style of fencing, while an ordinary six-wire would have answered the purpose. I do not, at the same time, see the necessity of enclosing such a large area.

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The troughing, as at present laid down, has evidently been designed by someone who has never had an opportunity of seeing sheep watered at troughs. The construction is so defective that it is impossible to water a mob of travelling sheep with despatch. There has not been a single drover who has travelled between Bourke and Cobar with either sheep or cattle for the past two or three years but what has complained about these troughs. The Department has repeatedly been written to on the matter, the local superintendents and stock inspectors have been appealed to on the subject, the Cobar Board of Sheep Directors has had the matter repeatedly brought before them, and yet nothing can be done, as the various heads of the Department in Sydney must nurse their offspring, and one has recently declared that he never heard any complaint about these troughs, while at the same time it is a matter of public notoriety over the length and breadth of the Colony the unsuitableness of the troughs as at present constructed, and the danger to which travelling stock are liable that depend on them for their watering requirements. In fact, if proof of this be needed, the following extract from a letter addressed to myself from Mr. Fenton, drover of 5,000 sheep belonging to Messrs. Fulton and Hastie, of Springfield, may be interesting. He says:—"Will you kindly allow 5,000 sheep to water at, &c.?" I have had great difficulty in making them water at the troughs, and in consequence they are in a bad state for a drink. If you will not allow me to water, I shall have to stay all day to try to water here (Hillman's Government Tank), and go on to-morrow." This is one of some hundreds of letters I have received in a similar strain, and when everyone complains something must be wrong. So we see the drover placed in a rather awkward position. If he cannot water his sheep in fair time, he leaves himself liable to a heavy penalty for not travelling his legal distance. I ask—Is it fair to place the drover between two fires, so to speak? If he takes his time to water—which is generally about a day for 10,000 sheep—he cannot do his distance; if he does his proper stage, his sheep may die for want of water. I know quite a number of cases where sheep had to be left on the roads to die because they would not drink out of the troughs. The troughing is constructed on wrong principles. At present at one side of the troughs large sheep cannot water, and it is almost impossible for small cattle or calves to get a drink at all. It is quite a usual thing when a mob is watering to see the troughing full of sheep. The result is that in a very short time the water gets so bad that the balance of the sheep will not drink it. The following day, if any water be left standing in the troughs, it looks as if it had come from a sheepwash, the yolk floating on the top as a thick scum. The next mob will not touch this water, and so the troughs have to be cleaned out after every watering, and the water that the trough is supposed to save is wasted. Besides this, there is a much larger amount of evaporation by using troughs than otherwise. The evaporation from the main excavation remains the same as before the troughs were erected, while there is an extra double evaporation from the receiving-tanks and troughs if these are kept full, according to departmental regulations. We all know how much more quickly water evaporates in open iron tanks elevated several feet above the ground compared with that in sunk tanks. I estimate that the water lost at each cleaning-out of the troughs is sufficient to water 3,000 or 4,000 sheep, and still it is alleged that no water is wasted by the system of watering at troughs. In fact, in connection with the pumping gear, I hold that troughing for travelling stock to water at is a mistake, for as everyone knows who has had any experience, it takes a considerable time to break in sheep to drink from troughs if they have not been reared in country where as lambs they had been accustomed to this method of watering. This adds a new element of danger for the drover to face who starts on a track with sheep unaccustomed to water by this means. He runs a great risk, as his sheep, though thirsty, may not face the troughs.

When the works are completed by the Department of Works they are taken over by the Department of Mines and worked by it. Caretakers appointed at wages ranging from 6s. per day upwards, and if they are required to supply a horse to work the horsepump they get an extra allowance, from 10s. to 15s. per week. For all this wage they have absolutely nothing to do. They are supposed to keep the embankments in repair and the drains cleaned out; but this is merely a nominal matter, as the embankments cannot get very much damaged when they are surrounded by the highly expensive fence already alluded to. The caretakers are also supposed to keep the troughs filled with water, and likewise collect the regulation watering charges. This last duty does not employ the caretakers to any great extent, as is proved by the fact that there is not taken in fees at the great majority of the tanks during the year one-tenth of the amount the Government find it necessary to pay the caretaker in wages. Thus the Government tanks as they are at present managed are most unproductive works. The aggregate cost of all works in connection with each tank, by the way, not including the four-roomed cottages now being erected for the caretakers, is supposed to range from £2,000 to £3,000. It is very hard to arrive at the actual figures, but I do not think I am overstating the cost. Taking the interest on the mean of these sums—say £2,500—at 5 per cent. per annum, to say nothing of the actual cost of repairs, supervision, &c., together with the difference between the caretaker's wages and his collection in fees, there is shown a tidy sum as annual loss on each tank. This loss, I calculate, on the whole amounts to £25,000 per annum at the very least, when it was estimated that at the end of 1885 there would be 134 watering places in this Colony in charge of the Chief Inspector of Tanks and Wells. I have no later information as to actual number now in charge of the Watering branch of the Mines Department. The Government may say that the public get the benefit of these works, but a little consideration will show that the public have not benefitted by these works to the extent the Department would have us to believe. If they have, the watering fees last year would have amounted to more than £400, which is equivalent to the watering of 800,000 sheep at Government rates, or else there is a lot of money received for fees which never finds its way into the Treasury, a theory I do not believe to be correct. As a proof that the public have no faith in the tanks as a speculation, how often do we see tenders called again and again for the lease of the same tank, and no offers. These leases have again been put up to auction and no bids, although I have known the auctioneer to tell most preposterous yarns about the rapid fortune to be acquired by any lucky purchaser. Even the 200 acres paddock adjoining the tank for the use of the lessee does not act as an inducement. It is even now proposed to fence in a further lot of 640 or 1,280 acres round each tank as a bait; but it won't do. The public know what shams they are, and won't touch them. One poor, old man, I know well, tendered in a moment of weakness the sum of £50 per year for a well-known tank. This was about twelve months ago. Since then he has not taken enough fees hardly to keep his soul and body together; so that I fear that the prospects of a money-making speculation in connection with the lease of one of these tanks are very remote. Occasionally a tank does get leased, but it is by reason of some particular local circumstance which suits the lessee to have it under control.

To remedy this unsatisfactory state of affairs, more particularly the annual loss the Mines Department incurs through the management of the Watering Branch, I would respectfully suggest to the Government :—

1. That they discharge all caretakers of Government tanks, as they are expensive and unnecessary luxuries.

2. That all the tanks be left free to water at, after fencing in the embankment alone and enclosing with a good six-wire fence about 50 acres round each tank. I propose to erect this merely for the purpose of protecting the water from the pastoral lessees' stock which might water at the Government tank if not fenced off. Erect two pair of gates, one set for ingress of travelling stock to water, the other set for their egress.

3. That a travelling working tank superintendent, with two assistants be employed for each district. His duty would be to travel round the various tanks in his charge with his assistants—working men—in a suitable conveyance, and make any repairs to dams, drains, or fences requisite. A strong box could be put at each tank, under lock and key, to hold tools, such as picks, shovels, axes, straining tools, &c.

4. That all pastoral, conditional and homestead lessees and others be liable to a heavy penalty for wilfully watering their stock at these tanks unless under permit, as hereinafter described, and appoint some person, such as the Inspector of Stock or the chairman of the Sheep Board, or of a Water Trust, if formed, in whose name and by whose authority persons infringing regulations may be used.

5. That a watering charge be put on all travelling stock in the Colony, including sheep, cattle, and horses, with certain provisos in favour of teamsters, &c., and those who, under the present Diseases in Sheep Act and its amendments are not required to take out permits. This charge would be *pro rata* according to the distance to their destination by the specified route for which a permit had been granted.

6. That all travelling stock (horses and cattle, as well as sheep) be made to obtain before starting on their journey a permit from the nearest inspector, and be made to pay him the authorized charges, said charges to be handed into a separate account at the Treasury.

7. That all stock travelling without a permit be liable to a heavy penalty.

8. That every person damaging the tanks or their works, or wilfully or negligently leaving the gates open, be also liable to a heavy penalty.

9. That where troughing has been erected let the present expensive pumps be change for hand-pumps, of the M'Comas or other pattern, and let those who use the water raise it into troughs. I am sure no drover would object to pump the water, if he would only get it free.

10. Where no troughing has been placed let the stock water dissect at the excavation.

11. Put the management and control of the tanks in the hands of a Local Board or Trust.

The above suggestions, if carried out properly would do away with a lot of grumbling among drovers. By the present regulations a man has to pay for water according to the number of stock entered on his permit, or travelling statement, as the case may be, even if he only waters a small portion of his flock. So that under the present system it is impossible for a drover to water only a portion of the mob, unless he is prepared to pay for watering the whole lot. On the other hand rain may come when a drover with stock is near a tank, so that there is no use for him to use the Government water. Still, as the country has made the tanks for his benefit, I think as a matter of fairness he ought to contribute something towards their revenue and maintenance. No doubt the Department will take exception to my saying that the tanks were made for the benefit of the man who travels stock. I have at present in my hands a minute paper signed by the Chief Inspector of Public Watering Places, in which he says, in reply to some strictures of mine *re* the tank question, that "the public watering places are not for the convenience of squatters or pastoral tenants alone, and while the action of the Government in watering the main stock roads of the Colony enables them to move their sheep and cattle with a minimum of loss in most seasons, they are also for the use and convenience of the travelling public." I quite agree with him that the tanks and troughs are not for the convenience of squatters or those who have to travel sheep. I am endeavouring to prove that the Department, through the incompetency and bungling of its officials, has made the tanks as inconvenient to the travelling public as it is possible for the official mind to devise. They have succeeded admirably. The suggestions thrown out by me as above are only equitable, and show one method whereby these expensive works may be made to pay. Drovers would then have the same inducement to steal in the dead of night down to a private tank and surreptitiously water the stock in their charge. This is often done to save the cost of watering at the public watering places by those drovers who, driving their stock under a specific contract, endeavour to reduce their expenses to the lowest limit. Who can blame them?

In conclusion, I must reiterate that the Government have no right to supplement this cost of the tanks as originally constructed by the addition of steam or horse pumps, expensive receiving tanks or troughs, all of which require a certain amount of skilled labour to repair and work, when, as originally constructed, they answered their purpose admirably. I must now close, as I fear I have trespassed too far already on your valuable space, but the importance of the subject demands proper ventilation, and as I know your sympathies are with those who have sunk their fortunes in the West, I ask you, on behalf of the stockowners and drovers in this arid district, to publish the result of my inquiries. I feel certain that when once the matter is ventilated good will come out of it. The public do not at present know the amount of loss the revenue suffers from the departmental bungling and incompetency that exists in this particular branch, not only when the works are in progress but while in operation. The subject is far from being exhausted, and I have no doubt now that the ball has been set rolling but that the travelling public will keep agitating till a superior system of management supersedes the present one. The more constant the agitation the sooner will the remedy appear.

I am, &c.,

CHARLES ALFRED CHESNEY, C.E.,  
Chairman, Cobar Board of Sheep Directors.

Tindarey, 26 October, 1887.

## XXXIV.

## Galathera and Boggy Creek Tanks.

Sir,

Narrabri, 4 July, 1883.

I have the honor to inform you that I have been out again to the Galathera and Boggy Creek Tanks, and am very sorry to have to inform you that, unless immediate steps are taken to arrest it, both main tanks will be filled in with earth in a very short time; owing to there being an inefficient batter to them, the constant action of the water is undermining the banks of the tank and causing them to fall in. I would earnestly beg to urge that the Department take immediate steps to stop this, and put the tanks in working order before it is too late; if not done shortly, all the money expended upon them hitherto will have been wasted.

The weather just now is favourable, as the repairs could be carried out readily. Summer will be upon us in a very short time, and if something is not done travelling stock will be tortured, as heretofore, with the pangs of thirst, and in many cases reach water after crossing these arid plains but to die, as I have frequently witnessed.

I have, &amp;c.,

ARTHUR W. P. COPEMAN,  
Inspector of Stock.

The Chief Inspector of Stock.

Sir,

Boggy Creek, 5 August, 1883.

I have received by this morning's coach a printed form, I presume for the money collected at this tank for which I suppose they hold me responsible. No doubt you are aware that I have received instructions, ever since my appointment to the Boggy Creek Tank, not to allow any stock inside the fence, by the District Inspector; if they persisted in driving stock in, I was to summon them, which I have done once. I don't know why they should send to me for the money collected when they know very well that no stock is allowed to water either at this tank or Galathera, although I think it is very wrong that this tank is not thrown open. I think if the public were allowed to have the use of the water, that is in the drinking tank, then something could be done to it in the way of repairs, which it needs very badly. The water cannot come out of the standing tank on account of the pipe being stopped up, and there is no way of getting at it to clean it only by letting stock drink what water there is in the drinking tank. I am sending this form back to you.

I have, &amp;c.,

CYRUS W. MORROW,  
Caretaker.

The Chief Inspector of Stock.

Sir,

Boggy Creek, 29 February, 1884.

I have the honor to report to you that the water in the drinking tank here is unfit for stock to drink, it is perfectly green. I brought a number of both horses and cattle across the plains to the tank to-day, but they would not touch it.

The tank at Galathera is now a great blessing, but there are in my opinion several serious matters of alteration which require to be made in that tank.

I have, &amp;c.,

W. D. WRIGHT.

The Chief Inspector of Stock.

Mr. Gilliat.—A.B., B.C., 3/3/84.

The notice of the Department of Public Works has been several times lately called to the complaints in connection with the Galathera and Boggy Creek Tanks. I think this might be forwarded for the information of the Commissioner and Engineer of Roads.—H.G., B.C., 6/3/84. Mr. Bruce.

Submitted.—A.B., 7/3/84. The Under Secretary for Mines. Submitted.—H.W., 10/3/84. Approved. I wish the Works Department would do something about these.—J.P. ABBOTT, 11/3/84. The Under Secretary for Public Works.—H.W., B.C., 11/3/84. Roads.—J.R., B.C., 15/3/84. Mr. Wood.—W.C.B., 17/3/84.

I attach report from the local officer, the complaint made is a necessary result of the drinking tank system, when there is not a steady demand for water to allow of a free flow or to allow of noxious foreign matter being removed. It has been our intention to fix pump service tank, &c., at this place and the delay is due to Mr. Nussan's delay in carrying out his contract of service-tanks.—A.P.W., 20/3/84. The Commissioner and Engineer for Roads and Bridges.

The pump is at Narrabri.—W.C.B., 20/3/83. The Under Secretary, B.C.

Sir,

Narrabri, 17 March, 1884.

I have the honor to inform you that I have visited the Galathera and Boggy Creek Tanks for the purpose of reporting upon them, but have refrained from doing so, owing to the unfinished state they are, and are likely to be in for some time to come. At Boggy Creek, stock will not be able to water, as the supply is exhausted in the drinking tank and no means of feeding it again.

Galathera is open to the public, and a return coming in from it. It is still in an unfinished state, and the troughing requires fencing in. Mr. Budge, the Road Superintendent, instructed the caretaker to use his horses for the purpose of lifting the water, but never made any arrangement with him as to payment for use of same. Will I do this?

The Galathera caretaker requires a supply of weekly return forms. I enclose a letter received from him, *re* travelling to Narrabri to remit his moneys and sign his attested returns. Can he be allowed anything for travelling in and out?

Will I send in report as to present state of tanks or wait till they are handed over? The contractor at Boggy Creek says he will be quite six months at work there.

I have, &amp;c.,

A. W. P. COPEMAN,  
Overseer of Public Tanks and Wells.

The Chief Inspector of Stock.

Mr.

Mr. Gilliat.—A.B., B.C., 19/3/84.

The Chief Inspector of Stock,—Mr. Overseer Copeman might be instructed to arrange for the forwarding of rates collected by caretakers in his district in the manner adopted by other overseers. An understanding with the Department of Public Works seems desirable with reference to the caretaker lifting water at the Galathera Tank. This Department has not been informed of the completion of the lifting appliances, and it seems undesirable to interfere until so notified; at the same time it is urgent the caretaker should have water in readiness for persons requiring it. Any engagements made by the District Road Superintendent will—Mr. Copeman might be informed—be discharged by his own Department. A copy of Mr. Copeman's letter might perhaps be forwarded to the Works.—H.G., B.C., 1/4/84.

Sir,

Narrabri, 18 March, 1884.

In compliance with the instructions contained in telegram sent by Mr. Wood yesterday, I beg to report as follows on water in the Boggy Creek Tank:—

The water in the drinking tank is totally unfit for use.

The water in the reservoir is 8 feet deep, and sweet and good.

Until the drinking tank is emptied and cleaned out it will be unfit for use, and until that time water must be taken directly from the reservoir.

A wooden trough and temporary pump might meet the difficulty for the present, as water is obtainable 6 miles north of Boggy Creek, and also at Galathera.

A service-tank and pump, similar to the one at Galathera, or a substitute for one, should be erected as soon as possible.

I have, &c.,

W. P. BUDGE,

Road Superintendent.

The Commissioner and Engineer for Roads.

Mr. Wood,—See me at once.—W.C.B.

This would have been remedied ere this had Mr. Nussan satisfied the terms of his contract by delivering the iron tanks he has contracted for; the pump was forwarded some months ago.—A.P.W., 20/3/84. The Commissioner and Engineer for Roads and Bridges.

Forward to Mines.—T.A.W., 22/3/84. The Under Secretary for Mines.—W.F. (for U.S.), B.C., 24/3/84. Mr. Gilliat.—A.B., B.C., 25/3/84. I may point out that this is an additional instance of the importance of having water supplied from pumps and troughings.—H.G., B.C., 1/4/84. Mr. Bruce. Submitted.—A.B., 2/4/84. The Under Secretary for Mines. Submitted.—G.E.H. (for U.S.) Seen; inform Mr. Wright.—J. P. ABBOTT, 5/4/84.

## XXXV.

### Papers *re cost*.

Minute by The Honorable the Secretary for Mines, 1st June, 1887.

P.W.P.  
87-2,326.

I would like a return prepared showing,—

- 1st. The cost of tanks and wells and dams, showing each one separately.
- 2nd. The cost of machinery, &c., to work the same.
- 3rd. Wages of men attached to each.
- 4th. The revenue derived from each.

F.A., 1/6/87.

Urgent. Mr. Ramsay,—Please prepare a return showing the information asked for by the Secretary for Mines under questions three and four.—H.G., 2/6/87. Return herewith.—J.S.R., 9/6/87. The information asked for by the Hon. the Secretary for Mines in questions one and two will, I think, have to be obtained from the Secretary of Public Works.—HARRY GILLIAT, 2/6/87. The Under Secretary. Ask the Under Secretary for Works for the information.—H.W., 2/6/87. Asked.—2/6/87. The Under Secretary for Works may perhaps be reminded that no reply has been received.—H.G., 22/8/87. Asked.—30/8/87.

Minute by Chief Inspector Public Watering Places.

Expenditure and Revenue for 1886 at Public Watering Places.

P.W.P.  
87-4,928

26 September, 1887.

In submitting this return for the consideration of the Hon. the Secretary for Mines, I may point out,—

- 1st. That the year 1886 was an exceptionally favourable one, and that during the greater part of it water could be obtained by travelling stock almost everywhere without having to fall back upon the public watering places.
- 2nd. That when the Department is enabled to gazette the works as public watering places no further obstacle will exist to their being leased, and the majority of these works will be producing revenue.

The Under Secretary.

HARRY GILLIAT.

Submitted.—G.E.H. (for U.S.), 27/9/87. Have the works gazetted as early as possible.—F.A., 28/9/87. The papers for this purpose should be prepared in accordance with my previous minute.—H.G., 29/9/87.

Public

## Public Watering Places.

RETURN showing Wages paid and Revenue received for the Year 1886.

P.W.P.  
87-2,483.

Name of Watering Place.	Wages paid to Caretakers in 1886.	Revenue received.			Remarks.
		Fees collected by Caretakers.	Rent received from Lessees.	Total Receipts.	
	£ s. d.	£ s. d.	£ s. d.	£ s. d.	
Amphitheatre Tank .....	111 17 6	11 18 9		11 18 9	
Babinda Tank .....	127 15 0	30 6 10		30 6 10	
Baradine Well .....	54 15 0	9 5 0		9 5 0	
Beloura Tank .....	127 15 0	3 16 2		3 16 2	
Berrigan Well .....			20 0 0	20 0 0	
Black Swamp Tank .....	49 1 6	84 14 10	16 13 4	101 8 2	Leased 1/9/86, £50 per ann.
Boggy Creek Tank .....			78 0 0	78 0 0	
Boona Tank .....	127 15 0	14 11 0		14 11 0	
Boonoona Tank .....	231 3 0	60 13 6		60 13 6	
Booroomugga .....	118 12 6	39 15 1		39 15 1	
Booroodara Tank .....	70 14 0	29 19 6	16 5 0	46 4 6	Leased 4/9/86, £50 per
Booororban Tank .....			85 0 0	85 0 0	
Boro Tank .....	109 10 0	9 10 4		9 10 4	
Box Creek Tank .....	132 0 0	24 0 2		24 0 2	
Brocklesby Tank .....	130 8 0	0 0 6		0 0 6	
Brolgan Creek Tank .....	86 9 0	1 4 0		1 4 0	
Brura Creek Tank .....	127 15 0	90 6 7		90 6 7	
Bullagreen Tank .....	28 2 6	0 6 0		0 6 0	
Bunghill Tank .....	118 12 6	1 10 8		1 10 8	
Carson's Swamp Tank .....	70 0 0				
Clare Tank .....	153 0 0	5 0 4		5 0 4	
Claypan (Grass Hut) Tank .....			53 0 0	53 0 0	
Cobar Stock Tank .....	118 12 6	133 7 9		133 7 9	
Colombo Dam .....	135 1 0	5 0 5		5 0 5	
Coolaman Tank .....	84 6 0	0 6 2		0 6 2	
Corilla Tank .....			40 0 0	40 0 0	
Corowra Swamp Tank .....	185 12 0	9 3 0		9 3 0	
Crow's Nest Well .....	9 10 0		40 0 0	40 0 0	Leased 1/12/85, £40 per ann
Curraweena Tank .....	146 0 0	54 7 0		54 7 0	
Cuttygullyaroo Tank .....	127 15 0	62 11 9		62 11 9	
Daysdale Tank .....	118 18 0	1 5 8		1 5 8	
Dolmoreve Well .....	76 10 0	4 6 6		4 6 6	
Dry Lake Well .....	103 12 0	26 6 10	11 13 4	38 0 2	Leased 1/9/86, £35 per ann.
Eighteen-mile Tank .....			36 8 7	36 8 7	" 1/9/86, £52 "
Ford's Bridge Tank .....	17 14 0		56 15 6	56 15 6	" 15/3/86, £80 "
Forty-eight-mile Tank .....	110 17 0	30 9 11	4 3 4	34 13 3	" 1/12/86, £50 "
Galathera Tank .....			126 0 0	126 0 0	
Gilgaii Tank .....	91 14 0	50 9 9	35 0 0	85 9 9	" 1/6/86, £60 "
Girilambone Tank .....	78 10 0	0 7 8		0 7 8	
Goonery Artesian Well .....			60 0 0	60 0 0	
Gunnaramby Tank .....	71 18 0	0 4 4		0 4 4	
Helman's Tank .....	128 8 0	95 14 8		95 14 8	
Hermitage Tank .....	139 5 0	87 9 8		87 9 8	
Holy Box Well .....	170 6 0	39 8 0		39 8 0	
Hovell's Dam .....	75 8 0	11 5 9	7 10 0	18 15 9	Leased 1/10/86, £30 per ann.
Hulong Tank .....	59 3 0	10 9 5		10 9 5	
Ivanhoe Tank .....	29 12 0	9 19 4		9 19 4	
Jindera Tank .....	130 8 0	5 2 10		5 2 10	
Jumping Sand Hill Well .....	101 0 4	41 1 8		41 1 8	
Junee Dam .....	104 18 9				Stock water gratis.
Keighran's Tank .....	71 8 0	11 7 0		11 7 0	
Kerrigundi Tank .....	70 0 0	27 1 6	16 7 10	43 9 4	Leased 3/9/86, £50 per ann.
Ledknapper Tank .....			78 1 4	78 1 4	" £110 "
Lightning Kidge Tank .....	118 12 6	16 1 8		16 1 8	
Mannum Well .....	45 3 0	4 1 0		4 1 0	
Merri Merriwa Tank .....	127 15 0	8 16 7		8 16 7	
Mombii Tank .....	127 15 0	18 15 10		18 15 10	
Mossgiel Tank .....	174 3 6	67 11 2		67 11 2	
Mena Murtee Well .....	12 8 0				
Mount Elliot Tank .....	64 8 0	7 7 10		7 7 10	
Mount Hope Tank .....	127 15 0	7 11 4		7 11 4	
Mount Manara Tank .....	129 2 7	25 4 1		25 4 1	
Mowabla Tank .....	127 15 0	12 19 3		12 19 3	
Muriel Tank .....	61 4 0	82 6 2	32 1 8	114 7 10	Leased 1/6/86, £55 per ann.
Murray Hut Well .....			20 0 0	20 0 0	
North Roto Well .....	110 10 0	4 6 5	14 0 0	18 6 5	" 1/5/86, £21 "
Nullamut Tank .....	54 6 0	72 19 8	30 12 6	103 12 2	" 1/6/86, £52 10s. "
Nymagee Tank .....	127 15 0	2 17 0		2 17 0	
Old Gunbar Well .....	146 0 0				Water bad.
One Tree Tank .....	228 12 0	87 10 0		87 10 0	
Polygonum Hut Well .....	130 14 0	40 18 8		40 18 8	
Pretty Pine Well .....	135 0 0	15 8 7	23 6 8	38 15 3	Leased 1/6/86, £40 per ann.
Priory Tank .....	93 16 0	33 12 9		33 12 9	
Pulletop Tank .....	85 15 0	13 3 8	15 0 0	28 3 8	" 1/10/86, £60 "
Purnamoota Tank .....	55 4 0				
Quandong Tank .....	38 14 10	60 19 0		60 19 0	
Rat Holes Tank .....	76 16 0	50 10 1		50 10 1	
Rock Holes Tank .....	127 15 0	29 0 0		29 0 0	
Roto Well .....	126 10 0	0 0 4	15 6 8	15 7 0	Leased 1/5/86, £23 per ann.
Sandy Creek Tank .....	127 15 0	20 13 9		20 13 9	
Shearleg's Tank .....			50 0 0	50 0 0	
Silverton Tank .....	93 12 0				
Silverton Well .....	120 0 0	2 16 9		2 16 9	
Sixteen-mile Gums Tank .....	146 0 0	73 15 0		73 15 0	

## RETURN showing Wages paid and Revenue for the Year 1886—continued.

Name of Watering Place.	Wages paid to Caretakers in 1886.	Revenue received.				
		Fees collected by Caretakers.	Rent received from Lessees.	Total Receipts.		
	£ s. d.	£ s. d.	£ s. d.	£ s. d.		
Tambar Springs .....	6 0 0	.....	.....	.....	No charge made for water. Lately taken over.	
Thackaringa Tank .....	4 0 0	.....	.....	.....		
The Lake Tank .....	.....	.....	50 0 0	50 0 0		
Thirty-five-mile Tank .....	131 5 0	52 2 4	.....	52 2 4		
Thorndale Tank .....	127 15 0	78 0 3	.....	78 0 3		
Till Till Tank .....	109 10 0	4 13 8	.....	4 13 8		
Tinda Tank .....	122 17 0	3 1 2	.....	3 1 2		
Tindarie Tank .....	125 15 0	55 8 2	.....	55 8 2		
Tom's Lake Tank .....	.....	.....	51 0 0	51 0 0		
Twelve-mile Tank .....	.....	.....	57 0 0	57 0 0		
Two Waterholes Tank .....	.....	.....	52 0 0	52 0 0		
Wagga Tank .....	127 15 0	4 15 0	.....	4 15 0		
Walla Walla Tank .....	106 0 0	2 1 4	12 10 0	14 11 4		Leased 1/10/86, £50 per ann.
Wangonella Well .....	89 0 0	1 0 6	.....	1 0 6		
Wicklow Tank .....	127 15 0	0 15 4	.....	0 15 4		
Wooloondool Well .....	94 7 6	66 1 11	18 6 8	84 8 7		
Yentabangee Tank .....	.....	.....	30 0 0	30 0 0		
Youghl Plain Tank .....	79 16 0	16 4 1	13 6 8	29 10 9		
Totals .....	8,922 4 0	2,177 16 2	1,265 9 1	3,443 5 3		

## SUMMARY.

Total wages paid .....	£8,922 4 0
Total Revenue .....	3,443 5 3
Number of tanks under lease in 1886 .....	36
Total rental per annum .....	1,777 10 0
Average rental per annum .....	49 7 2
9 June, 1887.	J. S. RAMSAY.

Mr. Kelly, M.P., carried a motion last session for a return *re* water-tanks, dams, &c. Is it ready? If not, when will it be?—P.A., 26/9/87. I cannot find any motion carried by Mr. Kelly, M.P., on the subject—R.H.O., 26/9/87. The Minister directs that the Under Secretary for Works may be again reminded.—H.G., 27/9/87. Letter to Under Secretary for Works, 27/9/87.

P.W.P.,  
87-5,194.

Sir,

27 September, 1887.

I have the honor to again invite your attention to my letter of 2nd June last, asking for certain particulars *re* Public Watering Places, for the information of the Hon. the Secretary for Mines. I am directed by him to request that you will be good enough to have the information furnished with the least possible delay.

GERARD HERRING,  
(For Under Secretary for Mines.)

The Under Secretary for Public Works.

Roads.—J.R., B.C., 29/9/87. Mr. Wood.—W.C.B., 29/9/87. The information is being prepared.—A.P.W., 30/9/87. Under Secretary.—W.C.B., B.C., 30/9/87. The Under Secretary for Mines.—J.R., B.C., 6/10/87.

P.W.P.,  
87-5,842.

My dear Sutherland,

31 October, 1887.

I beg to remind you that up to the present I have not received the return I asked for a long time ago, showing the cost per cubic yard paid by the Roads Department for excavation of tanks, dams, &c. Kindly send it on and oblige.

Yours,  
F. ABIGAIL.

The Secretary for Public Works.

I am not aware of the return asked for, but this is clear, and I desire it to be prepared as soon as possible.—J.S., 1/11/87. With Minister.—J.R. Roads.—J.R., B.C., 1/11/87. Urgent. This list was furnished upon 6th June last, but new list will now be prepared.—A.P.W., 2/11/87. Paper now herewith was with the papers given to me out of the Minister's room on yesterday. It was sent down, as Mr. Wood states, on 6th June.—W.C.B., 2/11/87. Forward to Mines Department. Under Secretary for Mines.—J.R., B.C., 2/11/87. Memo. by Record Clerk, P.W. Places.—The receipt of former list is not recorded; I have never received it, and I feel confident it was never received in this office.—R.W.G., 4/11/87.

ABSTRACT showing Prices for excavating Tanks, from 1882 to 1886.

Road.	Locality.	Price per cubic yard.	Remarks.
		s. d.	
Deniliquin to Hay ... ..	Black Swamp ... ..	1 1½	
	Pine Ridge ... ..	1 2	
Booligal to Wilcannia ... ..	Tom's Lake ... ..	1 1	
	Mossgiel ... ..	1 4	
	Ivanhoe ... ..	1 7	
	Wards ... ..	1 6	
Wilcannia to Tibbooburra ... ..	26-mile ... ..	1 8	
	Dry Lake ... ..	1 6	
	Tarella ... ..	1 6	
	Peak ... ..	1 6	
	Murlippa ... ..	1 6	
	Cobham ... ..	1 6	
	Waratta ... ..	1 5	
Balranald to Ivanhoe ... ..	Clare ... ..	1 5	
	34-mile ... ..	1 6	
Cobar to Louth ... ..	Cuttygullyaroo ... ..	.....	
	Booroondara ... ..	1 6½	
	Kerrigundi ... ..	1 5½	
	64-mile ... ..	1 5	
Cobar to Bourke ... ..	Helmans ... ..	1 8	
Bourke to Enngonia ... ..	The Lake ... ..	1 5½	
	Clay Run Hollow... ..	1 5½	
Enngonia to Culgoa ... ..	18-mile ... ..	1 4	
	Ledknapper ... ..	1 5½	
Byrock to Brewarrina ... ..	Mulga No. 5 ... ..	1 4½	Abandoned by contractor.
	Nellie's Paddock ... ..	1 9	
Nymagee to Nyngan ... ..	Babinda .. ..	1 4	Steam plant, flat slopes, low banks.
	Gilgäu ... ..	1 4	" "
	Thorndale ... ..	1 6½	
Trangie to Dandaloo ... ..	Derribong ... ..	1 6	Unemployed engaged.
Hillston to Cobar ... ..	Merri Merriwa ... ..	1 9	
	Wagga ... ..	1 9	
	Rock Holes ... ..	1 9	
	Sandy Creek ... ..	1 8	
	Priory ... ..	1 7	
	Shearlegs ... ..	1 9	
	Brura ... ..	1 9	
Condobolin to Cobar ... ..	Mowabla ... ..	1 5½	
	Boona ... ..	1 9	Steam plant, 2s.
	Tinda ... ..	1 9	Work done by steam plant.
	Mombil ... ..	1 9	
	Wicklow ... ..	1 9	
	Beloura ... ..	1 6	
	Nymagee ... ..	1 9	
	Keighran's ... ..	1 7	Steam Plant Co. refused 1s. 8d.
Whitton to Euabalong ... ..	9-mile ... ..	1 1	
	Pulletop ... ..	1 2	
	Mount Elliott ... ..	1 1½	
Silverton District... ..	Silverton ... ..	1 6	
	Rat Hole ... ..	1 6	
	Wilson's ... ..	1 4½	
	Purnamoota ... ..	1 6	
	Thackaringa ... ..	1 5	
Albury District ... ..	Carson's Swamp ... ..	1 1	
	Jindera ... ..	0 10¼	
	Walla Walla ... ..	1 3	
	Lowesdale... ..	1 5	
	Daysdale ... ..	1 4	
	Brocklesby ... ..	1 0	
Warren to Coonamble ... ..	Bullagreen ... ..	1 3	

MEMO. by Clerk in Charge, Public Watering Places.—On 2nd June the Department of Public Works was asked to furnish the following information:—(1.) Cost of tanks, wells, and dams, showing each one separately. (2.) Cost of machinery to work the same. On 30th August the Works was reminded of this request, and again on 27th September. This latter communication was returned B.C. from the Works on 7th October, bearing a minute as follows:—"The information is being prepared.—A.P.W., 30/9/87." I have to point out that the information applied for on 2nd June has not yet been supplied. (2.) The return attached to S7-5,842 does not afford that information. (3.) This return, said to have been already furnished on 6th June, has not previously been received by this Department.

J.S.R., 8/11/87.  
The

The information asked for by the Honorable the Secretary for Mines, 2/6/87, is not given in the return that has been made by the Department of Public Works, which is an abstract, showing prices for excavating tanks, 1882 to 1886. The information requested is—(1st) the cost of each tank, dam, or well, showing each one separately; (2nd) the cost of machinery, &c., to work the same. The Honorable the Secretary for Public Works may perhaps be asked to have this information supplied.—H.G., 10/11/87. The Under Secretary.

Submitted.—H.W., 11/11/87. Approved.—F.A., 11/11/87. Letter to Works, 15/11/87. A reminder may be sent to the Secretary for Public Works.—F.A., 29/11/87. Letter to Works, 29/11/87. I beg to submit for direction whether a fresh effort shall be made to obtain this return, or whether the papers shall appear in their incomplete state in the Parliamentary Return.—H.G., 12/12/87. The Under Secretary. Submitted.—H.W., 14/12/87. The Works Department may be requested to furnish a full return of what is required.—F.A., 15/12/87. Asked, 19/12/87.

Sir,

29 December, 1887.

P.W.P.,  
87-7,156.

In reply to your letter of 29th ultimo, asking to be supplied with certain information as to the cost of tanks, dams, wells, &c., I am directed to inform you that the information is being obtained; but that, in view of the recent appointment of a Commission to inquire into the matter of tanks and wells, the Secretary for Public Works is of opinion that the return should in the first instance be submitted to the Commission.

I have, &c.,

JOHN RAE,

The Under Secretary for Mines.

Under Secretary for Public Works.

Minute by The Chief Inspector of Public Watering Places.

3 January, 1888.

P.W.P.,  
88-2.

THE return referred to in this letter was asked for, by direction of the Honorable the Secretary for Mines, on the 2nd June, 1887. The Works Department were reminded on 30th August, 1887, and again on 27th September. Upon 20th September this Department was informed by a minute that the "information is being prepared." On 31st October the Secretary for Mines wrote to the Secretary for Public Works, asking again for the return. A reply by minute was received, on 4th November, that the list was furnished on 6th June last, but that a new list would be prepared.

The list referred to, which had not been previously received by this Department, proved to be merely an abstract of prices for excavating tanks from 1882 to 1886. And on 29th November a letter was again sent to the Department of Public Works, calling attention to the point that the return desired by the Secretary for Mines was (1st) the cost of each tank, dam, and well, showing each one separately; (2nd) the cost of machinery, &c., to work the same.

In view of the preparation of papers for the Parliamentary return on 12th December, instructions were asked whether a fresh effort should be made to obtain this return or whether the papers should appear in their incomplete state. A final letter was, by direction, sent on 19th December, 1887. As the return, it is stated, is now to be made to the Royal Commission, it will perhaps be advisable the accompanying papers should be also submitted.

HARRY GILLIAT,

The Under Secretary.

Chief Inspector of Public Watering Places.

Submitted.—H.W., 3/1/88. Seen and dealt with by minute.—F.A., 4/1/88.

Minute by The Honorable the Secretary for Mines.

4 January, 1888.

P.W.P.,  
88-43.

I HAVE just seen the Secretary for Works, and pointed out that the return asked for is required to complete the papers ordered by Parliament, and which will be placed upon the Table of the House as soon they meet. He informed me that he had overlooked the fact that the House had ordered these papers, and if the request be made again, pointing out the above facts, he will at once order the return to be supplied. Let such be done immediately, so that they may be all ready.

F.A., 4/1/88.

The Chief Inspector of Public Watering Places.—H.W., 4/1/88. A letter in the above terms to be prepared and forwarded to the Department of Public Works to-day. Urgent.—H.G., 5/1/88. Letter to Works, 5/1/88.

In compliance with the general direction of the Hon. the Minister these papers have been included amongst those submitted to the Tanks and Wells Commission, although incomplete by reason that the information required to perfect the return asked for by the Minister for Mines has not been furnished by the Department of Works.—J.S.R., 19/1/88.

This refers to the cost of the public watering places and their machinery, asked for 2 June, 1887.—H.G., 19/1/88. The Under Secretary.

Remind the Secretary for Works of his promise to let me have this return to complete the papers to be laid on the Table of Parliament when it again meets in February. If this is not forthcoming I must state that I have been unable to obtain it from the Works Department.—F.A., 19/1/88.

Prepare letter.—H.G., 19/1/88. Letter to Works, 20/1/88.

Minute

Minute by The Chief Inspector of Stock on The Hon. T. Cummings' Application as to the Average Expense of Drinking Appliances at Government tanks.

Department of Mines, Stock Branch, Sydney, 20 July, 1885.

THE Honorable Thomas Cummings has asked the average expense approximately of drinking appliances at the Government tanks where stock are watered at troughs filled from a service tank into which it is raised by horse-power, and the cost where raised by steam-pump, specifying the cost of the service-tank separately. As this can only be given by the Works Department, application might perhaps be made accordingly, if approved.—A.B., 20/7/85.

Submitted.—H.W., 20/7/85. Inform him.—J. P. ABBOTT, 21/7/85. The Under Secretary for Works.—G.E.H. (for U.S.), B.C., 24th July, 1885. Roads, B.C., 27/7/85. Mr. Wood.—W.C.B., 28/7/85.

	£	s.	d.
Timber Service Tank (say)	250	0	0
Iron B.P. do	300	0	0
Troughing	225	0	0
Steam-pump	170	0	0
Horse, gear, &c.	90	0	0
	<b>£785</b>	<b>0</b>	<b>0</b>

Say £785.—W.C.B., 4/8/85. Under Secretary. Forward to Mines.—F.A.W., 8/8/85. The Under Secretary for Mines, B.C., 8/8/85, W.F. (for the U.S.).

Extract from Minute by The Commissioner and Engineer for Roads and Bridges.

The tank, it is intended to make of buckled plates, it will weigh 6 tons, and 120 ft. of troughing will weigh 1 ton. It is considered the tank will cost £280, and the usual 300 ft. of troughing £120, or certainly not more than the present appliances.

Cost of Excavations as said to have been paid by the Works Department :—  
 Mount Manara Tank, 1s. 4½d. per cubic yard, with fencing papers.  
 Twelve-mile Tank, 2s. 6d. per cubic yard, with sub-letting papers.

Of Drains :—  
 Ivanhoe Tank, 15s. per chain, with Ivanhoe papers.  
 Twenty-Six-mile, 4s. 6d. per chain, with fencing papers.

Miscellaneous :—  
 Engine-shed, Thirty-Five-mile, £50 ; others to £30, with fencing papers.

NOTE.—This Department have erected a 12 x 12 vertical slab shed, door and window, iron roof, for Willandra Well cost £1,087 5s. 8d. ; 100 ft. deep, no supply, bad water.  
 Supply tank, Tom's Lake, £300.

Cost of Fencing.

The following prices are alleged to have been paid by the Department of Public Works :—

	Per mile.			No. of Papers.
	£	s.	d.	
*Goonery	86	0	0	P.W.P., 87-6,586.
*Mulga, No. 5	70	0	0	P.W.P., 87-6,089.
*Bendemere	70	0	0	P.W.P., 87-5,587.
†Ivanhoe Tank	112	0	0	P.W.P., 87-6,585.
*Boonoona	120	0	0	P.W.P., 87-6,588.
*Mount Manara	120	0	0	P.W.P., 87-5,636.
*Forty-eight-mile	90 to 100	0	0	P.W.P., 85-2,010.
*Thirty-five-mile	95	0	0	
*Twenty-six-mile	95	0	0	
†Baloola	80	0	0	Tanks & Wells, 85-858.
Black Swamp	100	0	0	85-414.
Lightning Ridge	80	0	0	85-394.
Bunghill	80	0	0	85-395.
Boro	80	0	0	85-393.

Estimated Cost of Fencing by this Department, and at which it is prepared to undertake the work, and has done so :—

District.	Per mile.			District.	Per mile.			With fencing papers.
	£	s.	d.		£	s.	d.	
Narrandera	55	0	0	Deniliquin	63	13	4	
Do (let)	44	0	0	Narrabri	61	14	0	
Corowa	58	4	0	Dubbo	56	10	0	
§Albury (approx.)	70	2	5	Condobolin	39	19	0	
Wilcannia	50	0	0	Ivanhoe	54	0	0	
Cobar	38	0	0	Silverton	75	0	0	
Do	45	0	0	Balranald	35	10	0	
Coonamble	47	10	0	Coonabarabran	42	1	0	
Walgett	57	0	0					

\* With fencing papers. † Papers, with sub-letting contracts. ‡ With Baloola and Normanstone. § An exceedingly heavy fence, unnecessarily so.

An average of about £52, but it is to be noted that the estimates sent in and specifications accompanying them were upon a most liberal scale, and capable of very great reductions and modifications

J.W.B.

P.W.P.,  
87-7,000.

Extract from Mr. Inspector's Low's report on Day Dream Tank.

15 December, 1887.

\* \* \* \* \*  
Main Tank.—Full of water, no depth indicator, and nothing in tank to make one; reported to be 11 feet deep, and cost 1s. 6d. per cubic yard.

J. LOW.

COMPARATIVE COST of hutting, showing average tenders in each district recommended for acceptance by the Works Department, and cost by the Mines Department.

District.	Average Works Tenders.	Mines.		Remarks.
		Actual Cost.	Tenders and Estimates.	
	£ s. d.	£ s. d.	£ s. d.	
Bourke ...	92 15 3	.....	60 0 0	Too high, not accepted.
Cobar ...	82 6 0	50 0 0	.....	Sixteen erected (contract).
Condobolin ...	.....	.....	47 2 0	Returned for amendment.
Corowa ...	68 0 0	40 7 0	.....	Three erected (contract).
Silverton ...	.....	50 0 0	.....	Five " "
Hay ...	83 12 0	.....	40 0 0	In action.
Wilcannia ...	.....	47 10 0	.....	One erected " "
Deniliquin ...	78 10 4	48 5 2	.....	One " (labour).
Coonamble ...	91 1 6	.....	.....	.....
Coonabarrabran	.....	.....	49 15 0	In action.
Narrandera ...	87 10 8	37 7 8	.....	Three erected (caretaker).
	.....	39 12 6	.....	One " (contract).
Balranald ...	.....	42 10 0	.....	Two let (contract).
Albury ...	68 0 0	.....	48 12 2	Iron.
	.....	.....	54 10 0	Wood.
Ivanhoe ...	114 7 1	.....	56 13 0	Iron.
	.....	.....	58 4 0	Wood.
Narrabri ...	77 6 0	49 0 0	.....	One erected (caretaker).
Forbes ...	.....	30 11 2	.....	One " (contract).
Walgett ...	79 0 0	.....	.....	.....

Works average, £85 each; Mines average, £43 odd, for thirty-four cottages let and completed. The average of £50 will not be exceeded.

Copy of letter from Mr. Overseer Tully, of 19th March, 1887.

Sir,

I have the honor to forward herewith plan and specification of fencing which I consider suitable for fencing the tenant leases at Public Watering Places in this district, and which can be erected at about £50 to £55 per mile, thus:—

Wire delivered anywhere within 100 miles of Wilcannia, £20 per mile.

Furnishing posts and erecting, £30\* per mile.

\* This is very high. If a supply of the wire required were purchased privately it could be delivered here under £14 per ton, at least the stores offer to supply it at that price, and carriage is very low at present.

I have, &c.,

MARK J. C. TULLY,  
Overseer, Public Watering Places.

Telegram from Mr. Overseer Mark J. C. Tully to Mr. Inspector J. W. Boulthec.

Wilcannia, 27 May, 1887.

ENGINE sheds on Ivanhoe Road cost £50; some erected since by Mr. Hanna in other parts down to £30; fencing on Booligal Road, £94 per mile; Beefwood now going up, down to £52 per mile; no huts; starting out to Paroo and Cobham Road to-day.

MARK J. C. TULLY,  
Overseer, Public Watering Places.

Engine sheds, 12 x 12, Ivanhoe Road, £50; some erected later, £30.

Mr. Overseer Dowling offers to get engine shed erected at Brolgan, 12 x 12, for £9.

Size of shed, 12 x 12. The same sized shed is about to be erected in the Forbes district for £9.

In Condobolin district offers are made to erect the shed for £10. Attention is also called to the price quoted for fencing on Booligal Road, which is nearly double the estimate considered ample by this Department.

HARRY GILLIAT,

The Under Secretary.

30/5/87.

Submitted for the information of the Minister.—H.W., 30/5/87.

Seen.—F.A., 30/5/87.

Sir,

Sir,

Bourke, 15 August, 1887.

I have the honor to report that in accordance with your instructions I visited the Brolgan Creek Tank on the 12th instant, and met Mr. Overseer Dowling and Bagwill the contractor for the cottage and engine shed newly completed. P.W.P., 87-3,977.

I inspected them both, and am glad to be able to report favourably of them. The cottage is a most substantial one, and for its price, £30 11s. 2d., very reasonable; the posts, horizontals, rafters, &c., are all up to contract; the chimney is well built and lined with stone by the contractor, this latter work not being a part of his contract. The finish of the work I can hardly call first-class, but the joints all appear to fit and fill, and of its durability there can be no question. The flooring is well laid and the doors and windows fit.

The caretaker has lined the place with hessian and papered it, he has also erected a vertical slab kitchen with bark roof, and has made himself and family really comfortable. I think authority should be granted to the Overseer to send out 7 lb. of white lead, and 1 gallon of paint oil and brush, so that the caretaker can paint the doors, windows, &c., exposed portions of posts inside. The back door is at present fastened by a bolt, authority might perhaps be given for the purchase of a latch.

The engine shed is a vertical slab hut with windows and doors of sawn pine, the whole very strongly framed, and slabs let into grooves, it is water-tight, and although it only cost £9 9s. 5d., I have no doubt it will outlast those erected by the Works Department at £50 each. There is ample space all round the engine, and a strong shelf has been erected for tools, oil, &c. Credit, I think, is due to Mr. Overseer Dowling for the interest he has apparently taken in bringing the erection of the buildings to a successful finish.

The contractor may, I think, be safely entrusted with the like work in the Condobolin District. From what I understand, he has barely made wages at the work, and that any further tender will be slightly in excess of this.

JAMES W. BOULTBEE,

Inspector of Public Watering Places.

The Chief Inspector of Public Watering Places.

Mr. Jones may be directed to assist Bagwill in obtaining information.—H.G., 20/8/87. Letter to Overseer Jones, 22/8/87.

Extract from Mr. Inspector J. W. Boulton's report on Ivanhoe Tank.

22 November, 1886.

I believe 15s. per chain was paid for the drains here, work that I got done on the Darling from 3s. 6d. to 4s. 6d. per chain, 6 feet wide, 1 foot deep.

J. W. BOULTBEE.

P.W.P.,  
87-6,936.  
Original,  
86-5,587, with  
Ivanhoe Tank  
papers.

Can you give any information with respect to the cost of these drains?—H.G., B.C., 20/12/87. Mr. Yeo.

The drains at the Ivanhoe Tank were made by Messrs. Farrell and Gallagher, who received 15s. per chain, which was an exorbitant price as stations in the district were only giving from 3s. 6d. to 5s. per chain, and I might mention that a reliable person informed me at the time the contract was let, that one of the contractors while consulting his partner as to what price they should do the work for, said they should ask 7s. 6d. per chain, which he said would pay them well; but the partner said, as it is Government work, let us ask 15s. per chain, which they did, and got it. I might also mention that the drain running from the north-east corner of the main tank from a point about half a mile from the main tank should not have been passed by the Road Superintendent, as it was never graded properly, and the water runs in the opposite direction of the tank. No tenders were called for the cutting of these drains.—J. YEO, 22/12/87.

Submitted for the information of the Honorable the Secretary for Mines.—H.G., 23/12/87. The Under Secretary. Submitted.—H.W., 23/12/87. Seen.—F.A., 3/12/87.

Extract from Mr. Overseer Yeo's report on the Merri Merriwa Tank.

Ivanhoe, 19 July, 1887.

Remarks.—The Works Department have had a shelter-shed erected over the machinery.

JAMES YEO,

Overseer, Public Watering Places.

P.W.P.,  
87-3,494.

Mr. Yeo may be asked if he is aware of the cost of the sheds.—H.G. Asked, 30/7/87.

Sir,

Stock Office, Ivanhoe, 13 September, 1887.

Referring to your letter dated 30th July last, re informing you the cost of the shelter-shed erected at the Merri Merriwa Tank.

I beg to inform you that I cannot give you the cost of this particular shed, but I am informed, through the caretaker at the Merri Merriwa Tank, that the shelter sheds along the Cobar and Hillston Road, cost £27 each.

I have, &amp;c.,

JAMES YEO,

Overseer, Public Watering Places.

P.W.P.,  
87-4,712.

The Chief Inspector of Public Watering Places.

Extract

Extract from Mr. Overseer Jones' report on Tinda Tank for March and April, 1887.

P.W.P.,  
87-2,485.

Some sawn timber has been left here, which I am told is intended for a shed over the engine and shoots at the corners of the the embankments. But not having received any official intimation of the intention of despatching this kind of material to this tank, I can only state that some timber is upon the ground, and as I hear for the purpose abovenamed.

Condobolin, 18 May, 1887.

RICHARD D. JONES.  
Overseer, Public Watering Places.

Mr. Jones,—Please report when work is commenced, also ascertain prices paid, if possible.—H.G., 14/6/87. I will report and obtain required information, if possible.—R.D.J., 24/6/87. Mr. Gilliat. This information should not be lost sight of.—H.G., 28/6/87. Mr. Ramsay.

P.W.P.,  
87-3,150.

Sir,

Condobolin, 8 July, 1887.

I have the honor to report in reference to your B.C. dated 10th [? 14] ultimo, "Construction of shoots at public tanks." I beg to inform you that the caretakers report to me that shoots have been constructed at the following tanks, *i.e.*, Boona, Tinda and Wicklow Tanks, and engine-sheds at Mowabla, Boona, Tinda, Mombill, and Wicklow Tanks. The cost of the shoots I have not been able to ascertain, but the cost of the engine-sheds was £27 10s. each.

I have, &c.,

R. D. JONES,

Overseer, Public Watering Places.

The Chief Inspector of Public Watering Places.

Mr. Jones may be asked to furnish an exact description of sheds, size, dimensions, and approximate amount of material.—H.G., 14/7/87. Mr. Jones asked, 15/7/87.

Minute by Mr. Secretary for Mines, J. P. Abbott.

13 December, 1884.

Tanks&Wells,  
84-1,632.

I WANT Mr. Bennett to be good enough to furnish me with a return showing the name of every tank constructed during the last two years.

2. The same as to wells.
3. The locality and the district.
4. The size.
5. The quantity of water each is capable of holding.
6. The depth of the wells, and of the water, and the quality of the water.
7. The line of road on which each is situated.
8. The lengths of the roads served.
9. The cost of each.
10. The number of tanks, wells, &c., now being made.

J. P. ABBOTT, 13/12/84.

The Chief Inspector of Public Watering Places. [Urgent.]

Very Urgent. The Under Secretary for Works.—H.W., B.C., 16/12/84. Roads.—J.R., B.C., 17/12/84. Mr. Wood.—W.C.B., 17/12/84. Will Mr. Steel assist?—W.C.B. Herewith, as asked for urgently, sent direct.—W.C.B., B.C., 5/1/85. Forward to Mines.

Excavation per cubic yard for squatters costs from 10d. to 1s., or £900 for an 18,000 cubic yard tank, or rather more than 3,000,000 gallons of water, and when tools and draught cattle are found by the employer, it has frequently been done at 4d. per cubic yard, and good wages made; 1s. per cubic yard. a maximum price.—H.G.

District	Road.	Locality.	Nature of work.					Length of Road.	Cost.		Remarks.	Water stored
			Tank.	Capacity.	Well.	Depth.	Water.		£	s. d.		
				Gallons.		ft. in.	ft. in.				Million Gallons.	
Deniliquin	Deniliquin to Hay	Black Swamp	Tank	3,000,000	..	.....	.....	80 miles	1,710	5 4	Completed, and full of water	3
		Pine Ridge	"	3,000,000	..	.....	.....	.....	1,774	2 11	" " "	3
Hay	Hay to Booligal	Twelve-mile	Well	.....	Well	110 0	30 0	.....	*688	0 0	" good water.	2
	Booligal to Wilcannia	Tom's Lake	Tank	5,000,000	.....	.....	.....	.....	2,542	4 7	"	3
Balranald to Ivanhoe	Lignum Hut	Mossgiel	Tank	4,000,000	..	.....	.....	.....	2,445	18 4	Nearly completed, good water, windmill pump.	3
		Box Creek or Ward's	.....	.....	.....	.....	.....	*341	0 0	In progress.	3	
	Twenty-six-mile	"	4,000,000	.....	.....	.....	.....	*1,174	13 6	Excavation completed.	3	
		Dolmoreve	Well	.....	.....	.....	.....	*560	0 0	In progress.	3	
	Clare	Thirty-four-mile	Tank	.....	.....	.....	.....	.....	*833	0 0	"	3
		Willandra	Well	.....	.....	.....	.....	.....	*600	0 0	"	3
	Carathool to Hillston	Dry Lake	.....	.....	Well	107 0	22 0	.....	*739	4 0	Completed, good water.	3
		Gunbar	.....	.....	Well	94 0	27 0	.....	*645	1 0	" brackish.	3
		Crow's Nest	.....	.....	Well	120 0	6 0	.....	777	7 9	" good water.	3
	Cobar	Hillston to Cobar	Roto	.....	.....	Well	136 0	18 0	.....	*700	0 0	" "
North Roto			.....	.....	Well	167 0	6 0	.....	*366	16 7	" "	3
Merrimerrriwa		Tank	3,000,000	.....	.....	.....	.....	.....	*2,015	3 6	Nearly completed.	3
		Cross Roads or Wagga	"	3,000,000	.....	.....	.....	.....	1,906	7 6	Completed, full	3
Rock Holes		"	3,000,000	.....	.....	.....	.....	2,427	14 8	" nearly full	2	
Sandy Creek		"	3,000,000	.....	.....	.....	.....	2,061	5 0	" "	3	
Priory		"	3,000,000	.....	.....	.....	.....	*2,349	3 9	" full	3	
Shearleg's		"	5,000,000	.....	.....	.....	.....	2,583	8 2	" nearly full	4	
Gibbes		"	3,000,000	.....	.....	.....	.....	*1,584	3 0	Nearly completed.	4	
Condobolin to Cobar		Mowabla	"	3,000,000	.....	.....	.....	.....	2,163	8 2	Completed, nearly full	2½
		Boona	"	3,000,000	.....	.....	.....	.....	*2,018	12 8	Nearly completed.	2
		Tiuda	"	3,000,000	.....	.....	.....	.....	2,612	18 10	Completed, ¾ full	2
		Mombill	"	3,000,000	.....	.....	.....	.....	2,460	3 5	Completed.	3
		Wicklow	"	3,000,000	.....	.....	.....	.....	*1,276	19 6	Nearly completed.	3
Nymagee to Nyngan		Beloura	"	3,000,000	.....	.....	.....	.....	2,222	3 10	Completed.	3
	Nymagee	"	4,000,000	.....	.....	.....	.....	3,002	3 5	" full	3	
	Keighran's	"	3,000,000	.....	.....	.....	.....	*594	2 8	In progress.	3	
	Babinda	"	3,000,000	.....	.....	.....	.....	*766	6 4	"	3	
	Twenty-nine-mile	"	3,000,000	.....	.....	.....	.....	.....	.....	"	3	
	Fifty-mile	"	3,000,000	.....	.....	.....	.....	.....	.....	"	3	
	Mount Hope	"	3,000,000	.....	.....	.....	.....	2,272	13 4	Completed, full	3	
	Carried forward	.....	.....	.....	.....	.....	.....	50,214	11 9	.....	35½	

District.	Road.	Locality	Nature of work.					Length of Road.	Cost.	Remarks.	Water Stored.
			Tank	Capacity.	Well.	Depth.	Water.				
				Gallons.		ft. in.	ft. in.		£ s. d.	Million Gallons.	
Bourke	Cobar to Louth	Brought forward							50,214 11 9		35½
		Cuttygullyaroo	Tank	3,000,000						Nearly completed, full	3
		Booroondarra	"	3,000,000					*1,552 11 8	" 7 feet of water	1
		Kerrigundi	"	5,000,000					*2,356 7 3	" 12 feet of water	2
	Cobar to Bourke	Hillman's	"	3,000,000					*1,043 0 0	Completed.	
	Bourke to Eringonia	The Lake	"	4,500,000					2,294 18 11	Completed.	
		Clay-pan Hollow	"	3,000,000					2,086 6 11	Completed.	
	Eringonia to Culgoa	Lednappa	"	3,000,000					*1,520 5 8	Nearly completed.	
Wilcannia		Mulga Valley			Well				*337 4 0	} Not completed, delayed by seasons.	½
		Dry Lake	Tank	2,000,000					*1,003 2 11		
		Beefwood			Well				*236 9 6		
		Menamurtee			"				*218 11 0		
		Tarella	Tank	3,000,000					*570 16 0		
		The Peak	"	3,000,000					*662 0 0		
		J. K. Water-hole			Well						
		Murlippa	Tank	3,000,000					*1,013 5 10		
		Cobham	"	3,000,000					*916 15 6		
		Coalley	"	3,000,000					*200 0 0		
		Milparinka	"	5,000,000					*67 10 0		
	Wilcannia to Hungerford	Warratta	"	3,000,000					*448 3 0	} Works in progress.	
		Twelve-mile	"	2,000,000					*1,134 6 2		
		Silverton District							*1,241 0 0		
Walgett	Walgett to Goodooga	Narran	Tank	3,000,000					*128 12 4	In progress.	
Coonabarrabran	Coonabarrabran to Pilliga	Baradine			Well	122 0	40 0		888 1 11	Completed, good water.	
	Coonabarrabran to Gunnedah	Mannum			"	76 6	44 0		*387 2 0	"	
		Baloola			"				*425 0 0	Not completed.	
		Normanstone			"				*435 10 0	"	
Dubbo		Girilambone	Tank	4,000,000					1,709 16 6	Completed.	
Albury	Corowa to Urana	Lovesdale	"	3,000,000						In progress.	
		Daysdale	"	3,000,000						"	
	Albury to	Jindera	"	3,000,000					1,351 18 9	Completed, full	
		Walla Walla	"	3,000,000					1,377 8 10	"	
		Carson's Swamp	"	1,500,000						In progress.	
Deniliquin	Tocumwal to Jerilderie	Murray Hut			Well	126 0	11 0		*1,219 11 3	} Completed, good water.	
		Berican Creek			"	139 0	28 0				
									£77,030 7 8		46

NOTE.—The tanks named in this list will have (approximately) a capacity of 151,000,000 gallons, and the quantity now stored is estimated at about 46,000 gallons. The eleven wells that are on water are estimated to yield 250,000 gallons per diem. Figures marked thus (\*) denote payments on account.



Telegram from Mr. Inspector John Low to The Chief Inspector of Public Watering Places.

Ivanhoe, 19 November, 1887.

P.W.P.,  
87-6,241.

PLENTY ballah within 5 miles of Boonoon, and pine within 5 miles of Mount Manara Tanks for fencing.

JOHN LOW,

Inspector, Public Watering Places.

This refers to query on price of fencing at these tanks, and to show timber did not require to be carted far, and is in addition to my telegram of 18th November, giving prices paid for fencing.

JOHN LOW,

Inspector, Public Watering Places, 2/12/87.

Telegram from Mr. Inspector John Low to The Chief Inspector of Public Watering Places.

Wilcannia, 2 December, 1887.

P.W.P.,  
87-6,497.

BEVAN, of Hay, original contractor for fencing Mount Manara and Boonoon, at £120 per mile. See my telegram to you 18th November.

JOHN LOW,

Inspector, Public Watering Places.

## XXXVI.

### Papers *re* non-adaptation of work to formation of ground, &c.

Seaville Tank.

Dear Sir,

Momba, 17 March, 1883.

83-477.

Whilst you are in the district I wish to draw your attention to the site selected for a Government tank at the 9-mile, and should the work be proceeded with it will be a waste of public money similar to the Peri and Yentabangee Tanks. I fail to see why any sane man could select such a site at the 9-mile for an accommodation tank for public use, especially when there is such a good site at or near the 15-mile gate, and (if I mistake not) you recommended this latter site some two years ago.

I think this matter should be looked to at once, as there is nothing done at the 9-mile site with the exception of cutting the cane grass.

Yours faithfully,

Mr. Harry Gilliat.

W. HOGARTH.

Memo. by Mr. Harry Gilliat.

Tanks & Wells,  
83-477.

REFERRING to the annexed letter from Mr. Hogarth, manager of the Momba Pastoral Company, it appears that the site complained of has been selected on the Wilcannia to Hungerford Road, between Wilcannia and the Copago Government Tank; the distance between these points is about 28 miles. At the 15-mile gate there is a better catch than at the 9-mile, and it divides the distance with equal stages. There is also a waterhole about 2 miles out of Wilcannia, a portion of which has been alienated; the remainder is reserved, and makes a good camping place for teamsters or others who desire to be near the town.

When I visited the site at the 9-mile the contractor had knocked off work and removed the camp, and nothing had been done beyond clearing the cane grass in the swamp. There is in my opinion no question that the most suitable site for the new tank will be at a point about 50 chains northerly along the road after passing the 15-mile gate, and I would recommend that the question be submitted to the Works Department for consideration.

HARRY GILLIAT, 26/3/83.

Submitted.—A.B., 30/3/83. The Under Secretary for Mines. Submitted.—H.W., 31/3/83.  
For the Works Department.—J. P. ABBOTT, 2/4/83. The Under Secretary for Public Works.—  
H.W., B.C., 3 April, 1883. Roads.—J.R., B.C., 5/4/83.

Memo. *re* Paper on Tank near Wilcannia, on Hungerford Road.

T. & P.,  
83-173.

THE site for the tank on the Hungerford Road is over 12 miles, and not 9, as stated in paper <sup>83-2,216</sup><sub>3-4</sub>, and has a good drainage, and is good holding ground. A very large scope of ground can be drained into the tank.

I may mention that Mr. Hogarth was putting down a tank for the Momba Station, on the same swamp where the Government tank is now going down.

The country round the present site is good grass country, and therefore a good camping ground.

The contractor had to stop work on account of there being no water near the spot.

H. CAMBRIDGE, 16/4/83.

The Commissioner for Roads, Sydney.

Mr. Wood.—W.B., 17/4/83. This site from Mr. Cambridge's description supplies all the conditions necessary, and subdivides the distance between Wilcannia and Copago into two nearly equal stages. This work is relet and in hand.—A.P.W., 17/4/83.

It appears, for the reasons stated, that the place called the Nine-mile, which is 13 miles from Wilcannia, is more central, and, as Mr. Cambridge states, altogether a better site than that proposed by Mr. Gilliat at the Fifteen-mile.—W.B., 17/4/83. Under Secretary, B.C. Inform.—J.R., 19/4/83. The Under Secretary for Mines.—J.R., B.C., 21-23/4/83. Mr. Gilliat.—A.B., B.C., 24/4/83.

I do not agree with Mr. Cambridge's distances. The question might be referred to the Road Superintendent now at Wilcannia, and the Secretary of the Wilcannia Progress Committee could probably give some information.—H.G., B.C., 3/7/83. I do not think that this need be carried further. The two statements are now on record, and should the question come up again it can if necessary be seen who is right.—A.B., 1/8/83. The Under Secretary for Mines. Submitted.—H.W., 2/8/83. Approved.—J. P. ABBOTT, 4/8/83.

Sir,

Sir,

Stock Office, Wilcannia, 10 January, 1887.

I have the honor to recommend that a caretaker be appointed to the P.W.P. at the Nine-mile Lake, about 11 miles out of Wilcannia, on the Paroo Road, as the water of the lake has receded within the surveyed lines and a revenue should be obtained from it. There are several good men applying for such appointments here. I would not recommend more than 6s. per day at this work.

P.W.P.,  
87-194.

I have, &amp;c.,

Mr. Harry Gilliat, Chief Inspector.

M. J. C. TULLY.

It is recommended that a caretaker be engaged by Mr. Overseer Tully for the Nine-mile or Seaville's Tank, at wages not exceeding 6s. per day.—HARRY GILLIAT, 15/1/87. The Under Secretary for Mines. Submitted for approval.—H.W., 19/1/87. Approved, 24/1/87.—F.A. Mr. Overseer Tully should be asked whether he has yet engaged a caretaker, if so to forward his name, and date of his being engaged.—E.W., 18/2/87.

Sir,

Wilcannia, 19 February, 1887.

I have the honor to acknowledge receipt of your telegram authorizing me to appoint a caretaker at Seaville's Tank. Since communicating with you I visited it again in company with Mr. Hanna, Road Superintendent, and found that the recent rains have again filled up the lake, and the tank is quite surrounded with water, so that we could not get within 200 yards of the tank, so for the present a caretaker could be of no use, but as soon as I consider it advisable to have a caretaker placed there I will appoint one and inform you at once.

P.W.P.,  
87-925.

I have, &amp;c.,

The Chief Inspector, Public Watering Places.

MARK J. C. TULLY,  
Overseer, Public Watering Places.

Sir,

Wilcannia, 8 March, 1887.

I have the honor to acknowledge receipt of your communication of 26th February, No. 17-194, requesting information *re* appointment of caretaker at Seaville's Tank. On the 19th ultimo, I had the honor to report that the recent rains had refilled the lake, and that as the tank was surrounded by water I did not consider it advisable to appoint a caretaker for the present.

P.W.P.,  
87-1,193.

I have, &amp;c.,

The Chief Inspector of Public Watering Places.

M. J. C. TULLY,  
Overseer, Public Watering Places.

Telegram from Mr. Overseer Tully to The Chief Inspector, Public Watering Places.

Wilcannia, 18 November, 1887.

SEAVILLE'S tank submerged in January, 1885, has been surrounded ever since, excepting for a week or two in January last (see my letter of 10th January). Rain fell soon after and refilled the lake, which will last through the summer. Inspected this morning. Embankments now showing above water.

P.W.P.,  
87-6,218.MARK J. C. TULLY  
Overseer, Public Watering Places.

Extract from Mr. A. P. Wood's Minute of 9th December, 1882.

The following works are let and in progress:—

\* \* \* \* \*  
4. J.K. Waterhole, enlarging hole.  
\* \* \* \* \*

83-72.  
Original with  
Tarella Tank  
care.

These works were let under considerable difficulties, but the recent rains will enable them to be completed more rapidly than was anticipated.

A. P. WOOD, 9/12/82.

The J. K. Well.

Copy of Mr. Gilliat's Minute of 24th June, 1884.

REFERENCE to my report, page 14, will show that my opinion has always been that of Mr. A. P. Wood, and that I have consistently urged the adoption of wells on this road, but combined with the utilization of natural waterholes, which have been proved to fill with a light rainfall, say of 1 inch, and to be of good lasting capacity.

84,693.  
Original sent to  
U.S. Works  
9/9/84.  
Requested to  
return it on  
17/11/87.

These conditions are fulfilled at the J. K. waterhole. The question of the lessee's improvements, it appears to me, must be dealt with in the interests of the general public, and as in this case the small improvements he has made are required for the service of a main stock route, he may be compensated, but the water should be reserved. Here, as at the One-tree Waterhole, in the Evelyn Creek, I am opposed to the expenditure of the vote for a new work, when a moderate outlay in fencing troughing, with some simple means of raising water, would in my opinion suffice.

These waterholes are reported to have always stood well in the past, and it must be taken into consideration that when protected from the admission of stock they will last still longer, until the road becomes much more important than it is likely to do for years to come. I would submit for the consideration of the Hon. the Secretary for Mines that a well is not at present required in the neighbourhood of this waterhole.

HARRY GILLIAT.

Mr. Gilliat's minute dated 24th June, 1884, on J.K. Waterhole, Road Wilcannia to Mount Brown.

Minister's Minute.—I think tenders should be accepted for a well, as by this means a more permanent water supply is likely to be had, and entirely independent of the lessee.—J. P. ABBOTT, 3/7/84.

Extract

## Extract from Mr. Tully's Report upon Watering Places, Mount Brown.

3 October, 1885.

P.W.P.,  
85-3,630.

\* \* \* \* \*

J.K. Well.—Is about 200 feet deep; contractor had to erect temporary whim; is now at work again; no water.

M. J. C. TULLY.

## Extract from Mr. Overseer Tully's Telegram of 26/11/87.

\* \* \* \* \*

Small dam made J.K. Nothing done except by owners of Yancannia Station. This from reliable information, not from personal knowledge.

M. J. C. TULLY.

NOTE.—There is no record of the question of construction of a well at this place ever having been referred to this Department, since I was a resident for years in this district. I may add that I believe the commencement of this well was the cause of a protest against its construction lodged by R. H. Kennedy, of Wonnaminta Station, with Works Department, who at the same time offered to construct a dam, enlarge hole, and fence and erect troughs, provided he was permitted use of it.

J.W.B., 2/1/88.

Sir,

Wonnaminta Station, N.S.W., 29 December, 1887.

P.W.P.,  
88-79.

As I understand an inquiry is about to be made relative to the present very bad system of conserving water on the travelling stock routes, and the maintenance thereof, I beg to be allowed to make a few remarks on these subjects.

I should have been willing to go to Sydney to give evidence if it would be accepted, but as there is no possibility of my doing so (as I am unable to leave my bed at present, and am writing lying on my back), but being anxious to add my quota of information on such very important matter, I beg to be permitted to do so by letter.

I will attempt to point out where I consider great mistakes have been made, and large sums of money wasted. First, all Government tanks that I have seen are, in my opinion, wrongly constructed, with not nearly sufficient batter, which should be something like 4 or 5 to 1, enabling stock to drink at the tanks with safety, and do away altogether with the present what I consider useless and costly paraphernalia, such as pumps, engines, &c.

I wrote to the *S. M. Herald* some time ago, stating my views on these works; unfortunately my letter was too lengthy, and they did not publish it in full. My suggestion then was, that tanks should be made very large, with great batter—sheep to be allowed to drink all round, large stock at both ends. This could be all arranged by a proper system of good fencing. I would suggest that about 4 acres be fenced round each tank, with good strong double gates on either side, which could be opened and shut by travellers as required. Caretakers quite unnecessary.

If, as it may be suggested, that we hungry squatters—as we are often termed—did now and then purloin a drink of water, there would not be much to dread on that score, as we could be held in check, if necessary, by the infliction of a heavy penalty for so cribbing from the Government tanks. The fencing in of large paddocks at these tanks is quite useless and heavy expenditure. What are they required for, and who benefits by them?

I will point out to you the danger travelling stock are in by having to trust to the elaborately constructed tanks. Supposing a large mob of sheep should come along during one of our very hot bursts (which we are very subject to in our district) and the engine or pump went wrong, the sheep must die, as the batter in the tank is so steep that they dare not be allowed in or they would no doubt smother.

When in Sydney, during the time Mr. Abbott was in office, I waited on him, also on Mr. Bennett and, I think, Mr. Wood. I was introduced by my late lamented and great friend, the Hon. W. A. Brodribb, also by Mr. Quin. I wished to be allowed to make a tank and dam at the J K waterhole on this run (Wonnaminta), on the proclaimed reserve, for which I wished to be paid by the Government at the rate of 6d. per yard, the Government Inspector to measure and pass the work; and to dispense with fencing and leave the whole thing open to my stock and the public—the paddock is a small one, and seldom has more than 5,000 sheep in, so that I could have little idea of monopolizing the lion's share of the water. Mr. Bennett read some telegrams from the then Inspector—I do not know who he was—condemning the proposal, and there the matter ended, but unfortunately not so the expense. Since then, I do not know at whose suggestion, an expensive and wholly useless well has been sunk, and close beside a good creek too, this same J K Creek, one that is seldom dry.

I was never an advocate for wells for travelling stock for many reasons. They are an expensive mistake, except of course in artesian country. I am writing now of our own district.

I do not know who chose the sites for the wells at J K and Mena Murtee Plain. The latter is also beside a permanent waterhole and will never be used.

There are other departments in which I could point out a great and useless expenditure of money, in my opinion, quite unnecessary. Among such large numbers who advocate the rabbit-proof fencing, I am almost afraid to speak of the matter, but I can't help saying I am not an enthusiast in that way. It requires great consideration before attempting such a gigantic scheme. One hour's tropical rain will destroy scores of miles in hilly country, and rabbits will get over and be put over. My idea is that disease is our only hope of eradicating or checking them.—

Hoping that the importance of the matter dealt with in this somewhat lengthy letter will be accepted as sufficient excuse for my occupying your valuable time,—

I am, &amp;c.,

The Honorable F. Abigail, M.P.

R. H. KENNEDY.

P.S.—No work has been done at the J K Waterhole (by the Government) of any sort, except the well.

Sir,

Sir,

Wonnaminta Station, N.S.W., 3 January, 1888.

P.W.P.,  
88-214.

In my letter of last week I suggested that large stock should be allowed to drink at the ends of the tanks. This will be argued against, and justly so, on the ground that stock will cut up the ends and make them boggy. I have been considering the matter, and beg to propose the following:—That a long line of good troughing be erected at each tank, and a 1/2 inch McComas lift be put up, to be worked by hand. (If a large lift is substituted and a horse-power used, there will be no end of smashes by people using horses unused to the work.) Let every party pump water for their own stock. I would have a caretaker for every five tanks. He could live at one, and have two on either side of him. He could attend to the pumps, and see that everything was kept in order. Travellers would of course water their stock free of charge. But is not that far more economical than the present system, which cannot possibly be of any benefit in the shape of revenue (I should say quite the reverse)? My proposal of one caretaker to five tanks saves, in wages alone, £600 per annum. A good yard would be required to each tank, so that sheep might not be allowed to go to water in too large mobs, as it is well known that the smaller the mob allowed at the water at one time the less they go in.

I have, &amp;c.,

G. H. KENNEDY.

This should perhaps be included among the printed papers for the Parliamentary return. The Under Secretary.—H.G., 19/1/88. Submitted.—H.W., 19/1/88. Approved.—F.A., 20/1/88.

## Report by the Chief Inspector, Tanks and Wells on the Youhl Plain Tank.

Sir,

Ivanhoe, 7/9/80.

I have the honor to report, for your information, that on the 26th ultimo I made a careful inspection of the Youhl Plain Tank on the Balranald Road. Tanks & Wells,  
80-198.

Construction.—The tank is a four-sided embankment surrounding the excavation, the latter containing at present about 6 feet of water.

Horse-power.—The horse-power requires relaying on substantial bed-pieces, trueing up, and centring with the belt-pulley at the pump.

The pump platform is too slight and insecure to resist the swaying and strain of the great length of belting, and will need staying and cross-bracing before it can be used. Belt-carriers require fitting on the platform.

Belting.—The belt belonging to this work has been left for protection at Byrne's public-house by the District Road Superintendent. I did not ascertain this until too late to measure it; but I am led to suppose that the same error has been committed as at the Til Til Tank.

Cattle-troughing.—A rough board V trough, less than 6 inches deep, is all the provision made to supply the cattle-troughing. About 50 feet of iron piping will be necessary to complete it.

Inlet Pipe.—I would strongly urge the same provision for this tank as I have done at the Til Til Tank.

Drains.—The drains require some alterations in places, and want cleaning and widening throughout Ditch.—The ditch to be filled in as advised at the Til Til Tank.

Silt Tank.—There is still water in the silt tank; and I gave instructions to the caretaker to allow people in want of it to use what they require.

HARRY GILLIAT.

## Youhl Plain Tank.

Extract from Mr. Inspector Gilliat's Letter on Youhl Plain Tank of 20 September, 1881.

Mr. Overseer Hansen reports to me that the late rains have filled the Youhl Plain Tank. As this work has not, to my knowledge, ever before held more than 6 or 7 feet of water, the report is satisfactory evidence of the value of the alterations sanctioned by the Secretary for Mines. Tanks & Wells,  
81-590.

\* \* \* \* \*

## Extract from Public Watering Places., 86-1,412.

Report by Mr. Overseer McLeod on Youhl Plain Tank.

Balranald, 19 March, 1886.

W.P.,  
86-1,630.

Unfortunately this tank has been placed in a very bad position, both as regards the porous ground over which the drains have to be taken and the very small watershed. I have, on former occasions, recommended that another silt tank be put down at the northern end of the tank. If this was done, it would greatly assist in securing a supply of water.

Had the Youhl Plain Tank been put down 1 mile nearer Hatfield, where there is a splendid catching place, any amount of water could have been secured.

J. McLEOD,

Overseer, Public Watering Places.

This may perhaps be forwarded to the Commissioner and Engineer for Roads.—H.G., 13/4/86. The Under Secretary for Mines. Approved.—H.W., 14/4/86. The Under Secretary for Works, B.C., 15/4/86.

Mr. McLeod made a similar complaint and recommendation in November last, and Mr. Stillwell reported that the existing works would fully meet the case if the caretaker paid proper attention to drains.—A.P.W., 24/4/86.

This reply might be sent to Mines Department. This is the second complaint of the same character on this work—both without foundation.—W.C.B., 22/4/86. Under Secretary for Mines.

## Box Creek Tank.

Extract from Inspector Gilliat's Report upon Box Creek Tank.

Ivanhoe, 7 September, 1880.

The site is an injudicious one, but the tank would have probably collected water but for the position of the inlet pipe, which is 3 feet some inches above the level of the water in the silt tank. Tanks & Wells,  
80-199.  
Original, with  
flaming paper

The drains laid out are extensive, and I am of opinion insufficient to collect the drainage of the neighbourhood. Should they prove insufficient when the inlet pipe is enlarged and lowered, I would suggest that a line of levels should be run from the better holding ground up the creek to ascertain if a dam

dam could not be constructed at some point across the creek, where a sufficient head of water could be stored to fill the tank by means of a drain. I am of opinion this could be done, but cannot be certain until I have taken an instrument over it.

\* \* \* \* \*  
The creek changes the character of its bed very greatly below the site of the Government Tank, and both above and below the inn there was a good supply of water at the time of my visit.  
H. GILLIAT.

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Clare Tank.

Extract from Public Watering Places, 87-5,950. Report by Mr. Overseer Proctor for September, 1887, on the Clare Tank.

Ivanhoe District, 1 November, 1887.

P.W.P.,  
87-6,605.

This tank is entirely surrounded by water, which extends beyond the boundary of the reserve on to the road and stock route. At present travelling stock water on the road within 100 yards of the tank. I should be glad to know if the caretaker can charge for this water, as it is a portion of the reserve swamp, and is on the travelling stock reserve?

E. W. PROCTOR.

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Booorooban Tank.

Extract from Public Watering Places, 87-5,944. Report A, by Mr. Overseer Keighran, for November 1887, on the Booorooban Tank.

Hay District, 8 November, 1887.

P.W.P.,  
87-6,617

I have no remarks to make further than that I consider the site chosen for this tank was bad, being situated or excavated in a swamp, and too close to the Pine Ridge Creek, which holds water for a considerable length of time. Nor do I see what benefit there is in having these large embankments; they are very expensive to construct, and no earthly use, unless there was an engine to pump it full of water.

J. A. KEIGHRAN.

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Dry Lake Tank.

Extract from Mr. Gilliat's Report on Water Supply for Mount Brown Road, 17th April, 1882.

P.W.P.,  
85-3,630.  
Copy of report,  
with Tarella  
Tank papers.

There is a public-house here kept by a Mr. G. T. Smith, who has three small tanks, with a total capacity of 7,670 cubic yards on his selection of 640 acres. Smith has also sunk a well that yields, so he informed me, a good supply of fair stock water.

Dry Lake.—There is a water reserve of some 3,200 acres, and a capital site for a tank if it is ever required. For the present Smith has gone to a good deal of expense to provide water for the supply of travellers and stock; and I would suggest that, so long as his charges are reasonable, it appears unnecessary for the Department to incur the expense of a work here.

The following works I consider of immediate importance to keep communication open:—

1st. A well half-way between Wilcannia and Dry Lake, with a reserve of 640 acres, say, 9 miles from Wilcannia.

2nd. A well 13 miles beyond the Dry Lake, on one of the Box Flats, with a reserve of 640 acres, say 31 miles from Wilcannia.

H. GILLIAT.

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Extract from Mr. Tully's Report on Public Watering Places in course of construction from Wilcannia to Tibbooburra.

2. Dry Lake Tank is 15 feet under water.

M. J. C. TULLY.

P.W.P.,  
85-3,630.  
With Tarella  
Tank papers.

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Cobham Lake Tank.

Extract from Mr. Gilliat's Report on Water Supply for Mount Brown Road, 17th April, 1882.

With Tarella  
Tank papers

Cobham Lake was dry with exception of a small hole at the mouth of the Evelyn Creek, and this was so foul that cattle or horses who drank it died very shortly. My horses had to be sent 5 miles to the Wash Pool, a magnificent hole 300 yards long, and still 5 or 6 feet deep in the Evelyn Creek.

\* \* \* \* \*  
I do not consider that Cobham holes can be regarded as a source of water supply, as it may remain for long periods unfilled, and when filled, must become brackish after a short time. I have, therefore, to recommend that a shaft be sunk about 1 mile south from the public-house.

\* \* \* \* \*  
6. A well 1 mile south from the public-house at Lake Cobham.

H. GILLIAT.

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Extract from Mr. Tully's Report on Public Watering Places in course of construction, Road from Wilcannia to Tibbooburra.

Cobham Lake Tank.

Many feet under water.

Extract

P.W.P.,  
85-3,630.  
With Tarella  
Tank papers

Extract from Mr. Overseer Keighran's report upon Roto Well for November, 1887.

In accordance with the Chief Inspector of Public Watering Places instructions, I prosecuted the lessee, Mr. Evan Evans, under section 13 of the Public Watering Places Act, for not having a man residing in the immediate neighbourhood of the well, and although I proved my case it was dismissed by the Bench of Magistrates then sitting, on the ground that the well was not required, it being situated alongside the Willandra Creek, on which there was a large dam of water which was open to the travelling public free of charge, and that it would be persecuting the lessee by compelling him to pay and keep a man there to do nothing. The Police Magistrate remarking that this decision must not be taken as a precedent at other wells or tanks where water was required.

P.W.P.,  
87-6,599.  
See papers,  
Roto Well.

J. A. KEIGHRAN.

Telegram from Jas. Cotton, Overseer, Public Tanks and Wells, Cobar, to The Inspector, Public Tanks and Wells.

Cobar, 31 January, 1885.

Recent rains have done serious damage to tanks. Kerrigundi: half the embankment, trough, service tank, and fencing displaced. Booroondarra: fence round silt tank washed away. Cuttygullaroo: portion of embankment washed away.

Tanks & Wells,  
85-164.

JAMES COTTON.

The Under Secretary for Public Works.—H.W., B.C., 14/2/85. Roads.—J.R., B.C., 17/2/85. Mr. Hilcs,—Let me have papers.—W.C.B., 18/2/85. Mr. Wood, on his return.—W.C.B., 19/2/85.

At Kerrigundi very little damage has been done, considering that the creek in which the tank is made had to carry off a 5-inch rainfall in one night. The embankments can be repaired for £20. The work will soon be in order and ready to hand over. Booroondarra is all right, and Cuttygullaroo could have all repairs effected in less time than is taken to correspond about it.—A.P.W., 6/3/85.

Under Secretary.—W.C.B., B.C., 6/3/85. Forward to Mines. Under Secretary for Mines.—J.R., B.C., 10/3/85. Mr. Gilliat.—A.B., B.C., 13/3/85. It is the overseer's duty to report these damages. I think, therefore, Mr. Wood's remark is undesirable. By arrangement with the Department of Public Works, especially insisted upon by them, all repairs must be made by their officers. Mr. Wood is consequently inconsistent.—H.G., B.C., 20/3/85.

Kerrigundi Station, 16 October, 1886.

On taking over the Government tank here I found that a considerable amount of work required to be done before the tank, &c., could be passed as in a fair state of repair, all the improvements having suffered very much from the late rains. I consider the embankment in a most precarious state, and liable to considerable if not total destruction in the event of another flood on the creek in its present state. The south corner is very much washed away, and if not protected with stone the evil will be greatly increased after each rain.

P.W.P.,  
86-5,165.

An embankment is required at the north corner to be carried out to the high ground to prevent the water running round on that side and washing away the earth from about the troughing, service tank, and pumping machinery. The troughing now requires banking up and the fencing there altered. At present it is a two-rail fence on one side and one-rail on the other. These fences make it a most awkward watering place—indeed stock cannot water there with any degree of comfort or in a reasonable time, and many of the sheep and cattle taken there leave without having obtained a drink. Every drover complains of this matter, and would sooner pay twice the charge to be permitted to water at the station tanks. This evil can be easily remedied by supplying iron stanchions for the troughing, and if these are furnished I will make the necessary alteration without any further expense to the Department. The pumping machinery requires banking round or elevating to prevent flood waters rising over it, and a small iron shed to protect it from the weather. This latter I would also erect free of charge if the necessary iron were supplied. The embankment is flat on the top, and at each rain the water collected on it washes great gutters down the side injuring the works and necessitating a considerable outlay for repairs. I would suggest the advisability of rounding off the top of the embankments or putting drains on the inner side with wooden or galvanized iron flumes down the corners to carry the water into the tank.

If an extra pipe were attached to the pump, the water from the supply tank could be pumped over the embankment, and thus store a very large quantity which at present goes to waste.

There is no caretaker's residence, though I notice that tenders were on several occasions called for the erection of one. I could easily get this matter attended to, and carried out in accordance with the specifications, if allowed a fair price for the work. I would even, for my own sake, get it done for less than if contracted for in the ordinary way. The paddock is very small, and a large proportion of it is frequently under water. May I request that a little more of the reserve be enclosed. Two short lines at a small outlay would be sufficient. Trusting that these matters may receive your favourable consideration.

I am, &c.,

JAMES RAMSAY.

The Chief Inspector, Public Watering Places.

A copy of Mr. Ramsay's letter, with extract from Mr. Boulton's report, may I think be forwarded to the Works Department, with a request that the necessary action may be taken to protect the tank.—H.G., 10/11/86. The Under Secretary for Mines. Submitted for approval.—H.W., 25/11/86. Approved.—J.F., 26/11/86. Forward copy to Works and inform Mr. Ramsay.—E.W., 26/11/86. Copy to Works, and Mr. Ramsay informed.—1/12/86. Mr. Cotton may be asked by memo. if any steps have been taken by the Works.—H.G., 7/2/87. Asked.—J.W.B., 8/2/87.

Extract

Extract from Mr. Overseer's Cotton report on Kerrigundi Tank, January, 1887 (87-554).

P. W. P.,  
87-659.

I again beg to urge the necessity for the alterations suggested in my last report upon the tank. The wing embankment is necessary to protect the troughing and engine from injury by flood water, and the storm bye-wash is required to prevent more of the embankment being washed away.  
JAMES COTTON.

This case has been referred to the Works Department, but no reply received as yet.—H.G., B.C., 16/2/87. Mr. Cotton,—Mr. A. Adam, the local Road Superintendent, informs me that tenders have been recommended for acceptance, and that the work will probably be commenced in a few days.—JAMES COTTON, Overseer, Public Watering Places, Cobar, 1/3/87.

Minute by Chief Inspector, Tanks and Wells.

Sydney, 8 February, 1887.

P. W. P.,  
87-669.

KINDLY inform me whether any repairs have been commenced or completed at the Kerrigundi Tank since Mr. Ramsay took delivery from you?

H. GILLIAT.

Mr. Overseer Cotton.

I inspected Kerrigundi Tank on the 1st instant. No repairs had been commenced then, and I am of opinion none have been commenced since.—JAMES COTTON, Overseer, Public Watering Places. Cobar, 12/2/87.

The Department of Works may perhaps be asked if it is proposed to undertake these repairs at an early date.—H.G., 23/3/87. The Under Secretary. Approved.—H.W., 28/3/87. Letter to Under Secretary for Works, 30/3/87.

Sir,

Department of Mines, Sydney, 30 March, 1887.

Referring to my letter of the 1st December last, re repairs, &c., required at Kerrigundi tank, I have the honor to request that you will be good enough to inform me if it is proposed to undertake these repairs at an early date.

I have, &c.,

HARRIE WOOD,

Under Secretary.

The Under Secretary for Public Works.

Roads.—J.R., B.C., 5/4/87. Mr. Scott.—Any information?—W.C.B., 6/4/87. Mr. Adam reports, 5/3/87, that work will be completed in two or three weeks. Papers, S7-213, herewith.—D.M.P.S., 6/4/87. The works this day reported as complete. The Under Secretary, for transmission to Mines.—W.C.B., 6/4/87. The Under Secretary for Mines.—J.R., 12/4/87. Inform Mr. Cotton, and ask him to inspect and forward a full report.—H.G., 15/4/87. Mr. Cotton, 21/4/87.

Extract from Report for March, 1887, of Mr. Adam, Road Superintendent.

P. W. P.  
87-1,757

The repairs to Kerrigundah Tank, Louth Road, and Wicklow Tank, Nymagee-Nyngan Road, have just been completed.

A. ADAM,

Road Superintendent.

Under Secretary, for transmission to Mines.—W.C.B., 15/4/87. The Under Secretary for Mines.—J.R., B.C., 16/4/87. Mr. Cotton, for report.—J.W.B. (for H.G.), B.C., 20/4/87.

23 May, 1887.

I HAVE inspected the Kerrigundah Tank, and find the wing embankment on the north side of the tank, and the stone bye-wash on the south side completed in a satisfactory manner. The damage to the earthwork along the troughing has also been repaired.

The works, I think, are now secure from damage by ordinary floods.

JAMES COTTON,

Overseer, Public Watering Places.

The Chief Inspector of Public Watering Places.

Report by Mr. Road-Inspector Adam, for the month of March, 1887.

Sir,

4 March, 1887.

I forward you herewith usual monthly report:—

During the month a good deal of rain has fallen, particularly between Cobar and Nyngan and Nymagee and Nyngan, and the roads are in a bad state.\*

Some of the teams have been a month on the road, and the mail coach is from twelve to twenty-four hours late every trip.

All the tanks in the district are full of water.†

The repairs to Kerrigundah Tank, Louth Road, and Wicklow Tank, Nymagee-Nyngan Road, have just been completed. About twenty weathersheds over steam pumps in my district were let a short time ago, but the contractor has been delayed very much, owing to the state of the roads preventing the timber and iron required being forwarded. It is now on the ground at most of the tanks.‡

Reports on road clearing contracts and tanks are attached.

ALEXANDER ADAM.

Advise Mines, 14/5/87.

Report

\* Cannot be otherwise, railway cheapest road here.—W.C.B. Noted, A.A., 11/7/87.

† Push on this work as much as possible.—W.C.B.

‡ Good, keep them so. Are the

leaky ones getting tighter?—W.C.B.

Report by Acting Inspector J. W. Boulton, on the Kerrigundi Tank or Dam, road from Louth to Cobar, in charge of Edward Kevan, for 29th June, 1886.

State of drains.—None.  
 Silt tank.—Nearly full; was cleaned 10 months ago; is not likely to have much silt in.  
 Inlet or flume.—An iron one; in capital order, but a grating is required; I understand it got choked some time ago.  
 Main tank.—In good order.  
 Embankments.—In fair order; slightly guttered by late rains. (See remarks and recommendations.)

P. W. P.  
86-3,329

*Watering Appliances.*

State of supply tank.—In good order.  
 Troughing.—Good, newly banked up; several posts in fence split; hoop-iron bands required.  
 Machinery.—A 4-horse power Tangye, in good order, painted red (see separate memo.); wants tarring; new leathers and packing lately supplied and adjusted.

*Paddocks and Fencing.*

State of fencing.—Good.  
 State of gates.—Good.  
 Remarks.—This caretaker is to take service with Mr. Ramsay, the new lessee of this tank.

						<i>Rates collected since last Report.</i>		
						£	s.	d.
Month ending	April, 1886	...	...	...	...	12	18	10
"	May, "	...	...	...	...	5	0	2
"	June, "	...	...	...	...	2	9	2
						£20 8 2		

*Traffic since last Report.*

						Horses.	Cattle.	Sheep.
Month ending	April, 1886	...	...	...	...	79	500	20,400
"	May, "	...	...	...	...	99	1,004	...
"	June, "	...	...	...	...	40	186	2,900

*Weekly Depth of Water since last Report.*

Tank full.

*Caretaker's Work.*

Work done by caretaker.—Making new bank to assist bye-wash.  
 Work laid out for caretaker.—To tar engine, make up gutters in embankment, and make drain along top of same.

Remarks and recommendations.—This tank has been placed in the full force of a strong watercourse, and has been greatly damaged; troughs were carried quite away, supply tanks moved, and embankments damaged. This was before transfer by Works. The same is likely to occur again. The main bye-wash sweeps round the south and east of tank, and, at that corner, some of the bank has washed away. It has been done up by caretaker; but a permanent work of brush and stones is required to protect it. On the other side of the tank a storm channel has been cut to assist, but it is too small, I am afraid, to be of any benefit. The floods that did the damage, I am told, almost covered the tank banks. The soil that was used to make up the ground at troughs has been excavated broadside on, and in close proximity to troughs, occupying a considerable portion of the watering place area with what will, when nearly dry, be a bog and trap for sheep. It is now full. This work was, I believe, done by Works officer.

JAMES W. BOULTBEE,

Cobar, 2nd July, 1886.

Inspector of Public Watering Places.

Report by James Cotton, Overseer, Public Watering Places, on the Kerrigundi Tank, road from Cobar to Louth, in charge of Edward Kevan, caretaker, for the period ending 2nd September, 1886.

P. W. P.,  
86-4,256.

State of drains.—No drains.  
 Silt tank.—Not visible.  
 Inlet or flume.—Under water; apparently in good order.  
 Main tank.—Under water; apparently in good order.  
 Embankments.—Damaged to a considerable extent by flood water. Will require about 200 loads of stone at the south corner of the embankment to form a bye-wash and prevent further cutting, and a wing embankment on the north of about 4,000 yards of earth to protect the troughing and machinery and throw all the water round the south side.

*Watering Appliances.*

State of supply tank.—In good order.  
 Troughing.—Slightly damaged by the flood; the banking-up recently completed by the Department of Works is now washed away.  
 Machinery.—In good order.

*Paddocks and Fencing.*

State of fencing.—Damaged to a considerable extent by the flood water; has now been repaired by the caretaker.  
 State of gates.—In good order.  
 Remarks.—About quarter of the fenced paddock is at present under water.

*Rates*

*Rates collected since last Report.*

I have checked the caretaker's books to date, and find them correct.

*Weekly depth of water since last Report.*

Twenty-one feet.

*Caretaker's Work.*

Work done by caretaker.—Trimming embankment, painting and tarring machinery, repairing damage done to fencing by flood-water.

Work laid out for caretaker.—Continue trimming embankment and make further repairs to fences.

Remarks and recommendations.—Referring to the foregoing report, and the sketch herewith, I beg to point out that flood-water runs now on both sides of the tank, but the greater portion on the south side. The water flowing round the north side damages the troughing, fences, and the engine. This should not be, and I now beg to recommend that a wing embankment be made, as shown in the accompanying sketch, and that a bye-wash, built of loose stones, be constructed at the southern corner of the embankment. I consider these works absolutely necessary for the safety of the watering place, and I do not think anything less would have the effect of preventing damage. The troughs also require banking up with gravel before they will be available for watering any number of stock.

This tank was handed over to Mr. James Ramsay, lessee, on 3rd September, 1886.

JAMES COTTON,  
Overseer of Public Watering Places.

Cobar, 2nd September, 1886.  
The Chief Inspector of Public Watering Places.

Anticipating a reorganization in repairs and alterations at public watering places, and in view of the Department of Public Works having, in various instances, stated that funds are not available for services asked by this Department, it appears that no adequate end would be obtained by asking for the costly alterations that are required at present to put this tank in good repair. This applies also to your minute on Booroondarra tank.—HARRY GILLIAT, Chief Inspector of Public Watering Places.

Mr. Overseer Cotton.—B.C., 15/9/86. Noted.—JAMES COTTON, Overseer of Public Watering Places, 27/9/86.

P.W.P.,  
68-331.

Report by Acting-Inspector J. W. Boulton, on the Booroondarra Tank, road from Louth to Cobar, in charge of H. Elton, caretaker, for 29th June, 1886.

State of drains.—Require cleaning. (See note in remarks and recommendations.)

Silt tank.—Almost full of spuey drift; will be months before dry enough to clean.

Inlet or flume.—Silted; but too much water to clean it out; approach to flume has been pitched with rubble, and bank is worn each side of this; it should be stoned or stubbed.

Main tank.—Not visible.

Embankments.—Good; gutters newly filled in.

*Watering Appliances.*

State of supply tank.—Slight leak; lately tarred.

Troughing.—Good; earth carried from under them by flood; rails, &c., want tar.

Machinery.—A 4-horse-power Tangye, newly painted, and in capital order; there is, however, a slight leak at the cylinder, owing to the use of a too small bolt; it can be remedied at once.

*Paddocks and Fencing.*

State of fencing.—Good and new.

State of gates.—Good.

Remarks.—Caretaker is a married man; he is, however, going to take the charge of this place for Mr. Ramsay, the new lessee.

*Rates collected since last Report.*

	£	s.	d.
Month ending April, 1886	...	...	...
"    May,    "	...	...	...
"    June,   "	...	...	...
			7 17 8
			15 13 2
			0 4 2
Total	...	...	£23 15 0

*Traffic since last Report.*

	Horses.	Cattle.	Sheep.
Month ending April, 1886...	96	500	10,000
"    May,    " ...	79	.....	30,000
"    June,   " ...	25	.....	.....

Weekly depth of water since last report.—Tank quite full. This is a very rapid and good catch.

*Caretaker's*

*Caretaker's Work.*

Work done by caretaker.—Painting appliances, repairing embankments, and cleaning drains.

Work laid out for caretaker.—To clean drains, tar troughs, and clean flume and silt tank when possible.

Remarks and recommendations.—This is a very good and quick catch. Two long drains converge at the tank from each side of the catchment. No bye-wash has been provided, and the banks on the low side of the drain have been carried away about a chain from silt tank, and the water has flowed broadside on to troughs and swept over and under them. Caretaker pointed out to me site proposed by Works officer for bye-wash. I am of opinion it will be simply useless, as the ground (without taking levels) appears to me to be higher than top of drain embankment on other side. The approach to tank from the Cobar side is very inconvenient, and the tenant's lease paddock is divided into two parts (see sketch), and small consideration shown to the requirements of the lessee of the run, Wuttagoona.

JAMES W. BOULTBEE,

Inspector of Public Watering Places.

The Chief Inspector of Public Watering Places.

Cobar, 2nd July, 1886.

Sir,

11 October, 1886.

Allow me to call your attention to the state of the Booroondarra Tank.

1. The surface of the embankment is table-topped, and at every fall of rain collects a quantity of water. This water runs down and washes deep gutters in the embankment, entailing a considerable amount of expense for repairs. I should beg to suggest the advisability of either rounding the top or forming a drain on the inner side, with two wooden or iron shoots at opposite corners to convey the water into the tank. A portion of the drains are silted up and banks washed away, and owing to the steepness of these drains the same thing will occur at any heavy fall of rain.

P.W.P.,  
86-5,163.

2. Silt tank is also nearly full of silt.

3. A drain and bank is required to protect pumping machinery and troughing.

4. There is no caretaker's residence (man now in charge living in a bark humpy). The purchase of the said tank was made with the understanding that a good weatherboard four-roomed cottage would be erected for caretaker.

5. One of the two small paddocks is nearly covered with water and perfectly useless at present, and as soon as the paddocks become dry enough to put stock in, there will be no water in either of them for animals to drink, entailing the expense of bringing any stock placed in them to the troughs twice a day. This may be easily obviated by supplying a few lengths of 1 inch or 1½ inch piping, and two small troughs—one for each paddock.

6. I would also beg that the balance of the 640 acres leased with the tank be fenced in, as it is of no value at present.

7. The troughing is now protected by a low railing on one side and a two-rail fence on the opposite, making it a most difficult and dangerous place for stock to water. Many sheep either go away without getting a drink or jump into the trough, fall down, and pollute the water. Cattle walk into it, endangering the safety of the troughing; and, when very thirsty, occasionally throw one or more beasts on their backs in the trough. This invariably frightens all the stock away, and when the troughing has been again cleared it is with the utmost difficulty that they can be brought back to water. Each drover complains most grievously of this very awkward arrangement.

If the iron supports were supplied to make the ordinary guard, the timber now there is sufficient to make the necessary alterations, which could be done at a trifling expense. The ground near the troughing requires banking up.

8. There is no gauge in the tank to show the quantity of water there, and the report of the caretaker is mere guess-work.

9. A shed is also required to protect pump and engine, and a gauge to record the fall of rain would be an advantage.

The Chief Inspector of Public Watering Places.

JAMES RAMSAY.

Mr. Cotton for report.—H.G., B.C., 11/11/86.

Report by James Cotton, Overseer, Public Watering Places, Cobar District, on Booroondarra Tank.

19 November, 1886.

REFERRING to the attached papers and your minute requesting my report, I have now the honor to report as follows:—

P.W.P.,  
86-5,463.

1st. This embankment requires no more than the average attention required to keep the embankments at the tanks in the district in repair.

2nd. The fact of the silt tank being nearly silted up, I think, was mentioned in my last report on this tank, and the reason I gave for its being so was the steepness of the drains, causing them to cut, and, in the rapid flowing of the water, the silt is carried down with it.

3rd. The protecting drain and embankment has been previously recommended by me.

4th. Nothing appears either in the notification of the sales of lease, or in the lease itself, referring to the erection of a residence for the caretaker.

5th. Perhaps as the gates into each paddock are in the immediate vicinity of the troughing, the lessee will not find the inconvenience he anticipates in watering his stock.

6th. This is a very difficult matter for me to express an opinion upon. The notification of the area enclosed, or to be enclosed, seems vague, and as the land leased at the tank comprises 640 acres, it may be interpreted that 640 acres are to be enclosed.

7th. The lessee's idea of a rail down the centre of the troughing, over the water, has been previously recommended by me at other watering places, and I think it would be an improvement.

8th. As I do not think the supply of water will ever run so short as to render the exact measurement of any public value, perhaps the caretaker's estimates are sufficient, and the expense of a gauge unnecessary.

9th. The erection of sheds to protect the machinery from the weather, I think, would be a justifiable expense.

The Chief Inspector, Public Watering Places.

JAMES COTTON,  
Overseer, Public Watering Places.

## XXXVII.

### Papers *re* Tone of Correspondence.

#### Brolgan Creek Pump.

Extracts from Public Watering Places, 86-3,389:—Report by Mr. Overseer Dowling on Brolgan Creek Tank.

Forbes, 31 July, 1886.

P.W.P.,  
86-3,389.

Machinery.—The engine has been worked to fill supply-tank, but the injector does not work satisfactorily. I have had it taken to pieces and cleaned, and since I hear it is working freer. The tank being low, more or less mud is bound to accumulate.

General remarks.—When the engine was taken over there was no means of testing the pumping-gear. The pipe into the main tank was placed too near the bottom.

W. G. DOWLING.

Telegram from Mr. Overseer Dowling to The Chief Inspector of Public Watering Places.

Forbes, 9 November, 1886.

P.W.P.,  
86-5,257.

PISTON-ROD of steam pump, Brolgan Tank, out of order; will require screw-wrench, perhaps a man; wire to Parkes, McLean's hotel, Thursday; letter to follow.

W. G. DOWLING.

Telegram from The Chief Inspector of Public Watering Places to Mr. Overseer Dowling.

Sydney, 12 September, 1886.

GET repairs made without delay, and report fully upon matter.

HARRY GILLIAT,  
Chief Inspector, Public Watering Places.

Sir,

Brolgan Creek Tank, 8 November, 1886.

P.W.P.,  
86-5,317.

I have the honor to inform you that, after having raised the end of suction pipe, I got up steam to pump, but found the piston rod would not move. Then took out the steam valves and cleaned them, thinking that they might have become corroded from disuse, but they were in very good order. Then tried with steam up to 40 pounds, but still piston rod would not move. Then took off steam chest and examined it, and cannot see anything that would cause a stoppage. As a great deal of water comes from the pet-cocks, the exhaust pipe may have something to do with it. I endeavoured to make an examination, and had to give it up for want of a spanner or wrench to fit that part or end of steam cylinder that is close to the visible portion of piston-rod. The nuts are too close to the floor for the "clyburn" to be of any use, or I could manage to take it off, and so get at the exhaust pipe.

Please give the matter your earliest consideration, and instruct me accordingly. The bye-wash appears to work very well now, although the pump end of margin is still under water, and I believe always will be while the tank is full, because the land lies lower there than elsewhere.

If I could take off steam cylinder the stoppage would perhaps be found out and pumping gone on with, which I am very anxious about, on account of having plenty of water ready when wanted.

I have, &c.,

Mr. Overseer Dowling.

CORNELIUS O'BRIEN.

Sir,

Stock Office, Forbes, 9 November, 1886.

I have the honor to inform you that the piston-rod of steam pump sticks, and with 40 pounds steam up will not move. I fancy it is not well packed. I am starting out in the morning, and will see what I can do. If I do not succeed in getting it to work I will let you know at once. In my instructions there is no mention of a screw-wrench—only shifting spanner; this is required. I will apply in the regular form.

You will be pleased to hear that bye-wash, which I have had widened by the caretaker, acts well, and is equal to the overflow. The recent heavy rains proved it.

I have, &c.,

The Chief Inspector of Public Watering Places.

W. G. DOWLING.

Telegram from Mr. Overseer Dowling to The Chief Inspector of Public Watering Places.

Forbes, 12 November, 1886.

P.W.P.,  
86-5,343.

STEAM pump will not work. Report next post.

W. G. DOWLING.

A copy of this may perhaps be forwarded to the Commissioner for Roads.—H.G., 16/11/86. The Under Secretary for Mines. Approved.—H.W., 16/11/86.

Sir,

Sir,

Stock Office, Forbes, 13 November, 1886.  
I have the honor to inform you that I have been out to the Brolgan Creek Tank, but am sorry to state I am unable to get the piston rod to work. I think it has been caused by the foundation of the boiler settling down a little. However, I will send a man out who understands engine work, and report fully on work when repaired.

P.W.P.,  
86-5,354.

I have, &amp;c.,

W. G. DOWLING,  
Overseer, Public Watering Places.

The Chief Inspector of Public Watering Places.

Sir,

Department of Mines, Sydney, 16 November, 1886.  
I have the honor to forward herewith, for the Commissioner and Engineer for Roads and Bridges, copy of reports *re* steam pump at Brolgan Creek Tank being unworkable, and request that you will be good enough to have the necessary action taken.

P.W.P.,  
86-5,469!

I have, &amp;c.,

HARRIE WOOD,  
Under Secretary.

The Under Secretary for Public Works.

[Enclosures.—Copies of Public Watering Places, 86-5,343 and 86-5,354.]

Mr. Wood. Very urgent.—W.C.B., 17/11/86.

It is a great pity that the officers engaged by the Mines to inspect these works and report on their maintenance, &c., do not know a little more of the very simple mechanical details of the pumps that have been provided. There is very little doubt that if the pump will not work it is due to carelessness in not keeping it in order and properly lubricated. Last trip I made, the same complaints were made in regard to two of the steam pumps, which I had to take to pieces and clean myself, the caretakers being incapable of giving any practical assistance. In both these cases gross carelessness was the cause. Mr. Dowling's idea that it is due to a settlement in the foundation plate is absurd. These pumps will work in almost any position if the steam connections are all right. Mr. Dowling's best plan is to take the pump to pieces and have it cleaned and oiled; but before doing so he should be certain that he will be able to put the parts together again. Before these works were handed over to the Mines, such complaints were unknown, and should not be made now. It might be well for Mr. Morton to be wired to go out to the work and see that no damage is done to the pump by the Overseer of Public Watering Places efforts to repair.—A.P.W. 17/11/86.

Telegram sent Mr. Morton's successor, Mr. Alexander Adams.—W.C.B., 17/11/86. Under Secretary for transmission to Mines.—W.C.B., 17/11/86. The Under Secretary for Mines.—J.R., B.C., 18/11/87. Forward for Mr. Overseer Dowling's information.—E.W. (for H.G.), B.C., 22/11/86. Noted.—W.G.D., 24/11/86.

Sir,

Stock Office, Forbes, 24 November, 1886.  
I have the honor to acknowledge receipt of your communication, No. 5,469. I will report on the state of the engine at Brolgan Creek as soon as I can get out to test it; but having been away for the past eight or nine days, I have a lot of work on hand. I will not leave it later than next week.

P.W.P.,  
86-5,503.

Mr. Road-Superintendent Adam has reported on the matter. I hear the engine is working all right. I attach a letter from the man I sent out to repair the works.

I have, &amp;c.,

W. G. DOWLING,  
Overseer, Public Watering Places.

P.S.—The cost of repairs will exceed £7. I could not get a man to go out for less.—W.G.D., 24/11/86.

The Chief Inspector of Public Watering Places.

Sir,

Brolgan Creek Tank, 22 November, 1886.  
I have the honor to inform you that I have given the steam engine a thorough overhauling, and have taken it all to pieces and given every part a minute examination. It is now perfectly clean, and working well, excepting the injector, which I took into Parkes to-day to have the previous repairs altered. The old cracks in flange are opening, and it is dangerous to work it in that state.

P.W.P.,  
86-5,502.

I am of opinion that the engine never was put together properly, and thus causing all the trouble that has been. It has taken a much longer time to overlook than I at first thought, owing to some of the parts being very awkward to get at. I hope to get finished to-morrow.

I have, &amp;c.,

T. BAYLEY.

P.S.—I find that the end of plunger has been greatly cut about by chiseling.  
Mr. Overseer Dowling.

Sir,

Brolgan Creek Tank, 22 November, 1886.  
I have the honor to inform you that the engine works well now, excepting the injector, the repairs of which have not proved efficient. The old cracks having opened, allow the hot water to escape. Under the advice of the man you sent out, I have taken it to Parkes to the man who did it before to have the job made a better one. I assisted to take it all to pieces, and we have cleaned every portion of the inside. Several parts had to be adjusted (that is, the steam-engine). The day I received your telegram and letter this man had not arrived, so I immediately went into Parkes to try to get someone to come; but fortunately, as it happened, I could not. Found this man had arrived a little before my return, of which I  
was

was very glad. This was Thursday, so we started to work upon the engine Friday morning, and have been at it ever since.

Hope to get the injector to work to-morrow. I have the honor to acknowledge receipt of pay voucher forms.

I have, &c.,

CORNELIUS O'BRIEN.

P.S.—I had forgotten to mention that we tried to put on a new bucket on plunger, but found it (that is, the bolt that holds it on) so cut and battered that it was impossible to get it off, therefore had to leave on the old one.

Mr. Overseer Dowling.

Sir,

Brolgan Creek Tank, 22 November, 1886.

I have the honor to inform you that the steam-pump and engine are going well. As leakages occurred, Bayley and myself have broken the joints and remade them, until it is now in good working order. The service tank and troughing are both full. I will for the future get up steam and pump a little every week to prevent it sticking fast. A wrench is required for the sludge cock, for the clyburn which I have been using will wear the square edge of the tap quite round in time. I would remind you that if occasion required that I should have to take the engine to pieces again, I have not proper sized spanners to do it with.

I have, &c.,

CORNELIUS O'BRIEN.

Mr. Overseer Dowling.

Sir,

Stock Office, Forbes, 6 December, 1886.

P.W.P.,  
86-5,651.

I have the honor to send in a report on the engine at Brolgan Creek Tank. The cause of the stoppage was not with the pump but with the steam gear. Herewith you will find a statement attached, made by the man I sent out. This man was recommended to me as being a thoroughly competent man in his trade, and everyone states who has employed him that he has given satisfaction. I made these inquiries previous to sending him, as it was no use sending out an incompetent man, and then have the work to do all over again.

The man who put the engine together was named Pye, but I do not think he was a good tradesman. The injector pipe which Bayley states had been put right before he went there; this pipe was put the wrong end to the engine, which I put right, so as to fill the boiler. I trust the Department has not been inconvenienced in any way, and am sorry there was no water to test the whole thing when the works were taken over.

I have, &c.,

W. G. DOWLING,

Overseer, Public Watering Places.

The Chief Inspector of Public Watering Places.

*Report.*

Stock Office, Forbes, 6 December, 1886.

ON the 11th November I visited Brolgan Creek Tank to ascertain the cause of stoppage, as stated in O'Brien's letter of the 8th November.

On careful examination of the pump part of the works, I found that they were all right, so got up steam to 40 lb., but the piston-rod would not move—too much steam escaped. I came to the conclusion that something in the cylinder was the cause.

I thought it best to get someone who thoroughly understood the fittings to repair it. I made strict inquiries if the caretaker had been tampering with it in any way, but I do not think he is to blame in any way. Previously it took always about 30 lb. steam to start with, now it starts with 20 lb.

On the 17th instant I sent Thomas Bayley, an engine fitter at Forbes, out to repair it. He was working at it till the 29th. This includes a trip to Forbes to make a new collar for injector. On the 3rd instant I went out to the tank, got up steam. All the parts worked smoothly and well. I filled the boiler, so the injector is all right now. I believe it is a good job. I think the cause of the stoppage as stated by Thos. Bayley to be correct, as some of the old packing taken out is very badly cut. Everything is now in good working order. The embankment of the tank requires grass seed sowing on it. Attached is correspondence, &c.

I have, &c.,

W. G. DOWLING,

Overseer, Public Watering Places.

The Chief Inspector of Public Watering Places.

Statement by Thomas Bayley, engine-fitter.

Forbes, 6 December, 1886.

THE injector would not act when I went out, which I attribute to the pipe being burred up at the end which had to be screwed.

The coupling plate which screwed on to the boiler was broken, which I had to renew. The packing was badly put in, and extended across the hole, which stopped the water from going in. This must have been done when the boiler was put together. The piston-rod was fast in the cylinder. I do not know the cause. Perhaps it may have not been properly fixed before.

The slide in the steam chest was not level—badly fitted. I believe it had been meddled with by the parties who put it up in the first instance. 15 lb. of steam ought to start it if properly put together. The steam pipe was stopped. The hole was three parts full of packing. When the gutta-percha had been cut in the first instance, it was cut to the size of the hole, so when it was screwed up it had spread, which caused the stoppage.

There was too much packing in between in the top box, which had to be taken out and new joints made right through.

The injector pipe had been put in the wrong way up, which had been altered and put on right before I went there.

I consider the engine is now working well and in good repair, and should last for any length of time.

I believe the cause of the present stoppage due to the works being badly put together at first. I made a new wrought-iron collar and fixed it, for which I charge 10s.

THOMAS BAYLEY.

Boonoon

Boonoona Tank.

Sir,

Hay, 20 October, 1886.

P.W.P.,  
86-5,107.

I visited this tank on the 17th instant, it was then full 2 feet above the ground surface. The pump, a Holman horse-power, had been taken apart by the caretaker, he said six weeks before, and in the interim had remained so, the cylinder plates, nuts, plunger, rod, and standard lying rusted and imbedded in mud on the horse walk. The caretaker explained that as the pump was not throwing a full stream, the same complaint made before Mr. Wood's visit, he had endeavoured to take out the plunger to renew the bucket leathers, but not having proper tools he could not do it, and had been instructed by his overseer to leave it as it was, until I came or sent up. On asking him what tools he required he could not say, and with the appliances I found there I removed the plunger, and had within an hour the pump ready to start work again. A new bucket leather was put on and the pump delivered at the rate of 2,600 gallons an hour with the horse going at a fair walk.

Through the negligence and gross incompetence here displayed, this pump has been quite unnecessarily kept disabled for nearly two months.

Fortunately there was surface water along the road and in the swamp here, and consequently no public loss or inconvenience ensued, but it is this kind of thing which gives rise to the adverse comments respecting appliances at Government Watering Places so frequently made by the press, &c.

A. W. STILLWELL,

The Commissioner for Roads.

P.S.—The fencing of tenant's leases is finished, but the gates not up yet. Gates are now on the way up from Hay.—A.W.S.

The complaints in regard to the way in which the Mines caretakers neglect their work and prejudice our connection with these works are becoming so frequent that in self-defence some action must be taken. During my last trip in the district, I had to find fault, and the attention of the Mines officers was directed to it, with the result that we were informed that the matter had been referred to their local officers and the reports furnished by them—not sent on to us—were satisfactory. Matters are now getting worse, and we shall have a repetition of old evils, unless more care is paid to their duties by these caretakers. They receive good wages and have but little to do—that little should be done well.—A.P.W., 23/10/86.

The old evils mentioned refers to the ruinous condition these wells were allowed to fall into for want of proper control, between their construction and being taken charge of by Mines, when the evils referred to were attributed to faults of construction or neglect of this Department.—W.C.B., 25/10/86.

Under Secretary for transmission to Mines. The Under Secretary for Mines.—J.R., B.C., 27/10/86. Mr. Yeo will report upon this at once.—H.G., B.C., 29/10/86. Copy of Public Watering Places, 86/5,107, B.C. to Mr. Inspector Boulton for report, 1/11/86.

Sir,

Stock Office, Ivanhoe, 1 November, 1886.

P.W.P.,  
86-5,215.

Referring to Mr. Stillwell's report on the state of the pump at the Boonoona Tank, I beg to inform you that when I inspected this tank on 16th August last, I had the pump tested and found that it did not work properly, consequently with the assistance of the caretaker the pump was taken to pieces and overhauled, when I discovered that the leathers had quite perished (which I have already reported), and on my arrival in Ivanhoe I forwarded a piece of leather for the caretaker, and instructed the caretaker to repair the pump at once (I distinctly deny having instructed the caretaker to leave it as it was) which can also be seen by reference to the caretaker's journal in which I entered the work for him to perform until I visited the tank again.

I was surprised when Mr. Stillwell informed me after his return from Boonoona Tank that such was the case, but on my next inspection on 19th October last, I found the pump had been repaired and was in working order.

I have, &c.,  
J. YEO,

The Chief Inspector of Public Watering Places.

Overseer, Public Watering Places.

Report by Mr. Inspector Boulton to The Chief Inspector of Public Watering Places, upon Mr. Road-Superintendent Stillwell's complaint against caretaker, Boonoona Tank.

Ivanhoe, 27 November, 1886.

P.W.P.,  
86-5,546.

REFERRING to the enclosed papers, and more especially to Mr. Stillwell's report upon the negligence of the caretaker at Boonoona Tank, I have the honor to submit a written reply from caretaker Killick, in answer to my queries on the points of Mr. Stillwell's reports.

From what I have been able to gather the facts are as follows:—Killick took charge on August 16th. On the following day, together with Mr. Yeo, he started to overhaul the machinery which, owing to long disuse during the winter months, was out of order. It was found that the bucket leathers were completely perished. They endeavoured to draw the plunger, but it was found to be too firmly bedded and rusted in, and although leather, and the only tool obtainable was sent up, the caretaker was unable to get the plunger out. Mr. Yeo wrote instructions, copy attached, to the caretaker to put the pump right if possible. This he was unable to do, and informed Mr. Yeo who at once wired to Mr. Stillwell for the travelling mechanic, but as he was at Deniliquin he could not be got. The caretaker placed the parts of the pump upon the old wooden cover of the pump and covered them with a bag. He strenuously denies they were rusted or embedded in the mud, a fact Mr. Yeo corroborates.

In this state they remained until Mr. Stillwell visited the tank since, as the caretaker says, it was useless to put the pump up again in an unworkable state. Mr. Stillwell, his groom, and Killick were employed for 20 minutes using great force, and finally, with the aid of a lever, got the plunger free. Mr. Stillwell then directed the caretaker to have the pump in good order by the time he returned next day. Killick informs me he worked until 1 p.m. that night before he had things righted. He also says he has no recollection of Mr. Stillwell asking what tools he required. See the last paragraph of his reply. Mr. Stillwell was aware, for a considerable time before his visit, that this pump was disabled, and must have been aware at the time of making his report of the impossibility of the caretaker removing the plunger

plunger single handed. I think that both Mr. Yeo and the caretaker did all they could to put matters right. I do not think Mr Stillwell will find room for complaint now. Killick is hardworking and anxious to please, and has everything in admirable order at Boonoono. Mr. Yeo reported the pump as out of order to our Department.

The Commissioner for Roads.

JAMES W. BOULTBEE,  
Acting Inspector, Public Watering Places.

Extract from instructions written to Mr. Frank Killick, caretaker, Boonoono Tank, Ivanhoe, on 23rd August, 1886.

I have communicated with the travelling mechanic, and it will be impossible for him to be this way for some considerable time, so it will be as well if possible for you to repair the pump yourself.

J. YEO.

Mr. Yeo sent a telegram to Mr. Stillwell, I believe.—J.W.B.

Boonoono Tank.

Sir,

26 November, 1886.

I have the honor to report, in answer to your inquiry *re* pump, that I took charge of Boonoono Tank on the 16th of August. I found the pump in a defective state. I found on taking the pump to pieces that the suckers were entirely perished. On trying to get the plunger out I found that the cylinder was so rusted that I failed to get it out.

The rust I believe was caused by the pump not being worked much during the winter months. I told the overseer who was present at the time, and I asked him to get me a key to unscrew the bottom nuts in the cylinder. He brought me one down from Mount Manara, but I found, on attempting to use it, that it was not long enough in the shank to admit of the end of the rod so the key was useless, and I duly reported the matter to Mr. Yeo, the overseer.

I then placed the parts of machinery on the covering of the pump and covered them with a bag awaiting the arrival of the Roads mechanic. It remained like this from the 17th of August till the arrival of Mr. Stillwell. A day or two previous to his coming we had a shower of rain accompanied with heavy wind which blew the bag off the parts, otherwise the pump machinery was not hurt. I had written instructions from Mr. Yeo to repair the pump if possible, which I found was not. When Mr. Stillwell came it took myself and his groom and himself all we knew to draw the plunger out in twenty minutes. Mr. Stillwell gave me instructions to have the pump in working order by the time he came down, which was next day, and in consequence I had to work till very far into the night to accomplish it. The pump then worked fairly.

The swamp round the tank was full of water at the time, so the travelling public were not inconvenienced, and it was no use putting the pump together as I expected the mechanic. I deny that the pump machinery was lying rusting and covered in sand, and I would respectfully refer this to Mr. Yeo who could confirm what I say.

In reference to Mr. Stillwell asking me what tools I required, I don't recollect him asking any such question, and as I am a mechanic I would have told him if I required any and what they were.

I have, &c.,

FRANK KILLICK.

Mr. J. W. Boulton, Inspector of Public Watering Places.

Ivanhoe, 28 November, 1886.

P.W.P.,  
86-5,589.

Report by Acting-Inspector J. W. Boulton on the Boonoono Tank, road from Ivanhoe to Wilcannia; in charge of F. Killick, for 25th November, 1886.

*Tank or Dam.*

State of drains.—Very good.

Silt tank—Full of silt; caretaker has started to clean out.

Inlet or flume.—Is old, newly tarred.

Main tank.—In good order.

Embankments.—In good order.

*Watering Appliances.*

State of supply-tank.—Good.

Troughing.—Good; newly tarred inside by travelling mechanic; rail very high at end furthest from tank.

Machinery.—In very good order.

*Paddocks and Fencing.*

State of fencing.—Tenant's lease good; enclosure old and might be better.

State of gates.—None.

Remarks.—Caretaker Killick will, I think, give satisfaction. Mr. Yeo appears well pleased with him.

*Rates collected since last report.*

	£	s.	d.
Month ending October, 1886	...	9	5 11
„ November, 1886	...	12	12 4
		21	18 3

*Traffic since last report.*

	Horses.	Cattle.	Sheep.	Bullocks.
Month ending October, 1886	100	1,793	.....	238
„ November, 1886	168	600	19,482	28

Caretaker's

*Caretaker's work.*

Work done by caretaker.—Tarring flume, cleaning drains, repairing embankments, shift fence at end of troughs.—J.Y., 19/10/86. Tar flume, clear sand away from troughs, keep drains clean, pump water when pump is repaired, and general duties.—J.Y., 16/8/86.

Work laid out for caretaker.—To complete Mr. Yeo's written instructions and finish silt tank.

Remarks and recommendations.—Killick has evidently worked well here and I think will give satisfaction. The drains are very much in the way of travelling stock coming to water. The fence here is, I believe, erected without strainers. A great amount of water could be conserved here within embankments. In view of Killick's and Mr. Yeo's reply to Mr. Stillwell's allegations, and the evident pains he has been at to improve the place, I did not consider that there was just cause for suspending this man.

JAMES W. BOULTBEE,  
Inspector of Public Watering Places.

*One Tree Tank.*

Hay, 16 November, 1886.

Report by Acting-Inspector J. W. Boulton, on the One Tree Tank, road from Hay to Booligal; in charge of Young, caretaker, for 16th November, 1886.

P.W.P.,  
86-5,442.

*Tank or Dam.*

State of drains.—Require cleaning.

Silt tank.—Full of water.

Inlet or flume.—Good, newly replaced.

Main tank.—Full.

Embankments.—Good, newly made up; dished on top; shoots required at angles to carry off storm water.

*Watering Appliances.*

State of supply-tank.—Good.

Troughing.—Good, but low in centre.

Machinery.—Not satisfactory. The Works mechanic is due here on Saturday to put in thorough order.

*Paddocks and Fencing.*

State of fencing.—Enclosing tank, has been raised and moved out, is very badly strained (left so by contractor), wire is strained from corner to corner.

State of gates.—Good.

Remarks.—The fencing of tenant's lease is not yet finished; is apparently in the same state it was nine months ago.

Weekly depth of water since last report.—18 feet.

*Caretaker's Work.*

Work done by caretaker.—Has been trimming embankments and cleaning troughs. He will clean out supply-tank next Saturday. Tank and trough is left empty, so that Works mechanic can tar them inside.

Work laid out for caretaker.—To clean drains and strain wire round tank.

Remarks and recommendations.—The tenant's lease being unfenced is a great drawback, since it is most impossible to prevent trespass, and it looks bare consequently. The horse walk, which was so bad at my previous visit, has been enlarged and carefully done up. The fluming between main tank and old drinking tank is out of order. New brasses and packing required for piston-rod, which is much worn. The horse purchased for this caretaker by Mr. Overseer Keighran was a satisfactory purchase.

JAMES W. BOULTBEE,  
Inspector of Public Watering Places.

Telegram from Mr. Overseer Keighran to The Chief Inspector of Public Watering Places.

Hay, 24 November, 1886.

Top glands of pump at One Tree Tank broken; no pumping can be done until repaired. Please advise.

JOHN A. KEIGHRAN,

Overseer.

P.W.P.,  
86-5,479.

The Under Secretary for Mines to The Under Secretary for Public Works.

Sir, Department of Mines, Sydney, 29 November, 1886.

I have the honor to forward herewith for the information of the Commissioner and Engineer for Roads and Bridges, copy of telegram *re* pump at One Tree Tank being unworkable, and request that you will be good enough to have the necessary action taken.

I have, &c.,

HARRIE WOOD,

Under Secretary.

[Enclosure.]

Copy of Telegram from Mr. Overseer Keighran, Hay, *re* pump at One Tree Tank.

24/11/86.

Top glands of pump at One Tree Tank broken; no pumping can be done until repaired. Please advise.

Road-Superintendent Stillwell to The Commissioner for Roads.

Sir, Hay, 25 November, 1886.

On the 23rd inst. I found, on testing the pump here, that it did not throw more than half the normal stream, and that the collar-plate of the gland on end of cylinder was fractured across. The caretaker

P.W.P.,  
86-5,803.

caretaker—a man lately sent up from Sydney—said he was quite ignorant, and was apparently equally indifferent as to how it occurred. One of the bolts had evidently been screwed down tight, while the opposite one was left quite slack, throwing all strain to one side, and thus breaking the plate.

Yesterday Mr. Nicholson—Jones being up at Boonoonoonooka—took out spare leathers, valve, buffers, &c., and got the pump into good working order, excepting as regards the plate. A duplicate should, if possible, be sent me from Sydney. The pump is a Holman horse-gear.

I have, &c.,  
A. W. STILLWELL.

Forwarded to Under Secretary for transmission to Mines.—W.C.B., 10/12/86. Under Secretary, B.C. The Under Secretary for Mines.—J.R., B.C., 13/12/86.

Minute by Chief Inspector of Public Watering Places.

THIS man was very highly recommended by the hon. the Secretary for Mines as having been in his service for a number of years, and fully competent for the duty required. Forward papers to Mr. Overseer Keighran for report, and to ascertain if the alleged incompetence and carelessness on the part of the caretaker appears to be correct. H.G., 20/12/86.

I presume this refers to Cavanagh, who has been dismissed.—J.W.B., 4/1/87. No, to Young.

Minute by Inspector Boulthec.

I VISITED this Public Watering Place on November 17th, and saw no reason for Mr. Stillwell's strictness. See my report of this date. J.W.B.

Sir,

Hay, 26 November, 1886.

P.W.P.,  
86-5,802.

On the 23rd inst. this tank was full to the surface level, but I found the pump, from incompetence and carelessness on part of the caretaker, almost disabled, the service tank only half full, about an inch of liquid mud in the troughing, and the wires slack in the fence surrounding the tank.

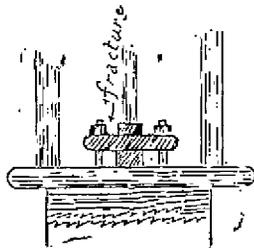
The pump was in a most dirty and neglected state, the bearings being almost dry and clogged with dirt; the key of the housing, only lately erected, lost; the valve chamber obstructed from want of cleaning out, and new bucket leathers needed. By last post I have also reported that the gland plate on cylinder had been fractured. My assistant, Mr. Nicholson, has since got the pump into a workable state, and it throws a fair stream of water, but a new plate is required.

The caretaker says he knows nothing of this breakage, or of the pump at all, in fact, and so had not touched it. He has been in charge nearly a month, and apparently, excepting just after a fashion to work the pump, the work might as well have been without a caretaker at all.

If any disposition to work or to learn their duties were evinced on the part of these men some allowances, when new to the work, would cheerfully be made for them, but when they make it so very obvious that their ignorance is equalled by their indifference, and that their view of the position that they are not there to work, but merely to take charge, make complaints, and look in hope for improvement, is futile, and it is as well that the state of the case should be recognised and stated plainly at once, because a number of this class of men are being sent up from Sydney of late, and the resulting negligence and complaints will have to be met and provided against.

The Commissioner for Roads.

I have, &c.,  
A. W. STILLWELL.



Forwarded to Under Secretary for transmission to Mines.—W.C.B., 10/12/86. Under Secretary, B.C. The Under Secretary for Mines.—J.R., B.C., 13/12/86.

Minute by Mr. Inspector Boulthec.

CARETAKER was desired by Works mechanic Jones to leave troughs and tank alone, and not pump into them, as he would be down on the Saturday following to tar inside of tank and troughs, and put pump, which has been some time out of order, right. Caretaker had key of housing on 17/11/86. The fencing round tank was only lately completed by contractors, and is in exactly the same state as left by them. Mr. Stillwell's assistants give orders, and Mr. Stillwell apparently reports our caretakers for carrying them out. I think his remarks on the ignorance and uselessness of caretakers employed by us quite uncalled for, and reflects upon the Mines officers in a very undeserving manner, and I would again urge that all interference of Works officers should cease when a work is transferred.

JAMES W. BOULTBEE,  
Inspector of Public Watering Places.

Dear Mr. Boulthec,

Hay, 22 January, 1887.

By same post as this I have forwarded to the Chief Inspector of Public Watering Places a statement from George Young, caretaker, One Tree Tank, re Mr. Stillwell's complaint, which statement was taken down by me just as the caretaker Young explained the matter, I certainly should have gone out and got you this explanation before the present date, but my eye (the good one) has been effected with swelling blight, so that I was pretty well handicapped, especially having a lot of official work to get through this month. I quite agree with you that we have just cause for complaint against Mr. Stillwell and his assistant, Mr. Nicholson's interference.

You

You will observe in Young's statement, where Nicholson came to him, from the "One Tree Hotel," at twenty minutes past 5 a.m., and ordered him to get his horse and pump for one hour, he, Nicholson giving no reason for the pumping, as the pump had been lately repaired, and required nothing doing to it; I think if Mr. Stillwell looked after his own work it would become him better, as the fencing in of the tenants' leases will show, One Tree and Quandong fence, neither of which is completed, besides, nothing has been done as regards the erection of cottages for caretakers, now in Mr. Cronin's district, all these improvements have been completed long since, then may I ask why or what is the cause of Mr. Stillwell not having done his likewise?

The wires in the fence at One Tree Tank, he, Mr. Stillwell complains, are slack, and require tightening. I can tell Mr. Stillwell that they are now,—fence and wire in as good order as they were when he took over the work from the contractor, besides the wire being old, they would not stand straining, neither is there any posts left in the fence to strain them to. The old cask that floats the main pipe from the mud, that sunk on Wednesday last, and I suppose that he, Mr. Stillwell, will say that it is from carelessness of the caretaker. Now, if I recollect right, at the time of Mr. Gilliat taking this work over from Mr. A. P. Wood, he, Mr. Wood, promised to have these old casks replaced by proper buoys (painted), this promise has not been fulfilled at any of the tanks, Tom's Lake, Quandong, and One-Tree.

While writing, a report has come to me that the Dry Lake Well has given out, so that I shall have to proceed there to-morrow and get it in working order again, by opening out the bore which must have got choked, all this bother and trouble is caused by the shaft not having been sunk deep enough, but taken over from the contractor before the supply of water was obtained, and not leaving a pipe in the bore. Now I must conclude this rigmarole of a letter, as I am still unable to use both eyes.

I remain, &c.,

JOHN A. KEIGHRAN.

Mr. Inspector Boulton.

Statutory declaration made by Caretaker George Young.

One Tree Tank, 21 January, 1887.

Sir,  
Referring to Mr. Assistant-Engineer Stillwell's report against me of the 26th November last, *re* the state of the One Tree Tank and appliances, at the time of his, Mr. Stillwell's inspection, I have the honor to give a truthful statement, which are as follows:—On the 26th October last, I took charge of the works here as caretaker, the pump was then in a disabled state, as can be proved by Mr. Overseer Keighran, who stated that he would report the matter to Mr. Stillwell, which he did, as a few days afterwards Mr. Nicholson (Mr. Stillwell's assistant) came out and partly repaired it, but could not put it in working order, as there was a leakage that he could not stop, and left it for the repairer—Jones—to put right, which he did shortly afterwards; the next visit I had from Mr. Nicholson was early one morning, twenty minutes past 5, rousing me out of bed, and calling me a lazy fellow, at the same time threatening to punch my head, he then tested the pump by having the horse worked for one hour, and found it working well, and made no complaint of the machinery being in a dirty state. The top gland was broken shortly afterwards through not being properly fitted on by the man who put it up, and not through any fault of mine.

P.W.P.,  
87-343.

The wires in the fence if considered slack, I think Mr. Stillwell should have seen to that part of the work before taking it over from the contractor, which was only a few days previous, and was in the same state as it was at the time of being handed over, and was in no way injured afterwards, by getting slacker, one thing is, if the wires do get slack there is no straining posts left to tighten them, the distance on one side from corner post to corner post being 160 yards.

The reason that the service tank was kept half empty, was by orders from Mr. Jones, repairer, who said he wanted to pitch the inside, and wished to have no delay when he came to do it, in consequence of this the tank was not kept filled, otherwise it would have been. The key of the housing was not lost, but is still in my possession, therefore, I cannot understand the reason or why Mr. Stillwell makes these unfounded reports against me as he appeared to be well satisfied with my work, not having drawn my attention to any part of the works that showed any signs of neglect.

The tank and all appliances are now in good working order, with the exception of the old cask that floats the main pipe, and keeps it out of the mud, it has sunk in consequence of never having been painted.

Since my appointment here as caretaker, I have found it a difficult matter to give satisfaction on account of both Mr. Stillwell's and Mr. Nicholson's interference in the works.

I have, &c.,

GEORGE YOUNG,  
Caretaker.

Declared before me at Hay, this 3rd day of March, 1887,—

N. J. TREVINA, J.P.

The Chief Inspector of Public Watering Places.

Telegram from Overseer Keighran to The Chief Inspector of Public Watering Places.

Hay, 2nd February, 1887.

Young prepared to make declaration before a magistrate of the truth of his statement.

JOHN A. KEIGHRAN,

Overseer, Public Watering Places.

P.W.P.,  
87-500.

Forward statement to Mr. Keighran with request to obtain declaration, and inform him by wire of the action taken.—H.G., 7/2/87. Mr. Overseer Keighran.—J.W.B., B.C., 7/2/87. Urgent.

Sir,

Hay, 28 February, 1887.

I have the honor to inform you that in consequence of George Young, late caretaker at One Tree Tank, breaking out drinking, I have been unable to get him to make the required declaration to his statement.

P.W.P.,  
87-963.

He has been drinking heavily for the last three weeks, both here and in Hay, and out at the One Tree I am told that he sold his horse and everything else that he possessed, and is now dangerously ill in the Hay Hospital. His salary voucher for January I still hold, which will be of some service to him when he comes out of the hospital.

I have, &amp;c.,

JOHN A. KEIGHRAN.

The Chief Inspector of Public Watering Places.

Young's conduct since leaving the tank appears to leave some grounds for the alleged ill-treatment he complains of. Mr. Keighran will please say if he is aware of his having been drinking while in charge of the tank.—H.G., B.C., 4/3/87. Mr. Overseer Keighran. The Chief Inspector of Public Watering Places. From inquiry, and my own personal knowledge, I can safely state, that Young did not taste spirituous liquors while in charge of the tank, but broke out while in Hay.—JOHN A. KEIGHRAN, Overseer, Hay, 9/3/87.

87-1,096.

Young's declaration *re* One Tree fence handed with other papers to Mr. Abigail, and presumably by him to Premier. Trace has been lost of it.

J.W.B., 31/12/87.

Bullagreen Tank.

P.W.P.,  
86-5,448.

Sir,

Bullagreen Tank, 15 November, 1886.

I have the honor to inform you I was ordered by the overseer to clean out the iron tank on last Friday. I did so on Saturday or Sunday; got steam up this morning; was pumping three hours. The tank was nearly full when the piston-rod, connecting the main tank with the engine, broke short off at the collar; only 25 lb. on steam gauge. I cannot send telegram, as this will be as soon as it.

I have, &amp;c.,

JAMES MURPHY,

Caretaker, Bullagreen.

The Chief Inspector of Public Watering Places.

Telegram from Mr. Overseer Medley to The Chief Inspector of Public Watering Places.

Coonamble, 18 November, 1886.

Just received from Bullagreen the following:—The piston pump rod connection train with engine is broken. Cannot work engine till repaired. Signed caretaker.

THOS. W. MEDLEY,

Overseer, Public Watering Places.

Send copy to Works Department with letter. Inform Medley. 20/11/87.

Sir,

Department of Mines, Sydney, 20 November, 1886.

I have the honor to forward herewith for the information of the Commissioner and Engineer for Roads and Bridges copy of telegram *re* piston pump rod at Bullagreen Tank unworkable, and request that you will be good enough to have the necessary action taken.

I have, &amp;c.,

HARRIE WOOD,

Under Secretary.

The Under Secretary for Public Works.

[Enclosure.]

Copy of Telegram, Public Watering Places 86-5,416, received from Mr. Overseer Medley, Coonamble.

Just received from Bullagreen the following:—The piston pump rod connection train with engine is broken; cannot work engine till repaired. Signed caretaker.

Sir,

Department of Mines, Public Watering Places,

Sydney, 30 November, 1886.

Referring to your telegram of the 18th instant *re* piston pump rod at Bullagreen Tank being unworkable, I have the honor to inform you that the matter has been referred to the Department of Public Works.

I have, &amp;c.,

HARRY GILLIAT,

Chief Inspector of Public Watering Places.

Mr. Overseer Medley, Coonamble.

P.W.P.,  
87-303.

Sir,

Coonamble, 18 January, 1887.

I have the honor to inform you that I am informed by the caretaker of the Bullagreen Tank that he has not yet heard anything of the rod for the pump, and it may be wanted any day now the dry weather has set in. 9,000 sheep passed there last week and report they could not get water till they got to the Castlereagh.

I have, &amp;c.,

THOS. W. MEDLEY,

Overseer, Public Watering Places.

The Chief Inspector of Public Watering Places.

Ascertain from Messrs. Samuel and Courtenay if they can furnish a spare rod; if so, despatch to-night.—H.G., 20/1/87. Messrs. Samuel and Courtenay do not keep any portions in stock. They have to wire to England.—J.W.B., 20/1/87.

Telegram

Telegram from Chief Inspector of Public Watering Places to Mr. Overseer Medley.

Get broken piston-rod sent down at once. Send specially to Nevertire. Sydney, 20 January, 1887.  
HARRY GILLIAT,  
Chief Inspector of Public Watering Places.

As it is absolutely necessary that this broken rod should be repaired or a new one in its place by 1st February, the date of transfer to Mr. Barry, lessee, Mr. Inspector Boulton may perhaps be instructed to have a new one turned, to take up with him and place in position. Messrs. Samuel and Courtenay have drawings of all the parts.  
The Under Secretary for Mines. H.G., 24/1/87.

Approved.—G.E.H. (for U.S.), 24/1/87. Mr. Boulton will have a piston-rod turned out by Samuel and Courtenay, and take up with him in time to have fitted before transferring the tank.—H.G., 24/1/87. Seen and noted.—J.W.B.

Messenger returned from Bullagreen. Piston-rod taken down by Mr. Fraser and Mr. Wood some weeks ago. Coonamble, 24 January, 1887.  
THOS. W. MEDLEY,  
Overseer.  
The Chief Inspector of Public Watering Places.

Sir, Department of Mines, Sydney, 20 November, 1886.  
I have the honor to forward herewith, for the information of the Commissioner and Engineer for Roads and Bridges, copy of telegram, re piston pump-rod, at Bullagreen Tank, unworkable, and request that you will be good enough to have the necessary action taken.  
I have, &c.,  
HARRIE WOOD,  
Under Secretary.  
The Under Secretary for Public Works.

Department of Public Works, 86-1,619. Tanks&Punts. Department of Public Works, 86-10,693. P.W.P., 5,853. Department of Mines.

Enclosure.  
Copy of telegram, P.W.P., 86-5,416, received from Mr. Overseer Medley, Coonamble.  
Just received from Bullagreen the following:—The piston pump-rod connection train with engine is broken; cannot work engine till repaired. Signed caretaker.

Roads.—E.G. (for U.S.), B.C., 23/11/86.  
Examining this tank on the 26th instant, and found that one of the pump piston-rods was broken at its junction with cross-head. A new rod has been made and forwarded to Mr. Frazer, and will be fixed as soon as possible. If the caretaker would keep the stuffing-boxes thoroughly packed, so as to avoid screwing the gland down so tight, there would be less jar and less chance of failure.—A.P.W., 13/12/86. Under Secretary for transmission to Mines.—W.C.B., 13/12/86. The Under Secretary for Mines.—J.R., B.C., 16/12/86.

Minute by Inspector Boulton.

4 January, 1887.  
There does not appear to be the slightest grounds for the default on part of Caretaker Murphy, as the minute of Mr. A. P. Wood would infer. I took delivery of this machinery 16th October, and no new packing, &c., should be required in so short a time. A defective piston-rod has broken, an accident likely to happen at any moment.  
JAMES W. BOULTBEE,  
Inspector of Public Watering Places.

Minute by Mr. Inspector Boulton, 102-87.

I ASSISTED to put in new piston-rod on 1st February. No packing or stuffing was required; I paid particular attention to this. Rod was broken, 15/11/86, and on 31/1/87. I discovered rod sent up by Works Department lying at Contractor's Camp, Nevertire Tank; new rod was fixed, 1/2/87.  
J.W.B., 10/2/87.

By-wash, Brolgan. Stock Office, Forbes 5 October, 1886.  
Sir, I have the honor to draw your attention to Brolgan Creek Tank. On Saturday last there was a storm in which 2 inches of rain fell, and the by-wash was quite incapable of taking off the overflow. This tank being constructed right in the bed of a creek would require a by-wash 12 feet wide and about 3 feet deep, or otherwise some day the flood will wash away the embankment. These are periodical storms, and not at all frequent, but still I think it would be as well to be prepared.  
I have instructed the caretaker to widen it, but will wait your instructions before deepening the same.  
The Chief Inspector of Public Watering Places. I have, &c.,  
W. G. DOWLING.

P.W.P., 86-4,738

As repairs of this nature are under existing arrangements usually left for the officers of the Department of Public Works, a copy of this report may perhaps be forwarded for the information of the Commissioner for Roads.—H.G., 7/10/86. The Under Secretary for Mines.  
Approved.—H.W., 8/10/86.

Sir,

Sir,  
 P.W.P.,  
 86-5,447.

Department of Mines, Sydney, 22 October, 1886.

Herewith I have the honor to forward for your information copy of a report received from Mr. W. G. Dowling, our local overseer at Forbes, relative to the state of the by-wash at Broilgan Creek Tank.

I have, &c.,  
 HARRIE WOOD,  
 Under Secretary for Mines.

The Under Secretary for Public Works.

Enclose copy of P.W.P., 86-4,738. Roads.—J.R., B.C., 27/10/86. Mr. Wood at Blayney.—W.C.B., 29/10/86.

Mr. Dowling has not made out a case. The unusual storm is reported, but no damage to the embankments. Why then the surmise that some day the whole will be swept away? This paper should be sent to Mr. Morton for report. I do not think the Mines officer should have undertaken this work without conferring with the local officer.

I think deepening the by-wash would be a mistake, as it would lower the level of water conserved. I question whether any alteration is necessary unless to find work for the caretaker.—A.P.W., 1/11/86. Mr. Morton or Mr. Adams, Forbes.—W.C.B., 1/11/86.

In company with Mr. Morton I made an inspection of this tank. To deepen by-wash by 3 feet, as Mr. Dowling directs, would reduce the water conserved by about one-fifth of its total holding capacity. This I presume is not at all requisite; and again, to widen it according to Mr. Dowling's dimensions would be worse than useless as a means of escape for such storm-water as that referred to in his letter. In my opinion I do not think any alterations or precautions are necessary for the safety of the tank. If the side slopes of embankments were kept dressed and in a better state of repair they would add considerably to its appearance, and also to the stability of the tank.—A.A., 13/11/86. The Commissioner, B.C.

Mr. Wood.—W.C.B., 15/11/86. Copy should be sent to Mines.—A.P.W., 15/11/86. Under Secretary for transmission to Mines.—P.W.O., 17/11/86. The Under Secretary for Mines.—J.R., B.C., 18/11/86.

Extract from Mr. Overseer Dowling's letter, 9th November, 1886.

P.W.P.,  
 86-5,317.  
 Original, with  
 papers re tone of  
 minutes.

\* \* \* \* \*  
 You will be pleased to hear that the by-wash which I have had widened by the caretaker acts well, and is equal to the overflow. The recent heavy rains proved it.

W. G. DOWLING.

The Chief Inspector of Public Watering Places.

(Ward's Tank.)

Mount Manara Tank.

Extract from Mr. Assistant-Engineer Stillwell's Report of 20th October, 1886, on Ward's Tank.

P.W.P.,  
 86-5,106.

\* \* \* \* \*  
 The steam-pump was in a disgracefully dirty state. The caretaker admitted he had not overhauled it since Mr. Wood and I visited in June last; and I had to do it myself, a repetition of the job. Mr. Wood will remember we then had.

Under Secretary for transmission to Mines.—W.C.B., 25/10/86. The Under Secretary for Mines.—J.R., B.C., 27/10/86.

Mr. Yeo will report upon this without delay, and, if true, should give an explanation of his own neglect and that of the caretaker. If these allegations are correct it is extremely discreditable to this Department. If they are not Mr. Yeo should see that they are fully refuted.—H.G., B.C., 29/10/86.

Mr. Yeo's report Public Watering Places (86-5,577) herewith.—H.G. Mr. Inspector Boulbee for report, B.C., 1/11/86. Report attached.—JAMES W. BOULBEE, Ivanhoe, 27/11/86.

P.W.P.,  
 86-5,577.

Sir,  
 Referring to Mr. Assistant-Engineer Stillwell's report of 20th October last on Ward's Tank, it appears to me that Mr. Stillwell attributes, in the first instance, the disgraceful, dirty state in which the steam-pump was found by Mr. Wood and himself to the neglect of the caretaker. I beg to state that at that time the steam-pump had not been handed over to this Department by the Department of Works; also that it had been arranged by Mr. Wood and Mr. Stillwell with contractor, who erected the steam-pump to be present, for the purpose of having the work passed, but the contractor failed to attend, consequently Mr. Wood and Mr. Stillwell set to work to put the works in order to transfer, and to do this they spent nearly the whole of the day; then it did not work properly, but to effect the transfer, Mr. Stillwell promised that he would send the travelling mechanic as soon as possible, and put it in working order. Mr. Stillwell further stated that I should not allow the caretaker to interfere with the pump internally, as the travelling mechanic would see to all that sort of work, but up to the time of Mr. Stillwell's visit of 20th October, the travelling mechanic had not been to put the pump in order, as was promised.

Referring to your request to know why the steam-pump was left in this state after I was aware of it, I beg to inform you that the caretaker cleaned it externally, according to my instructions of 17th August last, but from that date to the date of Mr. Stillwell's visit, I was not at the tank, consequently I was not in a position to know whether it had been kept clean or not, but when I visited the tank on 20th October last, I found that the brass work, &c., was still dirty. I reprimanded the caretaker for his negligence, when he tendered his resignation. I might state that as this tank is a very dusty place, and there being no house or covering for the steam-pump, it is a difficult matter to keep it clean.

I have, &c.,  
 J. YEO,  
 Overseer, Public Watering Places.

The Chief Inspector, Public Watering Places.

Report

Report upon Mr. Road-Superintendent Stillwell's complaint of neglect of Caretaker at Ward's Tank.

REFERRING to the enclosed copy of Mr. Stillwell's report upon the machinery at Ward's or Mount Manara Tank, I have the honor to report that, so far as I have been able to ascertain, the facts are as follows:—On 9th June last Mr. A. P. Wood, Mr. Stillwell, Mr. Yeo, and the contractor were to meet, for the purpose of transferring the works—steam-pump—to this Department. The contractor, however, failed to be present, and as the pump was not then in working order, Mr. Wood and Mr. Stillwell endeavoured to rectify matters so that it could be handed over to our local officers. It will be inferred, I think, from Mr. Stillwell's report, that our Department was in fault for "the job" Mr. Wood and Mr. Stillwell then had. As, however, the machinery was not on that date even taken over from the contractor, the fault cannot be attributed to this Department. Our local officer, Mr. Yeo, took over the works, reporting at the time that pump, &c., was out of order, under a distinct understanding from Mr. Stillwell that the machinery should be put into thorough going order by his mechanic. This, however, has never been done. Our caretaker worked the pump three times in June, three in July, four in August, and none in September, and thoroughly cleaned all outside work on August 3rd, according to his statements and journal. He admits that he did not take engine to pieces, since, though able to work the machinery, he was no engineer, and his predecessor was told at the time of the transfer that the travelling mechanic would put the engine right, and not to do it himself. The maker's coat of dull red paint, now much faded, does not add to the appearance of the engine. The repairs effected by Mr. Stillwell consisted of moving some rust from the cylinder. From the date of transfer of tank, 9th June last, until Mr. Stillwell's visit, I am told the pump never worked properly, not so far as I can see, having in view Mr. Stillwell's promises and instructions to caretaker, caused by our neglect, as from the neglect of the Works Officer to have the thing in thorough working order before taking it over from the contractor, and transferring to the Mines. An almost parallel case to this has occurred in Mr. Tully's district, and, which, according to Mr. A. P. Wood, was one of the things he saw that was not satisfactory. The condition of the pump at the 18-mile and Ledknapper Tanks are cases in point, and if Mr. Wood saw them, the Mines' caretakers would be blamed for the unsatisfactory state of them, and the "connection of the Works Department with these works would be prejudiced." I think these reports upon the various caretakers' negligence at the tanks in this district, if they do no other good, tend to show the animus that the Works' officers here entertain towards the Mines' officers. I think I can fairly quote the last paragraph of Mr. Stillwell's report on Boonooma Tank, and say "it is this kind of thing which gives rise to adverse comments of the Press, so frequently made respecting appliances at Government watering places."

I do not think a single instance can be cited in which adverse comment has been made by the Press respecting appliances while under our charge, excepting only the railing at the troughs, and about this, a fault in construction or a wrong design. Whichever it is, the complaints are universal, and, in reference to Mr. A. P. Wood's minute, I think that in most cases the charges made against the caretakers by the Works officers have been due to misapprehension on their part, and that where they have been sustained have been dealt with summarily. Both myself and our local officers are most anxious to maintain the efficiency of these Public Watering Places. I further beg to submit that distinct instructions should be issued to the overseers that in cases where the work is incomplete or not thoroughly in order that the transfer should not be effected until it is so.

JAMES W. BOULTBEE,  
Acting Inspector, Public Watering Places.

Ivanhoe, 27th November, 1886.

I must add that Mount Manara Tank is a most dusty place, and that without proper protection it is almost impossible to keep the machinery in a constant state of cleanliness.—J.W.B. Considerable pressure was brought to bear by Works to effect transfer of this, Gunnaramby and Clare Tanks. A distinct understanding was made by Works that all appliances were to be put in thorough working order.—J.W.B.

Memorandum.

Sir,

15 December, 1886.

I have to inform you that I have this day received a letter from the caretaker of Tinda Public Tank, dated 13th inst., stating that upon the 7th inst. the heavy rain (375 points) made a large gap in the embankment of the main tank, washing the shoot away. He has repaired same until it can be properly done. From his description of the nature of the injury I am of opinion that it is a work that will entail considerable labour, and I advise you that you, if you think it necessary, may take the requisite steps for its repair.

Mr. A. Adam, Road Superintendent, Cobar.

R. D. JONES.

Tinda Tank.

4 January, 1887.

I RECEIVED the attached letter from stock inspector, Condobolin, informing me that heavy rains had carried the shoot away, and left a large gap in main embankment.

I proceeded as soon as possible to this tank, about 130 miles from Cobar, after receiving enclosed letter, and have just returned from visiting tank.

I found on arrival that it was a false alarm.

The inlet shoot is not damaged in the least, and the shoot turns out to be a bark one the caretaker had placed against side of embankment to carry off water from top of embankment.

The gap in embankment referred to was a gut in embankment caused by water collected on top, and could be repaired by caretaker in about a week.

He had half of it filled up on my arrival.

Caretaker had misled Mr. Jones, or the latter had misunderstood him.

Service tank, troughing, pumping gear are in good order.

Depth of water, 21 feet.

The Commissioner for Roads and Bridges.

ALEXANDER ADAM.

P.W.P.,  
87-190.

I recommend that this paper be sent on to Mines in reference to the nature of the complaints from that office.—W.C.B., B.C., 11/1/87. Under Secretary. Forward to Mines. The Under Secretary for Mines.—J.R., B.C., 12/1/87. Mr. Jones for immediate report.—H.G., B.C., 14/1/87. Urgent.

Condobolin, 18 January, 1887.

I APPEND hereto copy of extract from caretaker of Tinda Tank whereon I based my letter of 15th ultimo to Mr. Road-Superintendent Adam.

I do not in that letter state that the *inlet* is damaged; if I understood that to have been the case, I should have stated the "*inlet* or *flume*" was washed away as per caretaker's letter. I was not misled by, nor did I misunderstand, the caretaker. Mr. Adam seems to have misunderstood me. Upon the 13th ultimo I telegraphed Mr. Adam that the embankment around silt tank at Wicklow Public Tank was washed into two gaps. He replied the same day by same means that he would inspect Wicklow Tank in a few days, and take steps to get damage repaired.

On account of receipt of this telegram I wrote Mr. Adam with the view of saving, and not causing him extra travelling, as he insinuates, as from his own telegram he was about visiting Wicklow Tank in a few days. I thought he would perhaps be anxious to ascertain, and, if necessary, repair any damage at Tinda Tank, more especially as when at Wicklow Tank he would be within 30 miles of Tinda. The bark shoot Mr. Adam refers to has been very useful (and is the only material available to the caretaker on account of carriage) in carrying off rain before, but upon this occasion was unequal to such a heavy fall. I think Mr. Adam might, instead of deprecating my action, have given me credit for at least endeavouring to make his visit to one tank, with a little more travelling, serve for the two, and so not put him to the trouble of a special journey.

The Chief Inspector of Public Watering Places.

R. D. JONES.

Extract from letter from H. C. Shaw, Caretaker of above Tank.

Tinda Public Tank, 13 December, 1886.

I have to inform you that a very heavy rain (375 points), on Tuesday, 7th last, made a large gap in the embankment of the main tank, washing the shoot away, but I have now got it mended, and will hold till it can be properly done.

H. C. SHAW,

Caretaker.

Mr. R. D. Jones, Overseer, Public Watering Places, Condobolin.

Minute by Mr. Inspector Boulton.

MR. ROAD-SUPERINTENDENT ADAM appears to have misunderstood Mr. Jones' letter, which was distinct and clear. No reference was made to the inlet shoot or flume. Mr. Adam does not appear to have made a special journey of 130 miles, since Mr. Jones received a wire saying he was inspecting Wicklow Tank in a few days.—J.W.B., 25/1/87.

Boona Tank.

Memo. re Overseer Jones' Report re Supply Tank, Boona.

3 March, 1886.

P.W.P.,  
86-1,404.

I WAS at Boona Tank over a week ago, and examined service tank. The cap plates have slightly warped with the hot weather this summer and risen slightly, but I consider there is no danger to the tank for a year or two; but I wrote a memo. to Hendry to bring a sufficient number of bolts with him from Nyngan to secure plates.

On my previous visit to this tank, some time before date of Mr. Jones's letter, I noticed this, and asked the caretaker, who was going into Condobolin, to obtain a certain number of  $\frac{1}{2}$ -in. bolts and secure plates, which he said he would do.

On my last visit I found this had not been done, and on inquiring the reason caretaker said Mr. Jones would not let him do it because I had omitted to communicate with him first.

I have since written to Hendry, as stated.

Since my previous visit there is no additional warping.

ALEXANDER ADAM.

The Commissioner for Roads.

Mr. Wood.—W.C.B., 5/3/86.

It appears to me that the action taken by Mr. Jones was never contemplated by his Department, and that if persisted in must act most prejudicially. If such formalities are necessary it will be quite impossible for our officers to act in any case of emergency, and the works must consequently suffer.—A.P.W., 5/3/86.

I would draw the Commissioner's attention to the memo. of Mr. Bruce, approved by the Minister in his minute, dated 23/7/84. In this Mr. Bruce suggests the co-operation of our officers in carrying out urgent repairs, but the intention has not been embodied in the instructions issued by the Mines; hence, I presume, the attitude taken by Mr. Jones.—A.P.W., 11/3/86. Memo. referred to.

Extract from paper 84-895 Tanks and Pumps, 84-959 Tanks and Wells.

18 July, 1884.

\* \* \* \* \*

I would suggest that as objection was taken by the Works Department to any repairs, however urgent or temporary, being made at the instance of the officers of the Mines Department that the caretaker or lessee, as the case may be, should be allowed to communicate direct with the proper officer of the Works Department, as well as with the Overseer or Head Officer, in order that there may be as little delay as possible in the necessary repairs being done.

A.B.  
Extract

Extract herewith. I recommend that this paper be sent on to Mines.—W.C.B., 11/3/86. Under Secretary, B.C. The Under Secretary for Mines.—J.R., B.C., 18/3/16. Mr. Overseer Jones for report.—H.G., B.C., 26/3/86.

Report by Mr. Overseer Jones upon Mr. Road-Superintendent Adam's remarks *re* Mr. Jones's report *re* Boona Supply Tank.

Condobolin, 9 April, 1886.

REFERRING to Mr. Adam's remark upon my reports of supply tank, Boona, as per his report herewith, dated 3rd ultimo, I beg to state with all respect that Mr. Adam is in error, and probably his remarks may be intended to refer to some other tank. There certainly is not at present, nor was there upon the date he names, any defect in the Boona Supply tank that I have observed.

P.W.P.,  
86-1,852.

The corners of the supply tank were originally pegged, which allowed the timber (pine) of which it is constructed to slightly—very slightly—warp. Upon the 3rd January last I bought 4 bolts, conveyed them to this tank, and the caretaker put them into their proper places, *i.e.*, the corners of the tank, upon the 5th of the same month. The "no additional warping" referred to by Mr. Adam is due to the fact that these bolts were put into the tank.

I would here remark that Mr. Adam appears to have given undue prominence to me in this matter, which is not at all warranted by the facts of the case, which are as follows:—Upon two or three occasions when periodically visiting the tanks in my district, the caretakers said that Mr. Adam told them to tell me to get or to do something. Feeling that this was not quite the proper course for Mr. Adam to pursue, I told the caretakers that upon similar occasions and circumstances if they would please tell Mr. Adam to write me upon any matter requiring attention, when it would receive it. Mr. Adam, however, has never written me upon any requirements at any of the tanks.

I would be sorry to take any action or adopt any course likely to be detrimental in the slightest degree to any works or matters under my supervision, nor am I in any way a quibbler for official etiquette, yet I do think any suggestions, or rather orders, from Mr. Adam to me through a caretaker is undesirable, the same facilities for communicating with me being available to both. I may add, Mr. Adam asking or telling the caretakers to obtain any material for the tanks could only be done at their own cost primarily, as they have no power to incur expense.

I regret such a lengthy explanation has been necessary in this case, but feel, so to speak, that Mr. Adam has made a charge against me without in the first instance inquiring from me if I had adopted the course he states I did in the concluding paragraph of his report.

RICHARD D. JONES,

The Chief Inspector of Public Watering Places.

Overseer, Public Watering Places.

Crow's Nest Well.

Extract from weekly return of George Keys, caretaker of Crow's Nest Well, for week ending 26th December, 1885.

All the works in good repair; the water in the well has changed, it is not so saltish, but very sweet and sickly to drink; one tablespoonful of sugar makes 2 quarts of tea too sweet; I cannot drink it now without being sick; I wish I could tell what mineral it is, if it is injurious to drink.

P.W.P.,  
85-4,857.

GEORGE KEYS,

Caretaker, Crow's Nest Well.

About what date did the baling commence?—H.G., B.C., 4/1/86. Mr. Overseer Keighran.

The Chief Inspector of Public Watering-places.—Service tank emptied the 6th November last; commenced next morning, 7th, to bale. I again inspected Crow's Nest Well, on the 9th October, the water was then good for stock, but was not, nor never has been, fit for human consumption.—JOHN A. KEIGHRAN, Overseer of Tanks and Wells.

A copy of this may perhaps be submitted for the information of the Department of Public Works.—H.G., 11/1/86. The Under Secretary for Mines. Approved.—H.W., 13/1/86.

Sir,

Department of Mines, Sydney, 14 January, 1886.

Herewith I have the honor to forward to your information a copy of an extract from the weekly return of George Keys, caretaker of Crow's Nest Well, with the remarks of Mr. Overseer J. A. Keighran thereon.

P.W.P.,  
85-4,857.

I have, &c.,

HARRIE WOOD,

Under Secretary.

The Under Secretary for Public Works.

Copy of Public Watering Places, 85/4,857, forwarded with this letter. Roads.—J.R., B.C., 18/1/16. Mr. Wood.—W.C.B., 18/1/86. This is a rather peculiar case if it has been correctly stated, and Mr. Stillwell might be asked to report the particulars.—A.P.W., 25/1/86. Mr. Stillwell for careful report; see that the well is well worked before taking sample.—W.C.B., 25/1/86. Mr. Stillwell.—B.C. This man Keys is an ignorant, officious, troublesome caretaker, whom Mr. Keighran has discharged.

This water has always been good stock water, and of late, owing to increased demand for it, and consequent baling of the well, it has improved. Mr. Keighran fully agrees with me as to this.—A.W.S., 2/2/86.

Mr. Wood.—W.C.B., 4/2/86. Should be sent to Mines.—A.P.W., 4/2/86. Under Secretary.—W.C.B., B.C., 4/2/86. P.W.O., 6/2/86. Forward to Mines.—J.G., 6/2/86. The Under Secretary for Mines.—J.R., B.C., 6/2/86.

If Mr. Stillwell's statement is correct, Mr. Keighran will please inform me why he did not report Key's conduct and character when the original was sent to him, and state distinctly that no reliance should be given to his reports. I must express my surprise that I am to learn the character of one of Mr. Keighran's caretakers from an officer of another Department, with the information that Mr. Keighran agrees with it.

Mr. Overseer Keighran for report.—H.G., B.C., 10/2/86.

1

I did not see that there was any great occasion to report caretaker Keys' conduct and character. If he was, as Mr. Stillwell says, an ignorant, officious, troublesome character, then why did he retain him in his service, as he had charge of the well when it was taken over from the Works to the Mines Department. As far as the works were concerned, Keys attended to them properly, no complaints were made, but he was one of these fussy old men that would try to make a mountain out of an ant-hill; look at the number of extracts that were taken from his weekly reports that were sent me for report; in all probability his liver was out of order when he reported the water changing. Mr. Stillwell may thank the old fellow's watchfulness, that he was not hookwinked by the men putting up the paddock fence, instead of the posts being 2 feet in the ground (contract), the fellow was cutting 1 foot off the posts, and placing the spare piece in the hole with the post to hide detection, so that actually the post would only be 1 foot in the ground, instead of 2. Keys detected the fellow at this and lodged a complaint; the consequence was that a large number of the posts were pulled up, and Keys' statement found correct.—J.A.K., Overseer, 17/2/86.

Minute by the Chief Inspector of Public Watering Places.

*Subject*:—Mr. A. P. Wood's reports on several tanks.

Department of Mines, Public Watering Places Branch, Sydney, 31 August, 1886.

P.W.P.,  
86-4,160.

THE reports made by Mr. A. P. Wood, Assistant Engineer for Roads and Bridges, on the various tanks and wells in charge of this Department, calling attention to cases of neglect, having been referred to the different overseers, and their reports upon the matters alleged having been found satisfactory, the Department of Public Works may perhaps be informed to that effect.

HARRY GILLIAT,

The Under Secretary for Mines.

Chief Inspector of Public Watering Places.

Submitted for approval.—H.W., 2/9/86. Approved.—J.F., 3/9/86.

Sir, Public Watering Places, Department of Mines, Sydney, 16 December, 1886.

P.W.P.,  
87-4,644.

Referring to your minute of the 16th June last, covering extracts from the reports of the Assistant Engineer for Roads and Bridges, upon certain tanks and wells, I now have the honor to inform you that the allegations contained therein have been referred to the various Overseers of Public Watering Places concerned, and that their replies have been satisfactory. I have furthermore to state that instructions were issued by this Department on the 21st July last with respect to suspending buckets in well-shafts, and not permitting them to remain in the water.

I have, &c.,

HARRIE WOOD,

Under Secretary for Mines.

The Under Secretary for Public Works.

Roads.—J.R., B.C., 23/9/86. Mr. Wood.—W.C.B., 24/9/86. As the replies are not submitted, this office is necessarily in the dark as to what is considered satisfactory. What I saw was not satisfactory, hence my reports.—A.P.W., 25/9/86.

As either originals or extracts of reports of Roads officers, relating to the matters in question are sent to Mining Department, it would be more conclusive if the reports of their officers, or similar extracts, were attached to papers in reply when sent to this office.—W.C.B., B.C., 25/9/16. Under Secretary.

Mr. A. P. Wood's reports, &c.

Minute by Mr. Assistant-Engineer Wood.

Roads, Sydney, 12 November, 1886.

*Subject*:—Tank and Wells. Application for reports by Overseers of Public Watering Places on complaints as to maintenance.

P.W.P.,  
86-5,402.

ON the 25th September a letter was received from the Mines stating that my reports on the neglect of duty shown by some of the caretakers had been referred to their local officers, and that their replies were satisfactory. As what I saw and reported upon was not satisfactory, it was considered advisable to obtain information from the Mines, to show how such a strange difference of opinion was supported, and, on the same date, application was made for the reports, or extracts from them, as always furnished by this Department in similar cases; these have not been supplied, and a further application should now be made for copies of the reports.

It is always a disagreeable duty to have to make complaints as to the maintenance of these works, and it is with a desire to lessen, as much as possible, the grounds for such complaints, now becoming very frequent, that application was made for the reports in question, which would, I presume, explain the extraordinary difference in opinion alluded to, and tend to a more perfect maintenance of works, for which we are still responsible.

Our readiness to recognise all cases where the duties of these men are efficiently discharged has been proved.

Some short time since we forwarded to the Mines a favourable report, received from one of our local officers, on the work being done by one of the caretakers in his district; but, considering that over 100 of these works have been transferred to the Mines, the pleasure of recognising merit should be of more frequent occurrence.

ARTHUR P. WOOD,

Assistant Engineer.

The Commissioner for Roads.

Under Secretary for transmission to Mines.—W.C.B., 12/11/86. The Under Secretary for Mines.—J.R., B.C., 15/11/86.

P.W.O.,

On two occasions.—  
W.C.B., 12-11-86

P.W.O., 27/9/86.

That the replies are considered satisfactory by the Department in charge of the works is perhaps sufficient.

The tone of Mr. Assistant Engineer Wood's communications upon various occasions (forwarded without remark by the Commissioner and Engineer of Roads) has been such as to induce me to confine the correspondence between the Departments to the smallest required limits. I submit that no further action appears necessary in this case.—HARRY GILLIAT, 15 October, 1886. The Under Secretary for Mines.

Submitted.—H.W., 27/10/86. Approved.—J.F., 30/10/86.

*Subject*:—Extracts from Reports on Tanks and Wells.

HEREWITH I have to submit for transmission to the Department of Mines extracts from reports by Mr. A. P. Wood, Assistant Engineer, on the undermentioned tanks and wells, lately visited by him:—

					Roads, Sydney, 10 June, 1886.	P.W.P., 86-3,081.
Wooloondool Well...	...	...	...	P.W.P., 86-3,081—A		
Holy Box Well	...	...	...	" "	B	
Mossgiel Tank	...	...	...	" "	C	
Lignum Hut Well...	...	...	...	" "	D	
Jumping Sandhill Well	...	...	...	" "	E	
48-mile Tank	...	...	...	" "	F	
Boonoono Tank	...	...	...	" "	G	

W.C.B., 16/6/86.

The Under Secretary for Public Works.

The Under Secretary for Mines.—J.R., B.C., 17/6/86.

Submit with replies.—H.G.

Wooloondool Well.

Extract from minute paper by Mr. A. P. Wood, Assistant Engineer.

*Subject*:—Tanks and Wells.—Wooloondool Well, Hay to Booligal Road.

Kilfera, 5 June, 1886. P.W.P., 86-3,081—A.  
THE supply is derived from bore put down from the bottom of the shaft; this, if the well is allowed to stand too long without baling, becomes choked with the sand from the water bearing drift, but when the level of the water is reduced in the shaft it generally frees itself, the then pressure from below forcing the sand out. Should this not be the case, a rod put down a few feet will always clear it.

The Mines have reported in favour of this bore being tubed, but there is no necessity for this, as the clay through which it has been put down will not close in, the bore being more probably enlarged by the upward current; nor would a tube in any way prevent the bore from being choked by the sand.

ARTHUR P. WOOD.

The Commissioner for Roads.

Under Secretary, for transmission to Mines.

Holy Box Well.

Extract from minute paper by Mr. A. P. Wood, Assistant Engineer.

*Subject*:—Tanks and Wells.—Holy Box Well, Booligal and Wilcannia Road.

Kilfera, 5 June, 1886. P.W.P., 86-3,081—B.  
Examined this work on the 4th instant; found the quality of the water very good, fully equal to that at either the Jumping Sandhill or the Lignum Hut. I drank a considerable quantity of it, and also used it for tea when camping there in the middle of the day. The horses also drank it readily; notwithstanding this the local stock inspector tells me, that evening when I met him at Ivanhoe, that the water was too salt for sheep. I have had no practical or personal experience with these animals, but am of opinion that water a man can drink without inconvenience or injury should be good enough for sheep.

A. P. WOOD.

The Commissioner for Roads.

Under Secretary, for transmission to Mines.

Mr. Yeo for report.—H.G., B.C., 22/6/86.

Sir,

Stock Office, Ivanhoe, 3/7/86. P.W.P., 86-3,418.  
Referring to extract from minute paper by Mr. A. P. Wood, Assistant Engineer, on the Holy Box Well, I beg to state that I have already reported all I know with regard to the water at this well, and have also forwarded six bottles, containing 1 gallon, for analysis. I might mention that Messrs. Cobb & Co.'s road manager informed me that at the time they had the lease of this well a horse that was used for the purpose of baling water would have died from the effects of drinking this water had not he been removed from the well.

I have, &c.,

J. YEO,

Overseer, Public Watering Places.

The Chief Inspector of Public Watering Places.

P.W.P., 86-5,583. Report by Acting Inspector J. W. Boulbee, on the Holy Box Well, road from Mossgiel to Ivanhoe, in charge of T. Pollard, caretaker, for 22nd November, 1886.

28 November, 1886.

State of shaft.—Good as far as I could ascertain. No battens in corner; timbers joggled.

Whim, &c.—In poor order. One king post is badly sprung, and two fish plates bolted on. It must be very weak. The span beam has sagged, and resting on top on spindle. The splice is only 2 feet long, so it could not be otherwise.

Rope, buckets, &c.—Good. There is a spare lot of new wire rope lying here.

*Watering appliances.*

State of supply tank.—Is old. One wall plate has split from the mortices.

Troughing.—Poor, old, and worn, and leak badly. Rails broken.

Machinery. Valves in good order.

State of fencing.—Good and new.

State of gates.—None yet. A double set of slip panels is provided for at the entrance to paddock. I am at a loss to know why there are also four fine gate posts lying here.

Remarks.—The drum of whim is working on the spindle. Iron stays, as suggested before, wanted. The present wooden stays to drum are quite loose, and the nails broken and can be drawn.

*Rates collected since last report.*

Month ending	, 1886	...	...	...	£	s.	d.
					0	2	8

*Traffic since last report.*

Month ending	, 1886	...	...	...	Horse.
					16

*Remarks and recommendations.*

Mr. Yeo visited this well in August and October. Caretaker was baling when I arrived, and says he bales regularly. I am unable to say if the water has improved. My horse went there thirsty and would not drink it. I do not consider the whim perfectly safe as it is. Caretaker has it screwed up, but informs me some of the bolts turn. As he had no oil feeder I forwarded him one from Ivanhoe. He was wasting as much oil as would pay for two oil feeders. I think it is a very great pity the tank that was commenced was not completed. Only stock bred on brackish water could do here.

JAMES W. BOULTBEE,  
Inspector of Public Watering Places.

*Mossgiel Tank.*

Extract from Minute Paper by Mr. A. P. Wood, Assistant Engineer.

*Subject:—Tanks and Wells.*

Mossgiel Tank, Booligal and Wilcannia Road.

P.W.P., 86-3,081-c.

Examined this work yesterday, 4th instant, and found the tank quite full. The inlet valves were open. Care should be taken to have these closed as soon as the inside level is the same as that outside the tank, otherwise the water within the embankment is drawn on to supply the evaporation outside. Some slabbing should be fixed to protect the inlets of these valves.

Inlet shoots under water, so could not examine them, but caretaker informed me they were in good order, and not starting from the frames as reported by Mr. Boulbee. This gentleman has I think mixed up the Tom's Lake Tank with this at the latter place, though in thorough working order a couple of planks were drawing away.

Pump in good order and working well. The horse walk and slopes require dressing which should be attended to by caretaker.

The caretaker should not allow fellmongering to be carried on at this tank. The stench was most abominable.

ARTHUR P. WOOD.

*Memorandum from The Chief Inspector of Public Watering Places.*

Sydney, 1 July, 1886.

P.W.P., 86-3,419.

I FORWARD herewith copy of report by Mr. Assistant-Engineer Wood on Mossgiel Tank received from the Works Department, and request that you will be good enough to report on the several matters contained therein.

Mr. Overseer Yeo, Ivanhoe.

HARRY GILLIAT,  
Chief Inspector of Public Watering Places.

Enclosure copy of P.W.P., 86-3,081c.

*Memorandum from Mr. Overseer Yeo.*

WHEN proceeding to Mossgiel on 29th June last, I instructed the caretaker to watch the valve and close it directly he saw it was necessary. Referring to the slabbing to be fixed to protect the inlet valves, it will receive my attention when visiting the tank. I did not observe anything wrong with the shoots, as they were under water. The horse walk and slopes were in order, having been dressed by caretaker.

The

The fellmongering alluded to by Mr. Wood is a mistake, as there was no fellmongering carried on at this tank. What Mr. Wood saw was a quantity of sheepskins taken from the Kilfera sheep which died in the immediate neighbourhood, and were merely hung on the fence to dry. When I passed on June 29th they had all been cleared away.

The Chief Inspector of Public Watering Places.

J. YEO,  
Overseer, Public Watering Places.

Memorandum from The Chief Inspector of Watering Places.

Sydney, 28 June, 1886.

P.W.P.,  
86-3,381.

MR. A. P. WOOD, Assistant Engineer of the Department of Public Works, reports that you permit fellmongering to be carried on at this tank, and that the stench was most abominable. You will be good enough to report, without delay, if this is correct, and upon what grounds you allowed such a nuisance to be committed.

Patrick Walsh, Caretaker, Mossgiel Tank.

HARRY GILLIAT,  
Chief Inspector of Public Watering Places.

Sir,

In reference to the attached report, I have the honor to state that Mr. Wood has made a mistake in stating I permitted fellmongering to be carried on at the tank. The wool referred to in this report was the property of Kilfera Station, who had some two or three hundred sheep die while watering at the tank. I allowed the man collecting the wool and skins off the dead sheep to store them in a shed that I have erected. After he had collected the whole of it, it was lying there for four days before removal. On no account would I permit anyone to wash wool or commit any nuisance about the tank.

I have, &c.,

P. WELSH,

Caretaker.

The Chief Inspector of Public Watering Places.

Memorandum from The Chief Inspector of Public Watering Places.

Sydney, 3 July, 1886.

P.W.P.,  
86-3,081.

HEREWITH I beg to forward you a copy of an extract from minute paper by Mr. A. P. Wood, Assistant Engineer, for your information.

Mr. Inspector Boulton, at Cobar.

HARRY GILLIAT,  
Chief Inspector of Public Watering Places.

Kilfera, 5 July, 1886.

Copy of Extract (from 86-3,081c, P. W. P.) referred to.

\* \* \* \* \*  
"Inlet shoots under water, so could not examine them; but caretaker informed me they were in good order, and not starting from the frames, as reported by Mr. Boulton. This gentleman has, I think, mixed up the Tom's Lake tank with this. At the latter place, though in thorough working order, a couple of planks were drawing away.

ARTHUR P. WOOD.

The Commissioner for Roads."

Report by Acting-Inspector J. W. Boulton, on the Mossgiel Tank, Road from Mossgiel to Ivanhoe, in charge of P. Welsh, Caretaker, for 21st November, 1886.

P. W.P.,  
86-5,585.

State of drains.—Have a great deal of water in them; one drain requires cleaning.

Silt tank.—Full of water, but reported almost full of silt.

Inlet or flume.—Under water, but I believe in the same condition as when I last reported, and when Mr. A. P. Wood was of opinion I was "mixed" in regard to this and Tom's Lake fluming.

Main tank.—Quite full.

Embankments.—In good order; these embankments have a long slope, and are rounded on the top, and they give very little trouble.

*Watering Appliances.*

State of supply tank.—In good order; is to be tarred inside by travelling mechanic.

Troughing.—In good order, rails inconvenient.

Machinery.—Very good, clean, and newly painted.

*Paddocks and Fencing.*

State of fencing.—Tenant's leasehold good, enclosure good.

State of gates.—Not yet hung.

Remarks.—Mouth of box fluming on western side been damaged; has been done up and faced with old sheets of iron.

*Rates Collected since last Report.*

Nil.

*Traffic since last Report.*

Nil.

*Weekly Depth of Water since last Report.*

Tank quite full.

*Caretaker's Work.*

Work done by caretaker.—Repairing embankments, cleaning drains, tarring troughs, &c.

Work laid out for caretaker.—To clean drains.

Remarks

Remarks and recommendations.—The dates of Mr. Overseer Yeo's visits, noted in Journal, are 13/8/86 and 15/10/86. Caretaker informs me that flumes on east side is at a lower level than west side, and as the tank fills from west before the water runs in from east side, he has to keep valve shut on that side. The drain that follows the road would, I think, be far better if lengthened. I questioned caretaker *re* Mr. Wood's charge of his having fellmongering done at the tank. He says he informed Mr. Wood and Mr. Stilwell, at the time of their visit, that the wool was taken from the Kilfera sheep that had died round the tank (and still the charge was made); he allowed them to stack it for three days in a bough shed he has. He says there was no other grounds whatever for the charge made, and is surprised, after his explanation to Mr. Wood, that it was made. From outside inquiry I cannot ascertain that fellmongering was ever done or contemplated by Welsh. This is one of the things Mr. Wood saw that was not satisfactory.

Ivanhoe, 28 November, 1886.

JAMES W. BOULTBEE,  
Inspector of Public Watering Places.

Extract from Minute Paper by Mr. A. P. Wood, Assistant Engineer.

*Subject*:—Tanks and Wells.—Jumping Sand Hill Well, Booligal and Wilcannia Road.

5 June, 1886.

P.W.P.,  
86-3081.

FOUND the buckets left, one at bottom and the other at top of well. The caretaker should be instructed to leave them midway out of the water, and save corrosion of wire rope.

Service tank in good order, but only half full, in which state it has been for some time, no regular baling having been carried on.

ARTHUR P. WOOD.

Sir, Department of Mines, Public Watering Places, Sydney 25 June, 1886.

I have to inform you that it has been reported to me that you have not been carrying on the baling, as required by your instructions, and that you do not keep your service tank full. Be good enough to inform me if this is the case; and, if so, do not neglect it in future. It appears you keep one bucket at the bottom of the well and the other at the top. This practice must not be continued. When they are not actually in use you must keep them suspended midway in the shaft to prevent corrosion of the wire rope.

I have, &c.,

HARRY GILLIAT,

Chief Inspector of Public Watering Places.

Mr. B. Doalman, caretaker, Jumping Sand Hill Well.

Sir, Jumping Sand Hill Well, 9 July, 1886.

In reply to yours of 25th instant (? ultimo), I beg to state that on one occasion my tank was not quite full. The reason I did not fill it was for there was plenty of water on the ground outside the well; and I also state that I did leave one of the buckets at the bottom of the well. The reason I did so was for when I took possession of the well the buckets were the same way. I have them out of the water now, and always keep them the same way in future.

I remain, &c.,

B. DOALMAN.

The Chief Inspector of Public Watering Places.

Sir, Department of Mines, Public Watering Places, Sydney, 30 June, 1886.

P.W.P.,  
86-3,081.

I have the honor to inform you that Mr. A. P. Wood, Assistant Engineer, has reported that certain irregularities occur at Jumping Sand Hill Well. A copy of the report is hereto attached. The caretaker has been instructed to attend to the matters therein referred to.

I have, &c.,

HARRY GILLIAT,

Chief Inspector of Public Watering Places.

Mr. Overseer Keighran.

Copy of Public Watering Places 86-3,081 forwarded.

Sir, Hay, 12 July, 1886.

P.W.P.,  
86-3,484.

Referring to paper Public Watering Places, 86-3,081, of 30th ultimo, *re* certain irregularities which occur at Jumping Sand Hill Well, as reported by Mr. Assistant Engineer A. P. Wood, I have the honor to inform you that my instruction to all caretakers at wells under my charge are that the buckets are to be left midway down the shaft when not working, and on no account leave a bucket exposed to the weather, as the leather on valves gets perished and put out of working order; also that baling has to be regularly kept up whether required or not, and that the service tank at all times must be kept full of water. I have written Caretaker Doalman, and cautioned him against a repetition of these irregularities.

I have, &c.,

JOHN A. KEIGHRAN,

Overseer.

The Chief Inspector of Public Watering Places.

Extract from Minute Paper by Mr. A. P. Wood, Assistant Engineer.

*Subject*:—Tanks and Wells.—Forty-eight Mile Tank, Booligal and Wilcannia road.

Gypsum Place, 9 June, 1886.

P.W.P.,  
86-3,081.

EXAMINED this work on the 7th instant; tank full to the surface; found the caretaker absent. This was the case the day before when Mr. Hanna visited the work.

The inlet pipe is acting well, but the valve at outer end has been taken off by the caretaker. It seems that it was stiff, and presumably to save himself the trouble of cleaning and lubricating it he took it off.

The steam pump special 4" x 3" would not work. Took it to pieces and cleaned and lubricated it, when it worked splendidly, throwing a fine stream of water. There would have been no difficulty with this pump had the caretaker paid ordinary care to it when previously working, instead of running it without using any oil or tallow. No foot valve has as yet been fitted to the suction pipe, but at present, as the lift is small, it does not affect the working. The old M'Comas framing should be taken down, and the timber stacked for use. The engine plant should be cleaned up at present, it, and the whole surroundings, appear to be completely neglected by the caretaker. It would be very much better for all concerned if, instead of leaving the tank to go kangarooing and rabbiting, he attended to his work. There is plenty for him to do at present if inclined to do it.

P.W.P.,  
86-3,081.

ARTHUR P. WOOD.

Mr. Tully for report.—H.G., B.C., 22/6/86.

Sir,

I have the honor to acknowledge the receipt of Mr. A. P. Wood's report on Forty-eight Mile Tank. Until I inspect this work I will hold over my report, and would respectfully point out that my instructions, both written and oral, to the caretaker were to in no way interfere with nor work the machinery nor use the tank until these had been handed over to me by the Department of Works.

P.W.P.,  
87-3,426.

See  
86-4,619.

I have, &c.,

MARK J. C. TULLY,

Overseer of Public Watering Places.

The Chief Inspector of Public Watering Places.

These repairs are now reported ready; resubmit when Mr. Tully reports.—H.G., 30/9/86.

Report by Overseer Tully in reply to Mr. Assistant-Engineer A. P. Wood's Minute Paper on Forty-eight Mile Tank, road Booligal to Wilcannia, dated June 9, 1886.

1. "Examined this work on the 7th instant; found caretaker absent; this was the case the day before, when Mr. Hanna visited the work."

P.W.P.,  
86-3,608.

On one occasion the caretaker was at his quarters 200 or 300 yards away. On the other occasion he had gone to a neighbouring boundary rider's for rations.

2. "The valve at outer end of inlet pipe has been taken off, &c."

On the occasion of my visit to this work, when the contractor was at work erecting the service tank, he, the contractor, and myself spent a considerable time endeavouring to free and open this valve, but could not succeed. He, Mr. Grant, offered to lubricate and unscrew the bolts, and try everything to get it work, but did not succeed, and to admit the water the valve had to be taken off. This valve was broken once before, which shows it is liable to get out of order.

3. "The steam pump would not work, &c."

On my placing Caretaker Downing in charge of this tank, I pointed out to him that until the new pump and machinery were handed over to this Department he was not to use the watering appliances. Subsequently the contractor requested him to work the pump to fill and test the service tank. He mentioned in a letter to me that he had done so and that the pump did not work well. I at once wrote instructing him not to use the machinery again under any circumstances, hence the disorder in which the pump was found by Mr. A. P. Wood.

4. "The old M'Comas pump should be taken down, &c."

I did not consider this to come within the sphere of a caretaker's duties, as many of the parts would require two men to remove, nor was I made aware that the Department of Works wished them to be removed.

5. "The engine plant should be cleaned up. The whole surroundings appear to be completely neglected by the caretaker."

I distinctly instructed the caretaker that, until the repairs and alterations being made at this work were finished, it would be of little use cleaning up and setting things in order, as I was not sure what alteration and repairs were to be made. No notice has been given me that these repairs are completed.

6. "It would be better for all concerned if the caretaker, instead of kangarooing and rabbiting, attended to his work."

The caretaker denies having gone kangarooing or rabbiting.

MARK J. C. TULLY,

Overseer of Public Watering Places.

Wilcannia, July 14, 1886.

Boonoono Tank.

Extract from Minute Paper by Mr. A. P. Wood, Assistant Engineer.

Subject:—Tanks and Wells.—Boonoono Tank, Booligal and Wilcannia Road.

T. & P.,  
86-917.

Ivanhoe, 11 June, 1886.

The troughing, which is of timber, iron lined, is also satisfactory; but the drift accumulating on the upper side should be cleared away.

The pump, a horse-gear Holman, and in half-an-hour sent fully 4½ inches of water in the tank, which is 25 feet square, this is equal very nearly 3,000 gallons an hour, or a little over six hours to fill the tank. The caretaker informed that he could not fill it in less than two and a half days, and this statement was supported by the local Stock Inspector, who stated that he fully believed this man's report. In this way, without any test to check the accuracy of the caretaker's statements, we have reports made by these officers finding fault with and condemning the work done by this Department.

P.W.P.,  
86-3,081.

The caretaker was working this machinery with dry bearings, and seemed rather surprised when instructed to oil them.

ARTHUR P. WOOD.

The Commissioner for Roads.

Mr. Yeo for report.—H.G., B.C., 22/6/86.

Sir,

Sir,

Stock Office, Ivanhoe, 7 July, 1886.

Referring to your request of 22/6/86 for report on extract from Minute Paper by Mr. A. P. Wood, assistant engineer, on Boonoonna Tank.

The pump, of which I took delivery on 8th March last, was simply tested by running the horse-gear for a few minutes by two men. At that time the caretaker had no horse, consequently it did not throw a full stream of water, but I considered that when it was worked with a horse that it would work all right, and on my periodical visits the service tank has been full, and I have not tested it since, but the caretaker has frequently reported that it takes him nearly two days to fill the service-tank (not as Mr. Wood states, nearly two and a half days) which I told Mr. Wood when he was at Ivanhoe.

With reference to Mr. A. P. Wood's remarks as to reports being made by these officers "finding fault with and condemning the work done by this Department," I presume these reports allude to me; I beg to state, that I have not found fault with or condemned work without reason for it; in fact when I was suggesting some alteration to Mr. Wood and Mr. Stilwell on their last visit, I was told by Mr. Wood that I was not here to criticise, but that I had to take over works as they then stood.

11/6/86.

On my last visit the caretaker was working the pump without oil, which I spoke to him about, and instructed him not to work it again without using plenty of oil.

I have, &amp;c.,

J. YEO,

Overseer, Public Watering Places.

P.W.P.,  
86-3,105.

Extract from 86-2,980, report by Mr. Overseer James Yeo, 11/6/86 on Boonoonna Tank.  
Machinery.—The pump is in working order, but it takes two days to fill the service tank, it pumps the water so slowly.

Remarks.—The pump has not turned out a success; it pumps the water so slowly that if a large quantity of stock came to water in a short time, the pump would not supply them fast enough.

JAMES YEO,

Overseer, Public Watering Places,

Ivanhoe.

This may perhaps be forwarded for the information of the Commissioner and Engineer for Roads and Bridges.—H.G., 19/6/86. The Under Secretary for Mines. Approved.—H.W. The Under Secretary for Works.—H.W., B.C., 23/6/86. Mr. Hiles,—Let me see last report; I think this is an error—that the pump was not properly worked.—W.C.B., 26/6/86. Mr. Hiles,—Extract Mr. Wood's report on this paper, and send to Mines.—W.C.B., 28/6/86. See Mr. A. P. Wood's report of 11th June, 1886, No. P.W.P. 86-3,081c (Tanks and Pumps, 86-917). Under Secretary, for transmission to Mines.—P.W.O., 29/6/86. The Under Secretary for Mines.—J.R., B.C., 29/6/86. Has not a copy of this been sent to Mr. Yeo for report? if so, connect this on return.—H.G. Yes; P.W.P., 86-3,081c, sent to Mr. Yeo, 22/6/86.—S.M.

## XXXVIII.

## Tarella Tank and Menamurtie Well.

Copy original  
forwarded to  
Under Secretary  
Works, 20/4/82.

Report of Mr. Harry Gilliat, Inspector of Public Tanks and Wells, on a plan of water supply for the road from Wilcannia to the Albert Gold-field.

Sir,

Sydney, 17 April, 1882.

In accordance with instructions of the Hon. the Secretary for Mines, I left Sydney on the 6th of March to inspect the road from Wilcannia to the Albert Gold-field. On reaching Wilcannia I found, owing to the protracted drought, there was great difficulty in keeping open mail communication with Milparinka and Tibooburra.

A sum of £85 7s. 9d. was paid by three gentlemen from Adelaide for conveyance by Yancowinna and Lake Yantara to the gold-field, while Cobb & Co.'s agent refused to book more than one passenger, who was taken principally with a view to assist the driver, and each coach was expected to be the last that could get through.

I at once saw Mr. Byrne, Messrs. Cobb & Co.'s local manager, who, without a moment's hesitation, placed a special conveyance at my disposal and offered to accompany me himself. Three days were occupied in preparation in having waterbags made of sufficient size to enable me to carry water for the horses across the dry stages, one of which was reported as of being 80 miles long. I left Wilcannia on the 18th of March, the road passing over low, red, sandy ridges, wooded with mulga scrub, divided by short clay-pans, reaching in 9 miles a small service tank of about 1,500 yards, constructed by District Road Superintendent. The site appeared to have been the best that could have been selected, but cannot be recommended, the greater part of the catchment area being covered with loose sand, absorbs a large quantity of water before it begins to run. This, with the limited rainfall of the district, is a serious consideration, more particularly as the soil is not one that will puddle or harden by stocking. I recommend, therefore, that a well shaft be sunk here for 150 or 200 feet, when, if a sufficient supply is not obtained, the diamond drill or one of the water borers may be used to complete it.

From O'Leary's Tank, as this is the catch, the road becomes heavier, the ridges steeper, and more thickly covered with mulga (portions of this part of the road have been cleared by the Road Superintendent) until the large cane grass swamp, known as the Dry Lake, is reached, 18 miles from Wilcannia. There is a public-house here, kept by a Mr. G. J. Smith, who has three small tanks with a total capacity of 7,670 cubic yards on his selection of 640 acres. Smith has also sunk a well that yields, so he informed me, a good supply of fair stock water.

Mr. Road Superintendent Cambridge appears to have been in error in stating in his printed report of the 30th January, 1881, that the land has been selected here by Smith and Mr. Patterson, of Mena Murtie, and that there is none available for a tank.

There

There is a water reserve of some 3,200 acres, and a capital site for a tank if it is ever required. For the present Smith has gone to a good deal of expense to provide water for the supply of travellers and stock, and I would suggest that so long as his charges are reasonable it appears unnecessary for the Department to incur the expense of a work here.

When it becomes necessary I would advise a well on the reserve.

From the Dry Lake the road continues for 14 miles over the same description of loose sandy ridges, wooded with mulga, with occasional box flats, to a cane grass swamp, called the Beefwood Tree. A service tank of some 1,200 or 1,500 cubic yards has been placed here, but a portion of a catch has been alienated to a selector named Patrick Mather, who has a conditional purchase of 40 acres. Mather has a shaft down 135 feet, and will, I think, get water before he gets much deeper.

I would recommend a well here or a mile further back toward the Dry Lake. If Mather strikes a good supply it may be found more convenient to resume his conditional purchase and well, otherwise a reserve of 640 acres might be notified a mile back, and a shaft put down on one of the box flats.

For 8 miles beyond the Beefwood the road continues over sandy ridges and then over open plains for another mile to Sandy's 100 acres selection and Victoria Hotel. On the Bunker Creek a well has been put down but no supply obtained. It is 3 miles further to the Menamurtie Station, which stands about half a mile back from the Menamurtie Waterhole. This has been dammed, as well as the hole immediately below it, and is as described by Mr. Road Superintendent Cambridge in his report, a very fair one; but that gentleman is, I think, in error in saying that the station is on the only reserve on the Gambool Run, and that Mr. B. Patterson is trying to have it cancelled.

I annex a rough sketch showing the reserves as I am informed they have been notified, and if I am correct the Menamurtie Waterhole is protected on each side by reserve 3. The Wirra Wirra Waterhole is a billabong of the Bunker Creek, about 2 miles distant by reserve 4, while a small waterhole, called the Yallaroo, a mile above the Menamurtie, has had one bank alienated by Martin's conditional purchase of 40 acres, the north bank being protected by reserve 2.

The road shown in my sketch is that in general use, and I consider it the most suitable. Stock passing can water at any of the waterholes in the creek without inconvenience, and without interfering with the lessee's improvements.

A new shaft was sunk at the head station, and I was informed by the manager on my return, that good water had been obtained at 135 feet. With these waterholes in the Bunker Creek, it is not necessary to go to any expense at present; but I would recommend, in addition to the existing reserves, one half a mile wide, extending from Sandy's Victoria Hotel, along the north bank of the Bunker Creek to Patterson's Bunker Creek Hotel, or the Tin Hut, as it is generally called, a distance of about 30 miles.

It is 5 miles from Menamurtie to Tarella, Mr. Quin's Station, over some gravelly plain and low downs. Mr. Quin has several dams along the creek, and the road through his run is excellently watered. His first dam is at the station, the second 7 miles above it, and the third 9 miles higher. Five miles further over fine open salt-bush plains to Patterson's Bunker Creek Hotel, or the Tin Hut, 26 miles from Menamurtie.

Patterson has sunk a small shaft in the bed of the creek, which supplies him with sufficient soakage water for domestic purposes; he has also a trial shaft down 115 feet, but has bottomed on slate and given it up.

From Patterson's the road leaves the Bunker Creek, ascending, after a few miles, low stony ridges of slate and quartz, and bending gradually to the west, to avoid the more broken country to the north; this continues for about 16 miles, till it falls into open cotton-bush plains at Millard's, 18 miles from the Tin Hut.

These ridges form the watershed to a number of small creeks flowing to the north, the north-east, and the south-west.

A flat near the foot of a bald hill, about 11 miles from Patterson's and 16 miles from Quin's last dam, in the Bunker Creek, is, in point of distance, the most suitable; and it is sufficiently probable that water can be obtained by sinking to justify a trial shaft being put down. In the event of this failing there is an excellent site for a tank in the immediate neighbourhood. Millard, 7 miles beyond this site, has a 40-acre conditional purchase and public-house on Turkey Creek. He has put two small tanks on a small creek that joins Turkey Creek, a few hundred yards below the house. On this creek is one of the sites selected for a tank by Mr. Road Superintendent Cambridge; it is an excellent one, but not convenient in distance for an economical division of the supply.

From Millard's the road bends abruptly to the west for 6 miles over fine pebbly downs and plains to Mr. Wren's Kayrunnera Well. As this well has but a limited supply, about 2,500 gallons in the twenty-four hours, nothing is gained by this deviation, and I wish to suggest that the road should go direct from Millard's to the J. K. Waterhole in the Kayrunnera Creek. It can be reached in about 8 miles, and will be shown in the annexed sketch to be shorter and more direct. I have to recommend that a reserve of 640 acres should be notified around this waterhole, which fills readily with a very small rainfall, and that it should be fenced in without delay. From the Kayrunnera Well the present road bends back to the north-west, passing within a short distance of the J. K. Waterhole, and continued over magnificent rolling downs, with Mount Kooningberry on the left to Mordern Station, 22 miles from Millard's, and 14 from the J. K. Waterhole. A considerable distance could be saved if the road was taken direct between the two places.

Messrs. Gayr and Hamilton have a very fine dam at the head station, although with only about two week's water in it at the time I passed for the few stock they have on the station, all their sheep having been sent to the Warrego, and they will be entirely dependent on some springs they have opened out at the foot of Mount Kooningberry, about 7 miles distant, which were yielding about 4,000 gallons per diem.

Leaving Mordern the road follows the Mordern Creek down for about 9 miles to Maxwell's public-house, then for 6 miles over thinly grassed plains with low sand ridges, and then for 15 miles over very heavy loose red sand ridges with clay-pans between. The present road, as shown on the map, keeps too far to the right, and a great saving in labour, as well as distance, would be gained if a line was run between Mordern and Cobham Lake, particularly as the sand hills are lower, less heavy, and indeed run out entirely a few miles to the westward.

The distance between the two places, though called 35 miles, is not more than 30, and if the line I suggest be surveyed would probably be less.

I have to recommend that a shaft be sunk on a large clay-pan about 15 miles from Mordern, or, if the line of the road be straightened, at a point half way.

Cobham Lake was dry, with the exception of a small hole at the mouth of the Evelyn Creek, and this was so foul that cattle or horses that drank it died very shortly. My horses had to be sent 5 miles to the Washpool, a magnificent hole, 300 yards long, and still 5 or 6 feet deep in the Evelyn Creek.

The Messrs. Donnelly have been obliged to remove their cattle from the station, this hole being the only water they have left. Cobb & Co.'s groom was camped here, and several teamsters who had left their loading and brought their horses on here, although there was no feed for miles round, but no one seemed to think it necessary to remove the carcasses of the bogged and drowned cattle (of which I saw at least half a dozen) from the water.

I do not consider that Cobham Lake can be regarded as a source of water supply, as it may remain for long periods unfilled, and when filled it must become brackish after a short time, having no effluent. I have therefore to recommend that a shaft be sunk about a mile south from the public house, and a reserve of 640 acres notified around it, at the same time reserving the northern and eastern shore of the lake, so that the water will be available for stock so long as they can drink it.

From Cobham to the One-tree is 12 miles of steady drag over heavy red sand ridges, and is the worst stage on the road. A service tank has been placed here, but as the One-tree Waterhole in the Evelyn Creek, which is within half a mile, fills, I learn, and during the last twelve months carried about 4,000 head of cattle for quite six months, I would recommend placing two small dams as shown in the annexed sketch, fencing it in and notifying a reserve of 2 square miles around it.

From the One-tree the road follows the west bank of the Evelyn Creek over very fine open plains for 7 miles to a selector named Fleming, who, since my return I learn has got water at 90 feet in his trial shaft.

Crossing here to the east bank the road goes over long rolling downs covered with salt and cotton bush, 10 miles to Milaing, a small shanty on the creek; in 3 miles from there it turns the point of the peak, a part of the range, and, for 5 miles farther, over beautiful downs into Milparinka.

The township has been placed on a low sandstone ridge on the west bank of the Evelyn Creek; it is about 10 miles from the township laid out at Mount Brown, 15 from the camp at the reefs, and 30 from the township at the Granite or Tibooburra.

A Government well has been sunk here to a depth of 160 feet which yields a limited supply of excellent water; this will probably be increased by sinking 15 or 20 feet, and I would recommend its being proceeded with at once. I am unable to see any special advantages that Milparinka possesses to make it probable that it will become the central point of the gold-field, or even the depôt of supplies for large pastoral country around. It has been fairly shown that good water may be obtained in wells at a moderate depth over large part of the surrounding country; and the mining population usually expect the storekeepers to come to them, and are not likely to give their custom to stores at a distance from the mining centre.

The estimated population at Milparinka on the 30th March was under 50; at Mount Brown not more than 25. The greater part of the supplies arriving here for the Reef or the Granite, where the bulk of the population of the field had collected in spite of the difficulty of conveying water for several miles.

I have great hesitation, therefore, in recommending more than a provisional supply at Milparinka, sufficient to meet all probable requirements, until it is more apparent that a permanent population will need to be provided for.

This I may suggest can be done by sinking the Government well until a sufficient supply is obtained, authorizing the construction of a stone supply tank of at least 25,000 gallons, and laying down 350 feet of sheep troughing, and 150 feet for large cattle: a suitable whim with ropes and self-acting buckets have I understand been already authorised. In addition to this I would recommend that the large waterhole in the Evelyn Creek should be securely fenced in from a point opposite the warden's office to another point 4 chains below the sandstone shoulders on each side of the creek below the township. And it will be desirable later to sweep out the main channel, and form the material into a dam below the fence.

The fence should be of seven wires with posts 8 feet apart, and of the best description.

It is 30 miles from Milparinka to the Granite, or Tibooburra, and the road is at present without water. I would recommend a reserve of 640 acres about a mile beyond Mr. Andrew's house on the Waratta Creek; and near where the road crosses a small tributary of the latter is a good position for a well.

At present I do not consider it necessary to make any provisions for water supply at Mount Brown; the miners have a good creek there, and very little labour will enable them to secure sufficient water to test this part of the field. 35 miles north from the Granite is the Wampah Creek, and about a mile within the boundary of New South Wales is the Wampah Waterhole, probably the finest and most permanent in the north-west; it is over a mile in length and reported to be 26 feet deep from its natural water supply, which is within the usual limits of the tropical rains, and its position about 240 miles *via* Wanaaring, on the Paroo to Bourke, where our western railway will shortly be. I think it desirable to call your attention to it, as it appears probable that it will become a central depôt for the distribution of supplies to the great pastoral district surrounding it, and, when the telegraph is extended here, the point to which the stock from the north-west and north will concentrate for instructions as to their market, since from here they can take the most direct routes for Sydney, Melbourne, or Adelaide.

I understand that Mr. Thompson, the last Warden at Milparinka, recommended a village reserve. I would suggest that the necessary reserve should be made to secure the water. I may add that the Queensland Government have had a Customs officer stationed here for sometime past, and that the population at present is estimated at 150 persons.

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Proposed plan of water supply for the road from Wilcannia, on the Darling, to the Albert Gold-field.

THE limited rainfall and the frequent and prolonged droughts common to the north-west portion of the Colony, but particularly to that part lying west of the Darling and Paroo, are strong arguments against the use of tanks for public purposes, while the results obtained in so many recent instances showing that good water in fair supply can be obtained at moderate depth in the proper geological formation, confirm the view that wells afford the most permanent and reliable sources for the water supply of this district.

The

The plan I have the honor to submit for the consideration of the Honorable the Secretary for Mines is accordingly based upon this principle, combined with the utilizing of such natural waterholes as have been proved to fill with a light rainfall, say of 1 inch, and to be of good lasting capacity.

If the traffic over this road should ever become very heavy, provision will have to be made for additional works along the Bunker Creek, which is at present well watered from the 30 miles that the road follows its course, by the Menamurtie Waterhole and the three Tarella dams belonging to Mr. Quin.

A well will also be required at some point near the Mordern head station.

The following works I consider of immediate importance to keep communication open :—

1. A well half-way between Wilcannia and the Dry Lake, with a reserve of 640 acres, say 9 miles from Wilcannia.
2. A well, 13 miles beyond the Dry Lake, on one of the box flats, with a reserve of 640 acres, say 31 miles from Wilcannia.
3. A well at the foot of the Bald Hill, 11 miles from Patterson's Tin Hut on the Bunker Creek, with a reserve of 640 acres, say 70 miles from Wilcannia.
4. To reserve and fence in the J.K. Waterhole in the Kayrunnera Creek, about 8 miles from Millard's public-house, with a reserve of 640 acres, say 96 miles from Wilcannia.
5. A well, about 15 miles beyond Morderns, and about half-way to Cobham Lake, with a reserve of 640 acres, 125 miles from Wilcannia.
6. A well 1 mile south from the public-house at Cobham Lake, with a reserve of 640 acres. Also a half-mile wide reserve along the northern and eastern shore of Cobham Lake, 139 miles from Wilcannia.
7. Reserving, fencing in, and putting two small dams at the One-tree Waterhole in the Evelyn Creek, with a reserve of 2 square miles, commencing at a point 40 chains east of the trees marked A R on the bank of the creek, 151 miles from Wilcannia.
8. Deepening the Government well at Milparinka until a sufficient supply is obtained, constructing whim, stone supply tank of 25,000 gallons; 350 feet of sheep troughing, and 150 feet of cattle troughing; also fencing the waterhole in the Evelyn Creek, 176 miles from Wilcannia.
9. A well, 14 miles beyond Milparinka near the Waratta Creek, with a reserve of 640 acres, 190 miles from Wilcannia.

It appears therefore that in ordinary seasons water can be obtained on the road at the following points :—

1. At Smith's well, Dry Lake	... ..	18 miles.
2. Menamurtie Waterhole, Bunker Creek	... ..	25 "
3. Tarella Dam...	... ..	5 "
4. Tarella Seven-mile Dam	... ..	7 "
5. Tarella Sixteen-mile Dam	... ..	9 "
6. Kayrunnera Well, no supply	... ..	29 "
7. Mordern Dam on purchased land, now empty	... ..	15 "
8. Lake Cobham—dry...	... ..	30 "
9. One-tree Waterhole, Evelyn Creek, dry	... ..	12 "
10. Government Well, Milparinka	... ..	25 "

Leaving the following stages where water can be obtained at present :—

1. The Dry Lake	... ..	18 miles.
2. Menamurtie Waterhole	... ..	25 "
3. Tarella Dam...	... ..	5 "
4. Tarella Seven-mile Dam	... ..	7 "
5. Tarella Sixteen-mile Dam	... ..	9 "
6. Wash-pool, Lake Cobham	... ..	80 "
7. Government Well, Milparinka	... ..	37 "

The following table shows the distances between water, if the plan submitted be carried into effect. Table showing distances between water, under the plan proposed for the supply of the road from Wilcannia to the Albert Gold-field.

		Wilcannia on Darling River.			
		Miles.			
To 1st Well...	... ..	9		At or near O'Leary's Camp.	
Dry Lake	... ..	9-18		Smith's public-house, tanks and wells.	
2nd Well	... ..	13-31		Near the Beefwood Tree.	
Menamurtie Waterhole	... ..	12-43		In the Bunker Creek.	
Tarella Dam	... ..	5-48		do	
Tarella Seven-mile Dam	... ..	7-55		do	
Tarella Sixteen-mile Dam	... ..	9-64		do	
3rd Well	... ..	16-80		On flat, foot of Bald Hill.	
J K Waterhole...	... ..	15-95		In the Kayrunnera Creek.	
Mordern Dam	... ..	14-109		In the Mordern or Yandarlo Creek.	
4th Well	... ..	15-124		Half-way between Mordern & Lake Cobham.	
5th Well	... ..	14-138		1 mile south, Lake Cobham.	
Lake Cobham	... ..	1-139		Northern and eastern shores.	
One-tree Waterhole	... ..	12-151		In the Evelyn Creek.	
Milparinka	... ..	25-176		The Government Well.	
6th Well	... ..	14-190		Half-way between Milparinka and Granite.	

NOTE.—The new works and proposed reserves are underlined with red.

Before closing my report, I beg leave again to urge the importance of watering all travelling stock from troughing, the small extra expense of providing the necessary appliances is more than compensated for in the duration of the water during the first dry season; the objection to pump, water-lift or other machinery on account of their liability to get out of order, can be met by the adoption of a simple double whip, this can be rigged by any bushman, it is impossible for it to get out of order, so that it cannot be repaired by a common labourer, and where water does not require to be lifted over 100 feet, it is more effective than a whim.

I desire, therefore, to recommend that at all the waterholes that are fenced in and reserved the erection of a platform and double whip, a small supply tank and 400 feet of troughing.

The wells, I assume, will have whins, ropes, self-acting buckets, supply tanks, and troughing included in the contract.

In conclusion, I take the liberty of calling the attention of the Honorable the Secretary for Mines to the great courtesy shown by Mr. Byrne, the Resident Manager of Messrs. Cobb & Co. at Wilcannia: this gentleman not only placed a buggy and horses, free of charge, at my disposal, but volunteered to accompany me, on what he was well aware would be a difficult and fatiguing journey. I may add that had I been compelled to travel by coach it would have been impossible for me to have made the careful examination of the road, that by this means I have been enabled to do.

I have, &c.,

HARRY GILLIAT,

Inspector of Public Tanks and Wells.

Sydney, 17 April, 1882.  
The Chief Inspector of Stock.

Minister for Mines *re* Wilcannia to Albert Gold-field.

Department of Mines, Sydney.

Tanks&Wells 82-268. REFERRING to the report of the Inspector of Public Tanks and Wells on a plan of water supply for the road from Wilcannia to the Albert Gold-field, I now direct—

1. That the wells and tanks there referred to as necessary, and underlined in red ink on the table, showing distances between water supplies on above road, be enumerated in a minute to be prepared for the consideration of my Honorable colleague, the Secretary for Public Works, with a request that they be constructed as described, without delay. I am so impressed with the urgency of this matter that I am of opinion that, if they cannot be carried out at once under the provision made under the vote for this purpose granted to the Works Department, this Department, although its vote is but small, and high exhausted by this undertaking, ought at once to provide them.

2. The fencing round waterholes and tanks and wells already in use ought (with the precaution referred to in a minute prepared by the Chief Inspector of Stock, which I have approved), at once to be provided by this Department.

3. The reserves referred to in report ought to be made at once, especially that referred to at page 13, at Waupah Creek, and the necessary steps taken to bring this subject under the notice of my Honorable colleague the Secretary for Lands.

A.R., 19/4/82.

The Chief Inspector of Stock.—H.W., B.C., 19/4/82. Extracts have been made from this minute and Mr. Gilliat's report, so far as action is called for in this Branch and in the Department of Lands, and the papers might perhaps now be forwarded to the Department of Public Works.—A.B., 20/4/82. The Under Secretary for Mines. Yes.—G.E.H. (*pro* Under Secretary), 20/4/82. The Under Secretary for Public Works.—G.E.H. (*pro* Under Secretary), 20/4/82. Roads.—J.R., B.C., 20/4/82. Mr. Bennett will have this carried out at once.—J.L., 20, 21/4/82. Received by me on the 22nd.—W.C.B., 22/4/82.

Copies of Mr. Gilliat's report retained, as it is improbable all the works proposed to be carried out can be done before the end of the year. I think the works proposed on this line should be at once commenced by this Department. I have therefore instructed Mr. Cambridge to proceed at once to Wilcannia, and have forwarded him instructions, plans, &c., to that place, so that tenders may be at once invited.—W.C.B., 28/4/82. Under Secretary, B.C.

Copy of Extract from Mr. Gilliat's Minute on 82-828, of 22nd November, 1882.

\* \* \* \* \*

Tanks&Wells, 82-828. I would call attention to Mr. King's report, which appears to indicate that the recommendations of this Department are not being carried out, but that the Works Department are putting down tanks.

H.G., 22/11/82.

The papers might perhaps be forwarded to the Department of Works, with the view to ascertain what is being done in providing water for the portion of the road here referred to.—A.B., 28/11/82. The Under Secretary for Mines. Submitted.—H.W., 29/11/82. Approved.—A.R., 1/12/82. The Under Secretary Public Works.—H.W., B.C.

Memo. by Mr. A. P. Wood, Assistant Engineer for Roads and Bridges, to The Commissioner for Roads.

Tanks, &c., Wilcannia to Mount Brown.

Tanks&Wells, 83-72. THE following works are let and in progress:—

1. Well at Mulga Valley or O'Leary's.
2. Tank at Beefwood or Mathers.
3. The Peak or Bald Hill Tank.
4. J. K. Waterhole enlarging hole.\*
5. Tank at Maxwell's.
6. Tank (small) 7 miles south of Lake Cobham.
7. One-tree.
8. Enlarging creek bed, Milparinka.

\* See telegram attached.

These works were let under considerable difficulties, but the recent rains will enable them to be completed more rapidly than was anticipated.

I see by Mr. Gilliat's minute that he is under the impression that the recommendations made by his Department have not received due consideration at our hands, but it will be found that the works, with the exception of one at Lake Cobham, have been carried out at sites recommended by himself. The alteration in the character of the work was made after trial shafts had been sunk and wells considered inadvisable.

As

As to a certain extent bearing on this, I am glad to see that Mr. Gilliat, in a previous minute attached to these papers, takes the same views as to division of control that I have always held, and more firmly since my visit to the tank districts. I quite concur with Mr. Gilliat that as the construction of these works is in our hands, and as division of control is objectionable, the maintenance of these works should also be vested in this Department. Were this the case I am sure that many of the evils that now characterize the system would be eliminated.

ARTHUR P. WOOD, 9/12/82.

Under Secretary.—W.C.B., B.C., 9/12/82. Forward to Under Secretary for Mines.—J.R., B.C., 4/1/83.

The Department of Works might perhaps be invited to supply the same information as that here given with respect to the works on the Wilcannia to Mount Brown road, with respect to the other new works undertaken and proposed to be undertaken on the different lines of road.—A.B., 11/1/83. The Under Secretary for Mines.

Submitted.—H.W., 12/1/83. Approved.—J. P. ABBOTT, 15/1/83. The Under Secretary for Public Works for information, 17/1/83.

Memo. of Inspector of Public Tanks and Wells extracted from paper (Tanks and Wells, 83-73) relative to Mr. A. P. Wood's minute of 9/12/82 in reply to extract numbered as above, sent B.C. to Mr. Gilliat by Chief Inspector of Stock on 27/1/83.

I am not aware that this Department has been informed of the works to be constructed on this road. Wells were recommended for the reasons fully given in report, and the soundness of that recommendation has been confirmed by the number of successful shafts put down by private enterprise since it was written. With regard to the latter paragraph, as I attribute the evils of divided control to the errors in construction in the first instance, I cannot expect the writer to agree with my view.—H.G., B.C., 31/7/83.

Submitted.—A.B., 2/8/83. The Under Secretary for Mines.

A comparison with the report of Mr. Gilliat, pages 17, 18, 19, 20, and his recommendations will show the statement of Mr. A. P. Wood to be incorrect, and from Mr. Tully's telegram the work at the J.K., stated to be let and in progress, was not undertaken by the Works Department. See 85-3,630 herewith.

Telegram from Mr. M. J. C. Tully, Overseer of Public Watering Places, Wilcannia, to Mr. J. W. Boulton, Inspector of Public Watering Places, Mines Department.

Wilcannia, 26 November, 1887.

AM informed small tank was made at fence 8 miles from Cobham, and two trial wells between that place and Cobham. Milparinka Waterhole was enlarged and small dam made. J.K., nothing done except by owners of Yancannia Station. This is from reliable information not from personal knowledge.

M. J. C. TULLY.

Department of Mines, Sydney, 10 May, 1884.

I wish Mr. Gilliat to inform me whether it is true, as stated in the *Sydney Morning Herald* of the 10th instant, that a Government tank has been constructed on Tarella Station, close to the Coonawatta Dam, on the stock route, although the latter dam had been used by travellers and drovers for a long time, and was available for the general public and abundance of water; and, if so, why was the tank constructed?

J. P. ABBOTT.

Tanks & Wells, 84-543.

The extract from *Sydney Morning Herald*. See Peri Springs Tank case

Minute by Chief Inspector of Public Watering Places to The Under Secretary for Mines.

Department of Mines, Stock Branch, Sydney, 20 May, 1884.

Subject:—The Public Well, near the Menamurtie Waterhole, and the Public Tank, close to the Coonawatta Dam, Tarella Station.

In reply to the minutes of the Hon. the Secretary for Mines, Tanks and Wells 541 and 543, respecting the sinking of a public well within a mile or two of permanent water in the Menamurtie Waterhole, and the construction of a public tank close to the Coonawatta Dam, on the Tarella Station, I have to say, although not verified by personal inspection, I understand the statement of the correspondent of the *Sydney Morning Herald* of the 10th instant is correct.

Tanks & Wells, 84-582.

On the 6th of March, 1882, I received instructions from the Secretary for Mines to inspect the road between Wilcannia and the Albert Gold-field, and to report upon a plan of water supply. On the 17th of April the report was submitted, and from it I extract the following as bearing directly upon the question asked by the Hon. the Secretary for Mines:—

Copy herewith.

“With these waterholes in the Bunker Creek, the Menamurtie, the Wirra Wirra, and the Yallaroo, it is not necessary to go to any expense at present, but I would recommend in addition to the existing reserves one half a mile extending from Sanders' Victoria Hotel, along the north bank of the Bunker Creek to Patterson's Bunker Creek Hotel, or the Tin Hat, as it is generally called, a distance of about 30 miles. \* \* \* Mr. Quin has several dams along the creek, and the road through his run is excellently watered. His first dam is at the station, the second 7 miles above it, the third 9 miles higher. \* \* \* \* \*

“If the traffic over this road should ever become very heavy, provision will have to be made for additional works along the Bunker Creek, which is at present well watered for the 30 miles that the road follows its course by the Menamurtie Waterhole and the three Tarella dams belonging to Mr. Quin. \* \* \* \* \*

“Table

"Table showing distances between water under plan proposed for the supply of the road from Wilcannia to the Albert Gold-field.

Wilcannia, on the Darling --

	Miles.	
To first Well ... ..	9	
Dry Lake ... ..	9-18	Smith's public-house, tanks and well.
Second Well ... ..	13-31	Near the Beefwood Tree.
Menamurtie Waterhole ...	12-43	In the Bunker Creek.
Tarella Dam ... ..	5-48	"
Tarella, Seven-mile Dam...	7-55	"
Tarella, Sixteen-mile Dam	9-64	"
Third Well ... ..	16-80	On flat, foot of Bald Hill."
*   *   *   *   *   *   *   *		

The plan here submitted for approval placed the No. 2 well 12 miles from the Menamurtie Water-hole, and the No. 3 well 16 miles beyond the third Tarella Dam, and was understood to be forwarded for the information of the Department of Public Works.

I am unable to say why these alterations of sites selected by this Department were made, and I am not aware that such changes were ever referred for the consideration and acceptance of the Hon. the Secretary for Mines.

HARRY GILLIAT.

Submitted.—H.W., 19/5/84. Forwarded for the information of Mr. Wright. I wish he would cause a searching enquiry to be made into this matter.—J. P. ABBOTT, 20/5/84. The Under Secretary for Works.—H.W., B.C., 20/5/84. Roads.—J.R., B.C., 27/5/84.

Minute by Mr. A. P. Wood to the Commissioner for Roads.

Wells and Tanks, Wilcannia to Mount Brown. Reply to the statements made by the *Herald* correspondent.

Sydney, 3 June, 1884.

Tanks and Punt's, 84-804.

I have to submit the following report on the statements made in the *Sydney Morning Herald* of the 10th ultimo, regarding certain wells and tanks in the Wilcannia District. These statements include four different works, as under:—

1. Menamurtie Well.
2. Tarella Tank.
3. Peri Springs Tank.
4. Mount Manara Well.

I will deal with them in the order in which they stand.

The Menamurtie Waterhole was never dry throughout the last drought, nor, I am informed, before the dam was constructed in the previous drought.—H. G.

1. Menamurtie Well.—This work is stated to be within a few miles of two permanent water-holes, the inference being that the assumed permanent water is at the command of the travelling public, and the work being carried out by this Department a waste of public money. In reply to this I may state that there are no permanent water-holes in the Bunker Creek; that, in a natural state, this creek would in an ordinary season be dry from end to end; that the water alluded to by the *Herald* correspondent has been artificially conserved by the lessee of the run; that, though on reserves, the improvements belong to the squatter, as the reservation is from sale only, not from lease; that, though the present lessee may not object to the travelling public using his conserved water at the present time, there is no guarantee that, in the event of there being a large stock traffic, the same tolerance would be shown, or that, in the event of the run changing hands, the new owners would permit stock to use the water, for it must be remembered that travelling stock watering at private improvements might, and often would, materially interfere with station stock.

2. Tarella Tank.—The above remarks apply to this case also, the conditions being the same.

3. Peri Springs Tank.—This work was constructed before I had any connection with this branch, and I have never seen the site, but I know that it was approved by the Crown Lands Commissioner, and by those who petitioned for the works on the Paroo Road.

4. Mount Manara Well.—This was one of the first works constructed by me in this district, and the yield, though of good quality, was of limited quantity, the test only giving 400 gallons an hour. This deficiency was met by the construction of a chamber in the bottom of the shaft, and by an extra large service tank on the surface. This work, with all others constructed by us, was handed over to the "Mines," and, as was the case with several other similar works, was eventually condemned by that Department, after having been maintained and repaired by them for some years. The works were handed over in good order, and this Department is not responsible for the present state of the well. This question has not been dealt with in Mr. Gilliat's memo., but as it is mentioned by the *Herald's* correspondent, I have pointed out the real facts of the case.

In regard to the Menamurtie Well and the Tarella Tank, for which this Department is blamed, I may state that if such blame has any lodgment it must be on my shoulders. I was sent up to that district with full power to select sites and let all necessary works. I went over the road in company with Mr. Barlow, the District Surveyor, and Mr. Cambridge, the Road Superintendent, and the action taken by me was supported by their opinions. I acted at the time in the interests of the public and the Department I represented, and, notwithstanding the adverse opinions that have been expressed, I have no reason to alter my views, and still think that the two works referred to and as yet unfinished, though within a few miles of station improvements, are necessary in the public interest. I am well aware that my recommendations were not referred to the "Mines" for the approval of its officers; such a course would have entirely negatived the object of my special trip, by causing endless delay in settling the question; nor was such a course necessary, as the powers given me were sanctioned by the then Minister for Works.

I may add that I gave Mr. Quin, M.L.A., a list of the works let during that visit, and that the people in that district, through that gentleman, expressed their satisfaction at the course adopted by me at the time.

ARTHUR P. WOOD.  
Minute

## Minute by The Commissioner for Roads to The Secretary for Public Works.

Sydney, 8 August, 1884.

In compliance with instructions to report on the strictures contained in a paragraph of letter from (no name) in the *Herald* of 10th May, on the operations of this Department in the dry country, I think it necessary to deal with the paragraph in its entirety.

Tanks & Wells,  
84-1,026.

It begins by pointing out the desirability of a Local Government Act. As I have long advocated such a course, I append two paragraphs from reports of mine, dated 31st March, 1865, and 9th February, 1871, respectively.

It is generally represented that the Department is opposed to such a measure, the extracts appended show on the contrary that I have always advocated it, but from reasons different from those generally put forward, as I cannot admit that the work would be better done, as throughout the Colony where Municipalities do exist it will almost, without exception, be found that the best roads and bridges therein have been made under this Department, either prior or subsequent to the formation of the Municipality.

As to not giving consideration to the wishes of those on the spot, Mr. Cambridge reports that the sites were recommended by the oldest residents, and Mr. Quin's letter of approval was an evidence that Mr. Wood gave satisfaction.

Note.—See a letter from Mr. Quin, dated 15 Dec., 1887 (87-4,322).—H.G.

The first specific accusation in the paragraph is with reference to the Peri Tank. The Minister for Mines asks that the Minister for Works will ascertain who is responsible for this gross waste of public money, and the cost or amount so wasted. The amount is £1,500.

The tanks in this Paroo route were demanded in very strong terms by the local press, by a petition forwarded and urged by the then member for the district, Mr. Colin Simpson, and by letters from Mr. W. Brown, of Wilcannia. Mr. Cambridge, Road Superintendent at Hay, was directed to report (I attach copy of his report with parts underlined), but not satisfied with Mr. Cambridge's examination, as he was then new to locality, and liable to be misled by interested persons, I requested that the opinion of the gentleman whom I considered, and had a right to be, the best and most disinterested authority, Mr. Woore, the then Commissioner for Crown Lands, should be obtained, and asked Mr. Cambridge to confer with him. His letter is attached.

The waterholes referred to by Mr. Gilliat either have been made since, or it was considered that they were private property, and not available for public purposes, as Mr. Brown distinctly states there was not a drop of water on the line in dry seasons, and that great losses of travelling stock had been sustained. I am not sufficiently informed on this point, but I will endeavour to ascertain.

It is no doubt extremely easy to find these faults now that the country is known and of easy access, water conserved, and communication facilitated. When the inquiry as to works was being made the course of post was at least six weeks, and there was no railway nearer than Junee. It should not be forgotten that tenders were invited for the construction of these works in the *Gazette* and local papers for some weeks. No one during that time objected, and excessive pressure was put on the Department to get the work executed during the season when it was alone possible.

If there has been a gross waste of public money, which, notwithstanding Mr. Gilliat's assertions, I doubt very much, I alone am responsible if it is considered I could have done more and laid the Department open to accusations of delay, and accountable for loss of stock.

Mr. Wood had nothing whatever to do with these Paroo works, but that the springs were not overlooked is evident from the sketch plans sent by Mr. Cambridge.

I have not had time to get detailed information about the relative positions of other works and respecting adjacent waters, but Mr. Woore's approval applies to all on this line.

I need not further dwell on accusations made after seven years, when the whole circumstances of the case have changed, but in the interests of the future I think that Mr. Gilliat's recommendation as to further expenditure on these works should be considered in the light of Mr. Higman's recommendation of 26th November, 1878, as to the probability of this route being superseded when rail opens to Bourke. I will, therefore, not proceed with the alterations and additions suggested by Mr. Gilliat until further instructed.

At most the Copago Tank or well there, which I believe would be most advisable, and at the Peri Mr. Hanna reports that the slopes are easy and the ground firm, and stock can be watered with safety and despatch, thus avoiding expense which the erecting of pumping gear would involve. As regards Mount Brown road, and Mr. Abbott's memo. on Mr. Gilliat's paper requesting that searching inquiry be made into the matter, I append Mr. Wood's paper.

There were a number of communications from the district urging on the construction of some sort of water supply about the commencement of 1881, and at the urgent and pressing request of those interested, Mr. Wood was despatched to let such works, and take such steps as seemed to him necessary for the permanent opening of a route to a large gold-field, which was then pronounced to have been proved. Mr. Wood's mission gave great satisfaction at the time, and I might say an unparalleled letter was written by Mr. Quin, M.P., expressing approval of the action taken.

W. C. BENNETT.

## Extract from Commissioner for Roads' Report, dated 31st March, 1865.

## Future Management.

Recommending local management.—Having endeavoured to set before the Honorable Secretary for Public Works, a full statement of the past working of the Department, it is now my duty to submit my views as to the future management of the roads of the Colony.

I am decidedly of opinion that the time has now arrived when, in the more settled parts of the Colony, either by the extension of the Municipalities Act, the consolidation of Municipalities, or some new legislation, analogous to the District Road Boards' Act of Victoria, the management and cost of local roads in the first instance, and ultimately of the main roads, should be transferred to local bodies.

The anomaly existing in this Colony, of the main trunk roads most used being in the most thinly settled portions of the Colony, will be obviated by the railway extensions to Mount Victoria and Berrima; beyond those points, within the settled districts, and in the County of Cumberland, with few exceptions, where roads are required, sufficient population exists to create a local interest in their construction and maintenance, and to initiate a system of local taxation for such purposes.

Main

Main thoroughfares not to be transferred for a time.—Provision might be made for the partial endowment of those bodies at first, but I would not recommend the transfer to their charge of the main thoroughfares to the interior, until the system had got into working order on the roads of local importance (say) for three years; and, when transferred, the efficient maintenance of the main roads should be made imperative.

Roads parallel to railways to be transferred at once.—The portions of the main roads within the railway termini should however be transferred to the charge of the local bodies in the first instance, and as soon as possible.

It would be beyond my province to point out how such an Act should be framed in detail; but I think the District Road Act in Victoria, and a modification of the "Irish Grand Jury Act" would be the best models for legislation.

It would be for the Parliament to determine whether such local taxation should comprise provision for gaols, court-houses, or other public works, as in Ireland; but there are two provisions in the Irish Act which, I think, should certainly be contained in any Act for this purpose in New South Wales.

Compulsory repair.—One, for the compulsory repair by Government, and recovery of cost of same from local body, of any important postal road allowed to get out of order by them.

Qualified surveyor to be appointed.—The other, that a properly qualified professional officer or surveyor should be appointed for each Board or Trust, who should have had a regular professional training, and have passed a professional examination before a Board in Sydney, to be composed of civil engineers of standing, either in or out of the Government service. The districts should be sufficiently large to admit of the adequate remuneration of such an officer, the engagement of whom I consider indispensable to the success of the measure.

Roads in thinly populated districts.—With reference to the roads beyond the more settled districts, or roads of more than local importance, the "Main Roads Act" might be amended, as recommended by "Joint Report on Transfer of Minor Roads," so as to admit of the Government proclaiming any road a main road.

I more particularly refer to the roads to the frontier districts, communication with which should be facilitated as much as possible, to prevent trade gravitating to the other Colonies, namely:—

Roads of Colonial importance.—The road from Grafton to the Tableland, from south coast to Tableland, from Murrurundi, *via* Breeza and Pocataroo, to the frontier of Queensland, from Molong or Wellington to Fort Bourke, from Wagga Wagga, *via* Deniliquin, Battranald, and Wentworth, to the South Australian frontier.

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Extract from Commissioner for Roads Report, dated 9th February, 1871.

\* \* \* \* \*  
 In conclusion I feel it my duty again to repeat my recommendation of 1865,—That some local administration, similar to the Irish Grand Jury system, be at once adopted, with the modifications then recommended by me. Each day strengthens my conviction of this point, and I cannot too strongly urge its adoption, for every reason. The census about to be taken might be made a means of partially introducing this system, by refusing to expend money on such works in any district when the population exceeded a certain number per square mile, unless through the medium of a Municipality.

Pending the introduction of such system, it is absolutely necessary that the Act amending the Main Roads Act should be law.

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Forward to Mines. The Under Secretary for Mines.—J.R., B.C., 11/8/84. Submitted.—A.B., 13/8/84. The Under Secretary for Mines. Submitted. Unless it is thought the discussion should not be prolonged, perhaps the papers should be referred to Mr. Gilliat.—H.W., 15/8/84. Let this discussion end so far as this Department is concerned.—J. P. ABBOTT, 15/8/84. Mr. Gilliat.—A.B., 15/8/84. Seen.—H.G., 16/8/84.

Sir,

Wilcannia, 3 October, 1885.

Tanks & Wells,  
85-3,630.

I have the honor to forward with this, my report on the public watering places now in course of construction on the road from Wilcannia to Tibooburra.

I may mention that Waratta Tank, Maxwell's Tank, Milparinka Well, and Menamurtie should be completed very soon.

MARK J. C. TULLY.

The Chief Inspector of Stock, Sydney.

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Report by Overseer Tully on the Public Watering Places in course of construction, road from Wilcannia to Tibooburra, travelling stock reserves 500 and 558.

Mulga Valley Well.—Is about 80 feet deep; has been abandoned for a considerable time, but contract is let for cleaning out and timbering.

Dry Lake Tank.—Is 15 feet under water.

Beefwood Well.—Contract for boring to 300 feet is let; now down about 170 feet; had some delay through piping (tubing) giving way, which had to be taken out.

Menamurtie Well.—Is down about 167 feet, on good water. The whim is being erected, and sinking will go on again till sufficient supply is reached.

Tarella Tank.—Contractor is now at work; down about 12 feet.

Peak Tank (Kandie).—Got filled with water when 8 feet deep. Fresh contract has been made for pumping out water and finishing.

J. K. Well.—Is about 200 feet deep; contractor had to erect temporary whim, and is now at work again; no water. Maxwell's

Maxwell's Tank (Yandenberg).—Was nearly completed when I visited it, but the rain of the 13th September put 2 feet of water in it, which has delayed operations a little.

Cobham Lake Tank.—Many feet under water.

One-tree Tank.—This is a small open tank of perhaps 2,000 yards, and nothing more is likely to be done here, as from Cobham to Coally Dam will be the regular stages.

Coally Dam.—Was washed away soon after being finished (or perhaps it was hardly finished) by the floods of the 27th January. Fresh tenders are being called for.

Milparinka Well.—Struck good water a day or two before my visit at 110 feet. Contract for whom is let, and sinking will be continued till a sufficient supply is reached.

Waratta Tank.—Nearly finished, and a credit to the contractor.

Tibooburra Well.—A small supply of good water at 160 feet; tender for whom called for (207 miles from Wilcannia).

Wilcannia, 2nd October, 1885.

M. J. C. TULLY.

Overseer Mark J. C. Tully to The Chief Inspector of Public Watering Places, reporting on well recently constructed at Menamurtie.—Road—from Wilcannia to Tibooburra; distance from and name of post town—40 miles from Wilcannia; reserve (nature, No., and date)—Not on any reserve; is off T.S.R. 500, and only part of the T.L. is on W.R. 365, 4th August, 1879; parish—Menamurtie; county—Yungnulgra.

P.W.P.  
87-922.

Questions:—

1. Name of road and length? T.S.R. 500, road from Wilcannia to the Queensland border at Yalpunga, *via* Milparinka and Tibooburra.
2. If near a town give estimate of population that may be dependent on the watering place? Not near any town, only a road side public-house, and a small selection near, about 1 mile distant; say, twenty people.
3. Estimate of traffic in stock and teams? 150,000 sheep annually, 10,000 cattle annually, 250 teams annually, 4 coaches per week. Note.—The opening of railway communication with Adelaide from Silverton will divert much of this traffic.
4. The traffic; by what roads; the destination? From Wilcannia, to and from South-west Queensland. From Silverton up the Paroo, and *vice versa*; all the goods required by stations and towns in the north-west, and all wool for shipment at Wilcannia. Queensland stock for Melbourne, and all stock to and from the stations in the north-west, also stock from the Paroo to Adelaide by proposed T.S.R., which will junction with T.S.R. 500 here. Coach to Mount Gipps *via* Gnalta branches off here, and coaches twice a week to and from Tibooburra *via* Milparinka and Yendarlo.
5. Its distance from nearest watering place, or permanent natural water on each side? From Beefwood Well, unfinished, on the south side 9 miles. From Tarella Tank on the north 13 miles. Tarella Station Dam, which is on a reserve, and in most seasons is available, is only 5 miles north-west of this well, and stock will always avail themselves of it.

*If a well.*

6. Depth of well; depth and quality of water? 183 feet 6 inches deep, water rises to within about 60 feet of the surface. Is in my opinion quite fit for domestic use, although a little brackish; gives a supply of 700 gallons per hour.

*Watering appliances.*

7. Full description of watering appliances and delivery in gallons per hour? An ordinary horse whim of excellent construction, and very strong drum 8 feet in diameter. Steel wire rope galvanized, galvanized iron self-acting buckets, each 45 gallons capacity. Delivery about 1,000 gallons per hour.
8. Supply tank; size, construction, capacity in gallons? 54 feet long, 15 feet wide, and 5 feet deep, of sawn gum timber, and galvanized iron clouted on to the timbers, very substantial, and perfectly water-tight.
9. Troughing, length, width, depth, material, and position? 200 feet long, 3 feet 6 inches wide at top, 10 inches deep, of best steel, placed on heavy gum sleepers in a direct line with a tank, and has a protecting top-rail.

*Fencing.*

10. Area enclosed; description; distance between posts; number and gauge of wires? No fencing erected; should be done as soon as possible, as this will be the only inducement for a tenant to lease the work.

*General.*

11. Probabilities of obtaining tenant and estimated rent? If the T.L. were enclosed a tenant would most probably be got, but at a low rent, as I do not anticipate a large revenue from this well except in very dry times.
12. Area, position, and quality of land included or to be included in tenant's lease. Area notified for public watering place? Area 445½ acres of excellent grazing land for T.L., and 640 acres for public watering place, also excellent grazing land.
13. Carctaker's cottage and description? None erected.

*General remarks.*

This well being only 9 miles from the Beefwood Well now in course of construction, and 5 miles from a dam near Tarella will not be of so much service to the public as the Beefwood Well will be, and it (the Beefwood) should be pushed on, as it is in a dry scrubby region which holds no water, even in crab-holes after rain.

MARK J. C. TULLY,

Overseer of Public Watering Places.

31st December, 1886.

The Chief Inspector of Public Watering Places, Sydney.

Mr. Tully.—What about the Menamurtie Waterhole?—H.G., 20/4/87. I did not take it into account, as it is only a mile from the surveyed road, and is hemmed in by C.P. and station fences.—M.J.C.T., 28/4/87.

Memo.

Memo. by The Honorable the Secretary for Mines.

P.W.P.,  
87-6,787.

I WOULD like to know what is the receipt and expenditure in connection with Tarella Tank, on Mr. Quin's run, and also the same with reference to Victoria Well. F.A., 13/12/87.

Minute by The Chief Inspector of Public Watering Places to The Under Secretary for Mines.

*Subject*:—Tarella Tank and Menamurtie Well.

Department of Mines, Public Watering Places, Sydney, 15 December, 1887.

P.W.P.,  
87-6,854.

WITH respect to the minute of the Honorable the Secretary for Mines referring to the Tarella Tank and Menamurtie Well, both works are upon Bunker Creek, on the road from Wilcannia to Mount Brown and Milparinka.

In my report of the 17th April, 1882, recommending a scheme of water supply for this road, I gave the stages and proposed sites for nine new works, specially referring to the Bunker Creek, as being sufficiently watered by the unfailing water-hole at Menamurtie, and by Mr. Quin's Tarella Dams (Coonawater, Goondamurtee, and White Cliff), and therefore, that portion of the road would require no further provision.

On the 19th April, 1882, this report was forwarded by the Minister for Mines requesting that the works enumerated might be constructed as early as possible by the Works Department.

On the 20th May, 1884, a paper in *The Sydney Morning Herald* stated the Menamurtie Well to be close to permanent water, and the Tarella Tank to be within a few miles on either side of large dams in the Brunker Creek.

Reporting on these statements under instructions from the Honorable J. P. Abbott, then Minister for Mines, I quoted from my original report showing what my recommendations had been, and that I was unable to say why the alterations were made in the sites selected by this Department, and that such alterations had not been referred to us for consideration.

This report Mr. Abbott minuted to the Secretary for Works, urging that a searching inquiry should be made.

Mr. A. P. Wood replies, 3rd June, 1884, that the Menamurtie waterhole is not permanent, that the improvements to it belong to the Crown tenant, and that complications between the public and pastoral tenant would probably arise if the well was not there.

With respect to the Tarella Tank, Mr. Wood states that the same remarks apply.

It may be observed the improvements here referred to were made on reserves, and were open to the public use.

Mr. Wood continues that his selection of sites was supported by District Surveyor Barlow and Road Superintendent Cambridge, and that he adheres to his views.

Mr. W. C. Bennett follows in a long minute, which concludes by stating that "Mr. Wood's mission gave great satisfaction at the time, and I might say an unparalleled letter was written by Mr. Quin, M.P., expressing approval of the action taken."

Upon this Mr. Abbott directed, 5/8/82, that so far as this Department was concerned the matter should end. Despite the urgency, that was one of the reasons why the alterations recommended by Mr. Wood were not referred to this Department.

The Menamurtie Well was not handed over as completed until the 23rd of December, 1886, and the Tarella Tank, although we were informed, 84-960, that it would be ready early in 1884, has not yet been transferred.

At the Menamurtie Well a caretaker was placed to protect the head works, and it is not improbable that, although entirely unnecessary, it will be used in seasons of drought by drovers on account of its neighbourhood to the public house. A T.L. has been surveyed there as the best chance of obtaining a tenant when it was fenced.

No stronger case could perhaps be advanced of the urgency of placing the construction and maintenance of these works under one supervision; and, in submitting this report to the Honorable the Secretary for Mines, I may remind him that action on the part of this Department in dealing with many cases requiring correction has been practically suspended during the last seven or eight months, pending the settlement of the question between the two Departments.

HARRY GILLIAT.

Expenditure at Menamurtie Well to November 30th, 1887.

Caretaker's wages	...	...	...	...	...	£146	0	0
Tools	...	...	...	...	...	8	6	6
Inspecting allowance to Overseers	...	...	...	...	...	1	10	0
						£155	16	6

Submitted.—H.W., 23/12/87.

Seen. This case should be referred to the Commission appointed to inquire into this question, more especially as Mr. Quin has told me that the statements that he approved of and recommended these works are wholly incorrect, and his letter of 15/12/87 describes such a statement as absurd.—F.A., 23/12/87.

MEMO.—

I believe that previously to 8th August, 1884, the date of Mr. Bennett's memo., in which he states that an unparalleled letter approving of the action taken had been received from Mr. Quin, M.P., Mr. Quin had interviewed him and protested against the construction of the Tarella Tank, and in consequence of which a telegram was sent to Mr. Hanna, either late in 1883 or early in 1884, to stop the work. It was, however found, that as compensation in excess of the amount required to complete the tank would have to be paid the work was allowed to proceed. I may mention that the tank, as originally pegged out, had its inlet down stream, and Davis, the contractor, had to wait until this was corrected before commencing work. This can be corroborated by both Mr. Quin and Mr. Tully, the then Manager. I refer to these matters, since I was at that time overseer of Tarella Station, and acquainted with all that was said to have been done.

JAMES W. BOULTBEE,

20/12/87.

Letter

Letter from Edward Quin, Esq., to The Hon. the Secretary for Mines.

Dear Sir,

Reform Club, Sydney, 15 December, 1887.

I have been told that it has been said that I approved of the construction of the Tarella Tank and the Victoria Well.

P.W.P.,  
87-6,822.

As a matter of fact I drew the attention of Mr. Bennett to the absurdity of this tank, but in justice to that gentleman I must say it had proceeded considerably before his attention was drawn to it. The fault does not lie with Mr. Bennett, but with the officer or officers who recommended this work, which I am sure must remain a most unproductive and costly work to the State.

The Hon. F. Abigail, Esq., M.P., Secretary for Mines.

I have, &c.,  
EDWARD QUIN.

### XXXIX.

#### Papers, re Appliances, &c.

See annual report of Inspector of Tanks and Wells, 1882.

Steel and iron supply-tanks.—Iron troughing for sheep and cattle.

MEMO.—

In submitting the accompanying plans and specification of steel and iron supply-tanks, iron sheep and cattle troughing, I beg leave to offer a few remarks upon them for the consideration of the Honorable the Secretary for Mines. Having been always strongly of opinion that the use of supply-tanks and troughing would in time be generally adopted at the Government tanks and wells, I have for a considerable period given careful consideration to the different methods in use, with the purpose of ascertaining the most suitable form, and also to learn if an improvement could be made in the material and a reduction in the cost. Under instructions from me, Messrs. D. & W. Robertson, of Sydney, have prepared the accompanying plan and specification.

Tanks & Wells,  
82-410.

The price at which the tanks of 20,000 gallons capacity can be delivered in Sydney, in lengths ready for erection, will, I think, be found to admit of their being conveyed to the point required at a lower rate than in any other material (except where stone is abundant), with a certainty of having a tank of the most suitable description, of the most durable nature, without being dependent on the more or less unskilled labour and imperfect material liable to be obtained at places so remote. The same remarks it is considered will apply with equal force to the proposed form of troughing.

£90 to £100  
sterling.

It is intended to bolt together the plates of the tanks and the sections of the troughs, lining the joints with felt soaked in boiled coal, tar, or, if more convenient, the joints may be cemented.

The tank is to rest on log trestles, sufficiently high to admit of a defective bolt being replaced if needed, and to enable the bottom to be coated every two years with boiled coal-tar.

There is a difference of £10 sterling in cost, and of about 1 ton in weight, between the steel and iron; the former, I consider, has the advantage in lightness and strength, though both are so strong that no objection can be entertained on that score, while the difference in price will be probably made up in the saving in carriage.

With regard to the troughing, the cradles are intended to be bolted with square-headed coach screws to sleepers, sunk to the level of the ground, and although it is not considered absolutely necessary, the plans alluded to by Mr. Woods, in his report on the road from Hillston to Cobar, of placing a rail in front of the troughing, at such height as to enable sheep to drink below it and larger cattle over it, might perhaps be usefully adopted.

3s. 6d. per foot,  
run.

Should the Honorable the Secretary for Mines approve of the plans and specifications herewith submitted, I would recommend that Messrs. D. & W. Robertson's tender for ten of the tanks and 4,000 feet of the troughing be accepted.

I might also suggest that these papers might be submitted for the opinion of the Commissioner and Engineer for Roads and Bridges.

HARRY GILLIAT, 18/5/82.

Mr. Inspector Gilliat's suggestion as to forwarding these papers on to the Works Department for the opinion of the Commissioner for Roads, might perhaps in the first instance be approved.—E.W. (for A.B.), 19/5/82. The Under Secretary for Mines. Submitted.—H.W., 19/5/82. I would like to know the opinion of the Commissioner for Roads on the herein contained suggestions.—A.R., 23/5/82. The Under Secretary for Public Works.—H.W., B.C., 23/5/82. Roads.—J.R., B.C., 3/6/82. Mr. Wood.—W.C.B., 6/6/82. Mr. Bruce. Will you be kind enough to have me supplied with copies of these papers.—H.G., B.C., 22/6/82.

While there is much to recommend Mr. Gilliat's proposal, to use iron in the construction of supply-tanks, there are at the same time many drawbacks militating against its successful use, more particularly if of the design submitted.

In the first place I would draw the Commissioners attention to the excessive lightness of the iron and of the framing for a tank of such a size. Next I fail to see the particular advantages of employing a practically imperishable material like iron in a tank while the foundations are to be of timber. This at once introduces the main objection to our existing service-tanks. Lastly, the cost is decidedly in favour of the existing system, in as much as a 20,000-gallon tank can at present be constructed for £90, whereas the cost of the steel tank at the wharf, in Sydney, will be £100; to this add carriage by train and team, and trestles, and fixing, which will together cost £75, and the total then amounts to £175, or nearly double that of any existing works of similar capacity. This too with a defective design as a substitute which, if amended, would make the comparative cost much greater.

Under these circumstances I cannot recommend the use of the iron tanks as proposed.

The troughing will cost, in Sydney, about the same per foot new as our existing troughing on the ground. Protection to the trough would be needed, as there is not sufficient strength in the design to stand either the lateral or vertical strain, likely to be thrown on it by stock when watering. The chief consideration in this case is,—whether the advantage of the trough proposed is so much greater than the better type of troughing used by us as to warrant the greater expenditure. I am of opinion that it is not. If, however, a trial should be made, the iron ought to be galvanized before being forwarded from Sydney. This remark equally applies to the steel or iron tanks.

6/6/82.

The Commissioner for Roads.

A. P. WOOD.

I concur with Mr. Wood. I cannot recommend the tanks and troughs proposed, they are defective in design, not so strong as, and would be double the cost of those used by this Department, and unless galvanized, which would be a further addition to cost, would not last any longer.—W.C.B., 7/6/86.  
Under Secretary.—J.R.

Two plans herewith.—P.W.O., 9/6/82. Under Secretary for Mines.—J.R., B.C., 9-12/6/82.  
Mr. Gilliat.—A.B., B.C., 13/6/82.

Telegram from Inspector Gilliat to Alexander Bruce, Esq., Chief Inspector of Stock

Cobar, 29 November, 1882.

Tanks & Wells, 82-989. ROBERTSON'S prices were, iron, £90; steel, £100; present price absurd; iron troughing of proper size preferable to any other at 6s. per foot, if we cannot get steel; puddle with good overseer in charge, cheapest and best.

H. GILLIAT

Inspector.

From what I have heard with regard to "Puddle" supply tanks getting out of repair and leaking, I would not recommend their use pending further enquiry; but as Mr. Gilliat still considers them best, and as the construction of supply tanks on this line is pressing, his recommendation might perhaps be approved. I believe they are about one-half the price of galvanized iron tanks, which is about £90.—A.B., 1st December, 1882.

The Under Secretary for Mines. Submitted.—H.W., 2/12/82. Approved.—4/12/82. Mr. Gilliat informed by telegram.—5/12/82.

Memo from Inspector Gilliat, *re* supply tanks.

Tanks & Wells, 82-388. In reply to the minute of the Honorable the Secretary for Mines, 26 February, 1883, I beg to say that on roads where the traffic is not large or where the conserving tanks are small or imperfect in construction, it appears to me that the cheapest form of supply tank is the best.

When the cubic contents of the supply tank are not required to exceed 10,000 gallons, I consider the puddle quite as durable, and much more cheaply and easily repaired than the supply tank of wood and iron; where a small tank will answer the purpose I think this form the preferable one; a wooden tank lined with iron of the same size as the puddle tank, costing £65 sterling, say 7,345 gallons will cost £116 sterling, or £51 sterling in excess of the former.

For large tanks I am of opinion that contracts can be obtained for the steel or iron tanks designed by me last year, and if so they will prove not only the cheapest but far the more durable than any yet adopted.

Failing these the wooden tank built from seasoned timber, and using heavy uprights, plates, and sleepers, so as to avoid shrinkage, giving a wide lap to the galvanized iron, and fastening it with a double row of screws with leaden washers, instead of the clout nails generally used, might be made to stand the severe wear and tear of the service and climate they are exposed to.

The size of the supply tanks could be modified, were the 200 acres of special lease fenced, so that the caretaker's horses would always be at hand, and if the machinery now in use was replaced by the more simple whip recommended, the necessity of keeping a large body of water stored in a supply tank would be greatly reduced, but where the usual horse powers are employed it is not safe to depend on a loss supply than 20,000 gallons; the castings of these powers are constantly breaking or getting out of order with the rough usage they receive, so that the supply may at any moment be interrupted; while on the other hand sheep in the dry season will drink even from troughing, where there is no waste, at least a gallon of water.

HARRY GILLIAT.

#### Supply Tanks.

Whether they should be of Puddle or of wood lined with galvanized iron.

Tanks & Wells, 82-291. In this case Mr. Gilliat was instructed to prepare specifications and call for tenders for the three public tanks on the road from Balranald to Ivanhoe, which had been constructed without these necessary appendages, and the want of which has been much against their letting. Mr. Gilliat accordingly called for tenders, but he did so for Puddle supply tanks, which are constructed by laying down a floor, say 4 feet thick of good clay puddle, erecting upon the floor a double frame of saplings, 4 feet apart, and 4 feet 6 inches high, and filling up with solid puddle well rammed.

1. The Puddle supply tanks are somewhat about one-fourth cheaper than tanks of wood lined with galvanized iron, but the Puddle tanks are not so secure as the wood and iron. According to the tenders received, Puddle tanks, with a capacity of 7,000 gallons would cost £65 each, while wood and iron of the same capacity according to his estimate would cost from £80 to £82.

2. When the clay is of the proper sort properly repaired, the whole work carefully done, and the tanks always kept full and moist, and not allowed to dry and crack, the Puddle tanks answer well; but these conditions are not always obtained, and the puddle tanks begin to leak, and when they do it is very hard to find where the defect is, while the saplings being between wind and water are apt to rot and decay.

I would therefore suggest that these supply tanks be constructed of wood and iron, which I understand, if properly put together, will last fifteen or twenty years; but it might perhaps be well to ask Mr. 5. Gilliat to report upon the two sorts of supply tanks before a decision is come to.

I have gone at some length into this subject, because the description of supply tanks will shortly have to be considered, when the sort of appliances for watering from troughs which are to take the place 6. of the present drinking tanks is decided upon.

If this change is to be made (and I think it ought to be so, as speedily as possible) something like fifteen or sixteen supply tanks will have to be provided. A.B., 22/2/83.

Let Mr. Gilliat report upon both classes of tanks, and the probable cost of each.—J. P. ABBOTT, 2 /2/83. Mr. Gilliat for report.—A.B., B.C., 1/3/83.

Telegram from Alexander Bruce to H. Gilliat, Inspector of Tanks and Wells, Ivanhoe.

Sydney, 5 March, 1883.

In reporting on puddle and wood, and iron supply tanks, say whether it would not be safer and more economical to make these tanks at least 20,000 gallons on the principal roads.

ALEX. BRUCE.

Minute Paper.—Department of Public Works.

Wrought Iron Service Tanks.

For Tanks and Wells.

THE wrought-iron buckle plate service-tanks, proposed for use in lieu of the timber-framed and iron-lined Tanks&Wells, tanks that have been erected up to the present time, will weigh 6 tons. This includes the rolled iron joists 83-868. carrying the tank.

Where building stone is procurable it is proposed to lay the joists on masonry piers. Where the stone is not suitable for this purpose concrete will be employed, and where there is no stone at all piers of cement mortar will be adopted.

The cost will be as follows:—

Tanks (19,500 gallons) in Sydney	...	...	...	6 tons, at £25 =	£150
Carriage	...	...	...	6 tons, at £12 =	£72
Fixing	...	...	...	6 tons, at £5 =	£30
Foundations in cement (5 to 1)	...	...	...	7½ c. yds. at £4 =	£29
Total	...	...	...		£281

Where masonry or concrete can be used the cost will be reduced about £270.

These prices compare favourably with those now being paid for the old style of tank, and leave little room for doubt that the proposed change should be effected.

ARTHUR P. WOOD.

The Under Secretary for Mines.—J.R., B.C., 14/7/83. Submitted.—A.B., 17/7/83. The Under Secretary for Mines. Submitted.—H.W., 19/7/83. Drawings and specifications.

Minute Paper—Reply to minute, Minister for Mines.

Tanks and Wells.

Department of Public Works, 11 June, 1883.

A REPLY would have been sent to the minute of the Minister for Mines ere this, but waiting to have the accompanying plan ready. As the work is to be done permanently, I think a buckled plate tank, as shown on plan herewith, would be the most advisable. A sketch suggestive for iron troughing is also forwarded herewith. It is proposed to support both tank and trough on concrete blocks, so that they will be almost imperishable. Tanks&Wells, 83-868.

The tank it is intended to make of buckled plates. It will weigh 6 tons, and 120 feet of the troughing will weigh 1 ton. It is considered the tank will cost £280, and the usual 300 feet of troughing £120, or certainly not more than the present appliances.

A special Tange pump has been sent for trial at Mount Hope, and a horse gear force and lift pump to Tom's Lake. Both will be tried in a short time, as the excavation at both places is complete. The gearing of horse motion so arranged that a wind-mill can be applied.

The adoption of either of those arrangements will do away with all timber work about the tanks.

It is proposed, as far as possible, to apply the same arrangements to wells when tried at the tanks.

Twenty-five out of forty-eight tanks proposed have been let, and are in progress. Eleven out of fourteen wells have been let or are in progress.

Tenders have been declined for twelve tanks and one well, in order to wait for the reduction of prices, which will be caused by a more favourable season.

Those in progress are over average rates, but were accepted for excavation only, in order to have the tanks ready to receive rainfall. Fencing and appliances are being arranged for as rapidly as possible. 12/6/83. W. C. BENNET.

Forward to Mines Department.—F.A.W., 13/6/83. Under Secretary for Mines.—J.R., B.C., 13/6/83. Submitted with plans.—A.B., 12/6/83. The Under Secretary for Mines. Submitted.—H.W., 18/6/83.

These

These papers may be sent back to Mr. Bennett, who might send a copy of the same to this Department when they are completed, with a copy of the specifications. I return these so that there should be no delay, in case Mr. Bennett requires the plans, &c.—J.P. ABBOTT, 12/6/83.

Copy to Mr. Gilliat.—A.B., 14/6/83. The Commissioner for Roads.—T.C.B. (for U.S.), B.C., 14/6/83. Drawings and specifications herewith.—W.C.B. Under Secretary.—J.R. Submitted with plan.—J.R., 11/7/82. Forward to Mines.—F.A.W., 13/7/83.

#### Supply and Drinking Tanks.

**Tanks & Wells, 83-471.** IN reference to Mr. Gilliat's report, No. 3, recommending iron or steel supply tanks and troughing instead of the kind now used, I think there are many reasons why these suggestions should be adopted, and among the chief of these reasons is the saving of water which would be effected by having both supply tanks and troughing which could be made perfectly water-tight.

The iron, I think, should be preferred to steel, for either being sufficiently strong, and the ultimate destruction of the material being caused by its rusting away the thicker material would last the longer and cost the least.

The advantage of having a practically imperishable material, which can be put together with little assistance from the unskilled labour to be found in remote districts, and of being able to make both supply tank and troughing perfectly water-tight where water is so precious, are so great as to over-balance a very considerable increase in the first cost of erection.

In Mr. Wood's minute upon Mr. Gilliat's suggestion, in which Mr. Bennett concurs, there seems to be some inconsistency, as the chief ground of Mr. Wood's objection is the placing "a practically imperishable" tank on a perishable foundation, and he afterwards says the iron for the tanks and troughing ought to be galvanized.

If the material as suggested by Mr. Gilliat is practically imperishable, whence the necessity for galvanizing it.

Tanks of steel now are used on the railway lines as supply tanks for the engines, and are always supported upon timber foundations. They seem to answer well here where other material for foundation is plentiful and skilled labour available, and the difficulty of replacing failing timbers does not seem very great, so that they should answer as well in remote districts of the Colony.

An improvement in the method of raising water from the main tanks and the absence of any leakage in the supply tanks or troughing might allow of a reduction in the capacity of the supply tanks, and their size might be regulated in each place by the greatest probable number of stock requiring water in one day.

In reference to the report marked IV of Mr. Gilliat, and the appended report of Mr. Bruce, what I have above stated applies.

There can be no advantage in adopting an inferior method in the smaller tanks, as the saving of water is just as important in this as in the former case, and if the iron supply tanks are best in one case they are best in all.

I might here add that any error in the design of Mr. Gilliat's plans for iron supply tanks might be corrected by comparison with the plan in use on the railway, and a specification of the same might be obtained from the Railway Department.

In reference to the plan for raising water with buckets by means of what Mr. Gilliat calls a double whip, which is reported on by Mr. Bennett (papers marked II). As both Mr. Bennett, Mr. Wood, and Mr. Gilliat are agreed that this is superior to the present system, it should certainly be adopted. Unless a still better plan can be found, and I think in the plan which is so generally used in the Liverpool Plains District, known as the "Wheel and Pole," or "Bagot's whirligig," we have one superior to any other both for simplicity, cheapness of first cost, and facility for making repairs; the machine can be constructed for about £25 or £30, so as to raise 20,000 gallons of water to a height of 20 feet in six or seven hours with one horse.

In reference to Mr. Bruce's suggestion that windmills should be used to raise water from the main tanks to the supply tanks, I think there is one insuperable objection. As there is often a week or ten days of calm weather, even though the average duration of the wind throughout the year is six or seven hours per day, it would be necessary to make a supply tank capable of holding at least fourteen days' water for the largest possible number of stock likely to travel the road in that time. This, with the difficulty which would be experienced by unskilled caretakers in making necessary repairs, will at once put this plan out of the question.

I think the Works Department might be asked to construct all the tanks hereafter to be made with iron supply tanks and troughing of the same material.

J. P. ABBOTT.

28th March, 1883.

#### Minute by The Chief Inspector of Stock.

##### Wood and galvanized iron or steel and iron supply tanks.

**Tanks & Wells, 83-524.** BEING under the impression that it had been decided in Mr. Bennett's memo. of 7th June last, on 82-410, that steel or iron tanks were not to be used, and that the only question was between wood-lined with galvanized iron and puddle tanks, I did not, when submitting my memo. of 21st instant (83-444), put all the papers relating to steel tanks before the Minister for Mines.

I now do so, with a letter from Messrs. Robertson, of 29th instant, from which it will be seen that they invite inspection of a 10,000 gallon tank which has just been completed, and state the price at which they are prepared to supply tanks of that capacity, and 20,000 gallons:—£125 and £200 respectively.

On comparing the prices now quoted with those first mentioned it will be seen that those now quoted are about twice as much as first asked, and it will, perhaps—now that the cost is greater than was at first supposed—be matter for consideration whether with the carriage (the weight is about 2½ tons) and the expense of fitting up at the tank (say £20, exclusive of stand or foundation) added to the first cost in Sydney, the greater durability and efficiency of these tanks, as compared with wood and galvanized iron is such as compensate for the difference in price.

Taking

Taking the price quoted by Mr. Gilliat, of wood and galvanized iron tanks, to contain 7,345 and 19,000 gallons respectively, at £116 and £250, the cost of a 10,000 gallon tank of wood and galvanized iron erected would be £150, while that of a steel tank would be as follows:—

First cost in Sydney	... ..	£125
Carriage, say	... ..	30
Filling up and fixing	... ..	20
Foundations and sleepers...	... ..	25
		£200

or £50, say  $\frac{1}{2}$  more than wood and galvanized iron.—A.B., 3/4/83.  
The Under Secretary for Mines.

I would ask Mr. Bennett to favour me with a report upon my minute of the 28th ultimo, and upon this of the Chief Inspector.—J. P. ABBOTT, 5/4/83. The Under Secretary for Public Works.—H.W., B.C., 6/4/83. Roads.—J.R., B.C., 9/4/83. See paper herewith.—W.C.B., 12/6/83. Sent on to Mines.

#### Tender for steel tanks.

Sir, Central Exchange Buildings, York-street, Sydney, 29 March, 1883.

In reply to your inquiry we could undertake to make a number of steel tanks, to hold 20,000 gallons, for £200 each, and would make a similar tank, to hold 10,000 gallons for £125 nett.

We have one of the latter size about 20 ft. x 4 ft. x 15 ft. just completed, and would be glad to go with you and let you examine it.

The thickness of steel used is  $\frac{3}{8}$  in., and we can recommend it for strength and durability.

Yours, &c.,

D. & W. ROBERTSON.

Alex. Bruce, Esq., Inspector of Stock.

#### Summary Report on drinking tank and well papers, by The Commissioner and Engineer of Roads.

THERE is much in the papers relating to tanks on which it is necessary I should comment, but as an immediate decision is required as to the action to be taken, I have to state that from Messrs. Bruce and Gilliat's reports and those of Mr. Wood, the Assistant Engineer of this office, who has recently inspected some of the works, I consider a lifting arrangement better than the drinking tanks, and as far as I am able to judge from the papers an arrangement for lifting with buckets, as now used on many of the stations, and as suggested by Mr. Gilliat, and called by him a double whip, should be adopted on all new works.

With reference to the existing drinking tanks I consider they should be used as constructed for the present, until the cost of the double-whip arrangement can be ascertained, its erection, and more data obtained to estimate cost of the devices proposed by Mr. Bruce; I fear they would be expensive and likely to get out of order.

In initiating these works simplicity was studied as much as possible; the whole thing was tentative, and except in details there has not been much alteration.

I will deal with the details of those reports in another paper. I should add that I, for the first time, now see the printed report of the Stock Department on tanks, &c.

W. C. BENNETT.

Under Secretary for Mines.—J.R., B.C., 16/5/82. Mr. Inspector Gilliat.—E.W. (for A.B.), B.C., 18/5/82.

In reporting here on the best mode of supplying travelling stock with water from tanks, the Commissioner and Engineer of Roads, while considering the "lifting" system the better recommends that the drinking tanks (which Mr. Gilliat proposed to alter) should be used as constructed till the cost of the double whip is ascertained and more data obtained with respect to alterations proposed for improving the drinking tanks. If Mr. Bennett's recommendations are acted on a considerable sum, say £6,000 or £7,000 will be available from the Vote taken by this Department for tanks and wells, and might, perhaps, be used in the construction of new tanks, as suggested by Mr. Bennett in his minute of 22nd April last, of which a copy is herewith.—A.B., 5/6/82.

In view of the fact that the whole of the Vote will be required for works and repairs already authorized, no portion of it shall be used for the construction of new tanks in the dry country between the rivers, and the alterations recommended by the Inspector of Tanks should, I think, be proceeded with.—H.W., 5/6/82.

Approved.—A.R. Under Secretary Works informed, 26th June, 1882.

Minute by Mr. Road-Superintendent A. P. Wood.

Tanks and Wells.

Recommending decision as to Lifting appliances.

Sydney, 28 September, 1883.

As the Minister for Works has refused to sanction the use of pumps, as recommended by this Department, and as many of our works are so far advanced that it is absolutely necessary that immediate steps should be taken to provide some means for lifting water out of them for public use, I must again urge the necessity for a speedy settlement of the question.

The

Tanks and  
Punts,  
82-402.

Tanks & Wells,  
83-1,508.

The recommendations already made in favour of steam and horse gear pumps were the result of a careful consideration of the question, but if it is considered advisable to fall back on the M'Comas lift, which has always been a source of annoyance, or to adopt the more primitive double-whip which will be a source of greater annoyance, then the sooner instructions are issued and the work put in hand the better, but it should be distinctly understood that these appliances are not recommended by this office.

ARTHUR P. WOOD.

The Commissioner for Roads, B.C. I could not advise either of those appliances. I think the Mines should be requested to return paper *re* double-whip, sent them some time ago, with a decision on same.—W.C.B., 28/9/83.

I since find the paper has been returned, but the information or decision is not given. What was specially asked for was a drawing of the double-whip, as applied to tanks.—W.C.B., 28/9/83. Under Secretary, B.C.

Ask my honorable colleague, the Minister for Mines, if he will be kind enough to favour me with his decision on this matter.—F.A.W., 9/10/83. The Under Secretary for Mines, B.C., 9/10/83. Mr. Gilliat to supply drawing of double-whip arrangement.—A.B., B.C., 11/10/83. The Chief Draftsman.—A.B., B.C., 26/10/83. Drawing made from information supplied by Mr. Gilliat herewith. The Under Secretary for Works, B.C., 27/10/83.

I can offer no opinion as to the method of raising water from these tanks. It appears to me that this is a question which could best be settled by Mr. Bennett and Mr. Gilliat.—J. P. ABBOTT, 29/10/83. The Under Secretary for Public Works.—H.W., B.C., 29/10/83. P.W.O., 17/11/83.

29 October, 1883.

Tanks & Wells, MEMO:—The reports on the new works for 1884 and for repairs and alterations at existing works having 83-1,581. been prepared, I beg leave now to submit for the consideration of the Hon. the Secretary for Mines whether it is not desirable to learn from the Department of Public Works if the time has not arrived for a decision on section 6 of the arrangement between the two Departments, viz., "to determine the sort of watering appliances."

As the repairs and alterations to existing works include the introduction of machinery for lifting water, and are of urgent importance, while the partial breaking up of the drought will perhaps admit of many new works being proceeded with, it may be of advantage if an officer from each Department should meet on this subject, and prepare a statement for the consideration of their respective Ministers.

HARRY GILLIAT,

Inspector, Public Tanks and Wells.

The Chief Inspector of Stock.

This memo. submitted the same day. The annexed minute was written by the Hon. the Secretary for Mines. I would suggest my memo. being submitted for his consideration. The plan and section might go on to the Department of Public Works.—H.G., B.C., 30/10/83.

Submitted.—A.B., 31/10/83. The Under Secretary for Mines. Submitted.—H.W., 3/11/83. Approved.—J. P. ABBOTT, 8/11/83.

Minute to the Commissioner and Engineer of Roads.

Subject:—The double-whip for tanks, by Superintendent A. P. Wood.

Tanks & Wells, I HAVE carefully examined the design for a double-whip submitted by the Mines for lifting water at the 83-1,710. tanks that have and are being constructed by this Department, and would suggest that Mr. Gilliat, as recommended by the Hon. the Minister for Mines, interview the Commissioner and explain his views on this question.

I am afraid there are many objections to its adoption. Some of these I enumerate.

1. It cannot be applied to old works unless they are empty, which in many cases will not occur for years.
2. The cost will be about double that of a simple 4-inch "Holman" pump and horse gear capable of raising 2,500 gallons an hour.
3. The cost will be about the same as that of a Tangye special pump and boiler capable of raising 10,000 gallons an hour, and that could be used for pumping water into the main tank and storing water above the ground level.
4. When the tanks silt up and water is low, the buckets being fed through a bottom valve as is necessary will stir up the silt, and a mixture of mud and water will be supplied to stock.
5. It necessitates the use of a considerable amount of timber work under water, a plan which has been proved to be very objectionable, and is likely to be more so in this case, as there is more liability to derangement.

ARTHUR P. WOOD.

The Commissioner for Roads.

I could not recommend this device. I do not think it equal to the old M'Comas lift. It has all the timber; and I think when the officers of the Mines see the simple pumps, horse, and steam, with square tanks, and nothing to get out of order or decay, that they will agree.—W.C.B., 20/11/83.

Submitted.—J.R., 23/11/83. Forward to Mines.—F.A.W., 26/11/83. The Under Secretary for Mines.—J.R., B.C., 26/11/83. Mr. Gilliat.—A.B., B.C., 29/11/83.

Perhaps the Department of Public Works will be good enough to furnish plans of the different pumps and steam and horse powers they propose for this service. At present no comparison can be made. H.G., 30/11/83.

Submitted

Submitted.—A.B., 30/11/83. The Under Secretary for Mines. The Under Secretary for Public Works.—H.W., B.C., 3/12/83. The Commissioner for Roads.—J.R., 5/12/83. Mr. Wood, 6/12/83.

Mr. Gilliat says that without his being furnished with plan of the horse gear and steam pumps recommended by this Department no comparison can be made by him as between them and his proposed double whip. The preparation of these plans will entail a very considerable loss both in time and money, and I would suggest as an alternative that Mr. Gilliat visit Messrs. 'Tange Brothers' establishment in Bathurst-street, where he will see the pumps themselves. I would have made the suggestion before, but thought that when I named two well-known types of pump, as we recommended, nobody having a sufficient knowledge of such machinery as to be competent to judge of the question could have required any further information.—A.P.W., 6/12/83. Commissioner for Roads.

Send litho.—W.C.B., B.C. I attach engravings of "Special" and "Holman" pumps. They may perhaps answer Mr. Gilliat's purpose.—A.W.P. I now forward lithographs of the pumps proposed.—W.C.B., 12/12/83. The Under Secretary, B.C. Forwarded to my honorable colleague the Minister for Mines.—F.A.W., 14/12/83. The Under Secretary for Mines.—J.R., B.C., 14/12/83. Mr. Inspector Gilliat.—A.B., B.C., 19/12/83.

It appears that pumps are being supplied, and the Department has been informed are in some places already erected, so that before long practical evidence of their efficiency will be obtained. My own experience is so largely in favour of the simplest machinery, that I have considered it my duty to urge the adoption of a form that can be easily repaired by the class of men usually obtained as caretakers.—H.G., B.C., 1/2/84. Submitted.—A.B., 12/2/84. The Under Secretary for Mines. Submitted.—H.W., 13/2/84. Seen.—J. P. ABBOTT, 14/2/84.

See also Mr. Gilliat's report on Ledknapper Tank, No. 85-1,410, with fluming paper.

## XL.

### Miscellaneous.

Carson's Swamp Tank.—Hovel's Dam.—Muriel Horsewalk.—Shearlogs Tank.

#### Carson's Swamp Tank.

Minute by Mr. W. C. Bennett, dated 28th May, 1886.

*Subject* :—Carson's Swamp Tank to be handed over.

MR. SMYTHE, the local officer at Albury under this Department, having reported that the tank at Carson's Swamp is ready to be handed over, I would suggest that the Department of Mines be requested to take over charge through their local officer.

Copy of  
P.W.P.,  
86-2,689.

The Under Secretary for Public Works.

W.C.B.

Under Secretary for Mines.—J.R., B.C., 29/5/86.

Mr. Lowes,—Please arrange with Mr. Smythe to take over this tank, and furnish a new Works report.—H.G., B.C., 2/6/86. Mr. M., Mr. Lowes should be supplied with the required forms.—H.G.

Mr. Lowes was supplied with necessary forms, B and D, on 30/12/85, and has had no occasion (to date) for their use. Cash and receipt books and journal to-day.—R.W.G., 3/5/86. Noted.—R.L., 5/6/86.

#### Carson's Swamp Tank.

Sir,

Stock Office, Corowa, 5 June, 1886.

Copy of  
86-2,846.

I have the honor to acknowledge receipt of your memo. of 2nd instant to arrange with Mr. Smythe to take over Carson's Swamp Tank, which I will attend to.

On the 21st April last I nominated three persons to act as trustees for the Carson's Swamp Tank. Will you be good enough to inform me if such are likely to be appointed, as if so, I notice by the Regulations, section 49, sub-section 2, that trustees must engage a caretaker. Therefore, in the event of trustees being appointed, it will not be necessary for me to engage a caretaker.

I have, &c.,

R. LOWES,

Overseer of Public Watering Places.

The Chief Inspector of Public Watering Places, Sydney.

Mr. Lowes,—Action with respect to appointment of trustees is waiting for the notification by Lands Department of travelling stock and camping reserves. Until that is completed I am unable to move. You may perhaps ascertain from your Land Board how the case stands.—H.G., B.C., 9/6/86.

Noted.—R.L., 12/6/86.

Carson's

## Carson's Swamp Tank.

Sir,

Stock Office, Corowa, 15 June, 1886.

Copy of  
P.W.P.,  
86-3,035.

I have the honor to inform you that, in company with Mr. Smythe, the local officer at Albury, I took over charge of Carson's Swamp Tank on the 11th instant, and a receipt from Mr. Smythe of the necessary forms D (statement of list of works, &c.). I will forward you a New Works report.

I have, &amp;c.,

R. LOWES,

Overseer of Public Watering Places.

The Chief Inspector of Public Watering Places, Sydney.

Overseer R. Lowes to The Chief Inspector of Public Watering Places, reporting on tank recently constructed at Carson's Swamp, road from Corowa to Piney Range; distance from and name of post town—7 miles from Corowa; reserve (nature, No., and date)—water supply, No. 2,945, 8th May, 1882; parish—Burraja; county—Hume.

Copy of  
86-3,562.

## Questions:—

1. Name of road and length? Corowa to Piney Range, 36 miles.
2. If near a town give estimate of population that may be dependent on the watering place? No town near tank.
3. Estimate of traffic in stock and teams? Stock during 1885: 81 horses, 439 cattle, 10,650 sheep. Teams: Wool season average 1 team per day, rest of year 2 teams per week, and occasionally selectors' teams.
4. The traffic; by what roads; the destination? Stock traffic from Wagga Wagga, Germanton, Piney Range, and Mahonga, also from Corowa towards stations on the route to the abovenamed places. By roads from parishes Burraja, Granville, Kentucky, Brocklesby West, Burrumbuttock, and Mahonga.
5. Its distance from nearest watering place, or permanent natural water on each side? To a lagoon near the River Murray about 4 miles, and to the Oil Tree Swamp about 6 miles, but this latter only contains water after a very heavy rainy season.

*If a tank.*

6. The dimensions and capacity in cubic yards? On top length, 222 feet; width, 150 feet; on bottom length, 78 feet; width, 85 feet; depth, 18 feet; capacity, 12,270 cubic yards.
7. Form of embankment and distance from excavation?  $1\frac{1}{2}$  to 1 slopes, concave top with shoots at corners; toe of bank, 28 feet from edge of excavation.

*Watering appliances.*

13. Full description of watering appliances and delivery in gallons per hour? Fenced roadway into tank 30 feet wide, 103 feet long and paved.

*Fencing.*

16. Area enclosed; description; distance between posts; number and gauge of wires?  $32\frac{1}{2}$  chains; posts, top rail, and wires; posts 10 feet apart; 5 No. 4 wires.
17. Gates? Two 12-foot gates.

*General.*

18. Probabilities of obtaining tenant and estimated rent? No chance of obtaining a tenant.
19. Area, position, and quality of land included or to be included in tenant's lease. Area notified for public watering place? Area not yet decided, situated on water reserve No. 2,945, clayey and sandy soil, box forest with patches of pine scrub. Area not notified.
20. Caretaker's cottage and description? None.

*General remarks.*

No gauge exists at the tank.

An alteration to the roadway into the tank is desirable, so as to allow sheep the full width down to the water by taking four wires out of the fence at present existing at top of 6 to 1 slope, and on each side of the paved way by fencing off two sides with posts and five wires to protect the slopes, as per sketch below, thus leaving free access for sheep by passing under the fence with top rail and one wire, and the cattle would go to water by the fenced off paved roadway 30 feet wide. This work can be done by the caretaker, and posts can be procured by him in the neighbourhood. The four wires taken out of the present fence would be available, and no extra expense incurred with the exception of the cost of one coil of No. 4 wire, which I hope will meet with your approval.

R. LOWES,

Overseer of Public Watering Places.

11th June, 1886.

The Chief Inspector of Public Watering Places, Sydney.

## Carson's Swamp Tank.

Sir,

Stock Office, Corowa, 12 July, 1886.

Copy of  
P.W.P.,  
86-3,563.

I have the honor to hand you herewith my report on the Carson's Swamp Tank, form B, with receipt on delivery, and statement and list of works, &c., form D.

Should

Should you approve of my having the work done by the caretaker as stated by me in form B under general remarks, such will facilitate the watering of sheep greatly, and give more satisfaction to those persons who may use the tank.

I have, &c.,

R. LOWES,

Overseer, Public Watering Places.

The Chief Inspector of Public Watering Places, Sydney.

It appears to me that the alteration proposed by Mr. Lowes is highly necessary, and if he thinks caretaker can carry it out, instructions might perhaps be given to him to instruct caretaker accordingly.

JAMES W. BOULTBEE.

It is suggested that the fencing be altered by the caretaker as suggested by Mr. Overseer Lowes.—E.W. (for H.G.), 30/7/86. The Under Secretary for Mines. Submitted for approval.—H.W., 30/7/86. Approved.—J.F., 30/7/86. Inform Overseer, 30/7/86. Overseer Lowes informed, 3/8/86.

Carson's Swamp Tank.

Sir,

Stock Office, Corowa, 25 August, 1886.

Referring to your letter S6-3,563 of 3rd instant, acknowledged on the 12th instant, I have the honor to inform you that I have instructed the caretaker at Carson's Swamp Tank to carry out the alteration in the arrangement of the fencing, but as he will require to obtain posts for the fence from the ground upon which water reserve No. 2,945, parish of Buraja, county of Hume, is situated and near to the tank on the road from Corowa to Pincy Range, will you be good enough to obtain the necessary permission for the caretaker to cut timber on the reserve named.

Copy of P.W.P., 86-4,118.

I have, &c.,

R. LOWES,

Overseer, Public Watering Places.

The authority to cut timber on water reserve 2,945 may perhaps be granted.

HARRY GILLIAT.

The Under Secretary for Mines, 31/8/86. I think the permission should be granted, but only for so much timber as is required for the fence.—H.W., 2/9/86. Submitted.—Approved.—J.F., 3/9/86. Inform Forest Branch, and notify overseer.—H.G., 6/9/86. The Chief Clerk of Forest Branch, B.C., 8/9/86. Overseer Lowes informed.—J.W.B., 6/9/86. The Chief Clerk, Forest Branch.—HARRY GILLIAT, B.C., 6/9/86. Inform Crown bailiff and ranger.—F. R. PAYTEN. The Crown Bailiff, 17/9/86. The Chief Inspector of Public Watering Places, B.C., 17/9/86.

Sir,

Stock Office, Corowa, 10 September, 1886.

I have the honor to acknowledge receipt of your letter of the 6th instant, 86-4,118, granting authority to the caretaker of the Carson's Swamp Tank to cut timber for the purpose of fencing in the reserve.

Copy of P.W.P., 86-4,335.

I have, &c.,

R. LOWES,

Overseer, Public Watering Places.

The Chief Inspector of Public Watering Places, Sydney.

Alterations completed on date of my last inspection, 31st October last. Until this was done, I do not see how it was possible to water a large mob of sheep expeditiously, the entrance to water being 103 feet long, and 30 feet wide.—J.W.B., 6/12/87.

Hovell's Dam.

Extract from P.W.P., 87-4,390. Report A1 by Mr. Inspector Boulton, for 1st September, 1887, on Hovell's Dam.

State of Supply Tank.—None.

Troughing.—None.

Machinery.—None.

I am of opinion that these appliances should be erected. The site indicated would be a safe and suitable one.

Copy of P.W.P., 87-4,746.

This an open watering place, and I would recommend erection of tank, troughs, pump, and horse-works. In view, however, of the large body of water now in dam, and the present rainy season, I think there is no urgency for these works. The byewash is a brilliant example of engineering skill and waste of money. The dam is abnormally strong, abuts on to a rocky spur on the north; on the south side there is a fine wide open flat, eminently suited for a natural byewash.

The existing byewash is excavated through the spur spoken of, from 1 to 15 feet deep, through solid rock, almost as wide as a railway cutting, and about 70 yards long. It must have cost more than the dam.

JAMES W. BOULTBEE,

Inspector of Public Watering Places.

Albury, 3rd September, 1887.

Horse-walk

## Horse-walk, Muriel Tank.

Sir,

Muriel Tank, 22 January, 1885.

Original paper,  
85-118, cannot  
be traced,  
marked to U. S.  
Mines, 30/1/85—  
J. W. B.

In consequence of a report from Messrs. Wright, Heaton, & Co., complaining that carriers and others were almost prevented from watering their stock at this tank, and the lives of their stock were endangered while watering, by reason of some earthworks that were being made, I have made an inspection to-day and report as follows:—1st. An embankment of earth has been made from the middle of the original embankment, extending towards the main tank. 2nd. This embankment has been made in the water which was conserved over the surface of the tank. 3rd. The roadway of the tank where stock used to water has silted up with soft mud, caused by the melting of the earthworks referred to. 4th. Stock are constantly getting bogged, and their lives endangered thereby.

On enquiry, I find the contractor has been knocked off the work, pending an inquiry by the Department of Works. Heavy rain is now falling, which will, I think, raise the level of the water above the silt mentioned, and so do away for a time, at any rate, with the public inconvenience complained of.

I have, &amp;c.,

JAMES COTTON,

Overseer of Public Watering Places, Cobar.

The Inspector of Tanks and Wells, Department of Mines, Sydney.

## Memorandum.

Dear Sir,

Cobar, 10 January, 1885.

Herewith I beg to hand you letters from caretaker and our general manager with reference to improvements going on at Muriel Tank. Kindly inspect and report on same.

Yours, &amp;c.,

JOHN LEAHY,

Agent at Cobar for Wright, Heaton, &amp; Co.

Jas. Cotton, Esq., Inspector of Stock, Cobar.

## Memorandum.

Dear Sir,

Nyngan, 15 January, 1885.

Please see Mr. Cotton, Inspector of Stock. Let him read Malarkey's report, and ask him to kindly remedy the evil complained of, or else we shall lose all our tank receipts, as carriers will not water there; also get him to make entrance in a more suitable place for carriers to get at the tank.

G. R. BONAMY.

Mr. John Leahy, Cobar.

Muriel Tank, 12 January, 1885.

Dear Sir,

I am very much afraid the contractor here is going to make a great mess of this tank. He is running a great bank of earthwork, some 3,000 or 4,000 yards of soft loam, into the centre of the tank, where stock formerly went in to drink, which is drying the water up very much, and in the event of a few hours heavy rain, I think the greater part of it will wash into the tank. The carriers grumble very much, as it is dangerous for stock watering. Bill Sykes had a horse almost drowned here yesterday. The carriers also complain about the lane and the distance they have to drive their horses to water, in fact, many of the large teams pass without watering; but the lane way might be remedied yet by making a gateway on the old road above our house. That is towards Cobar: then teams could come through that way and out the lane. Mr. T. Aulzark promised me he would mention the matter to you. I thought that he could explain it better than I could in writing. It appears the lane-way at Booroomugga was similar to this tank, and the caretaker wrote to Mr. Cotton, who had it altered at once.

When sending returns to Mr. Leahy, I sent a memo. referring to state of tank. I have got no lessee's journal to keep return of stock, &c. The book that was here the last three years is used up. I sent for one to Cobar 29th October, also 2nd instant, but have not got one yet.

Yours faithfully,

F. MALARKEY.

G. R. Bonamy, Esq., Nyngan.

Report by James Cotton, Overseer of Tanks, Cobar, on the Muriel Tank, road from Cobar to Nyngan, in charge of F. Malarkey, for the period from 1st July to December 31st, 1884. Wright, Heaton, & Co., lessees.

Tanks & Wells,  
85-137.

*Tank or Dam.*

State of drains.—Good order.

Silt tank.—Good order.

Inlet or flume.—Under water.

Main tank.—Roadway considerably silted up by the earth works recently made.

Embankments.—Good order.

Fencing.—Fair order.

General remarks.—In consequence of a complaint made by Wright, Heaton, & Co. that carriers' horses were being bogged at the usual watering place at the tank, I made an inspection and forwarded special report on the 22nd January, 1885.

*Watering*

*Watering Appliances.*

State of supply tank.—Being erected.  
 Troughing.—Being erected.  
 Machinery.—Not erected.  
 State of fencing.—In course of construction.

*Paddocks, &c.*

State of fencing.—In course of construction.  
 State of Gates.—No gates.

*Collections, Traffic, Work, &c.*

Rates collected monthly since last report.

	£	s.	d.
Month ending July 31st, 1884 ... ..	15	11	6
„ August 31st, 1884 ... ..	25	11	6
„ September 30th, 1884 ... ..	11	16	10
„ October 31st, 1884 ... ..	23	10	7
„ November 30th, 1884 ... ..	21	5	9
„ December 31st, 1884 ... ..	18	4	7
	<u>116</u>	<u>0</u>	<u>9</u>

*Remitted to Wright, Heaton, & Co.*

Traffic since last report.

	Horses.	Cattle.	Sheep.	Teams.	Mall horses.
Month ending July 31st, 1884 ... ..	...	...	...	1,869	496
„ August 31st, 1884 ... ..	18	...	1,800	1,967	496
„ September 30th, 1884 ... ..	4	...	2,000	1,357	480
„ October 31st, 1884 ... ..	38	242	17,339	1,620	496
„ November 30th, 1884 ... ..	54	460	12,300	1,504	480

Weekly depth of water since last report.—11 feet.

MEMO.—The Caretaker's journal being filled, he could not supply me with traffic for December. I have supplied him with a new journal, and he promises to make up the number and forward them to me.

Work done by caretaker.—Cleaning drains and burning rubbish on the catch of the tank.

Work laid for Caretaker.—To keep the drains clear, burn all rubbish on the catch, and to attend to stock watering.

JAMES COTTON,  
 Inspector of Stock.

Dated at Cobar, 24th January, 1885.

Muriel Tank.

Sir,

26 July, 1886.

I beg respectfully to report that during the night of the 24th instant the bank at this tank, where the horsewalk is on, got injured through heavy rain. It is sunk very much, and a portion of it washed away, so that a horse could not walk on it at present to work the pump. Fortunately there is no further damage done to works.

Copy of  
 P.W.P.  
 86-3,756.

Would Mr. Cotton please advise me how to act with regard to damaged bank. I mean the bank McFadyen put in tank some time ago.

James Cotton, Esq., Overseer, Public Watering Places, Cobar.

Yours respectfully,  
 F. MALARKEY.

I have anticipated the sinking of this bank for some time. It has been an unfortunate piece of work from the commencement. The water is so high that I do not think any permanent repairs could be effected at present. The roads are in a fearful condition, but I shall inspect and furnish a further report on this matter as soon as possible.—JAMES COTTON, Overseer, Public Watering Places, 30/7/86.

Mr. Boulton.—H.G., 3/8/86. Extract from my report on this work submitted.—J.W.B. A copy of Malarkey's letter and Mr. Cotton's report may perhaps be furnished the Works Department with the view of the necessary repairs being effected.—H.G., 23/8/86. The Under Secretary for Mines. Approved.—H.W., 25/8/86. Copies made and forwarded to Works Department.—R.W.G., 26/8/86.

MEMO.—It appears that there is at present too much water about horsewalk to do anything in the way of repairs. This might perhaps await Mr. Cotton's further report, and permission given to caretaker to water stock if necessary. The water must now be a very long way over the tank and outside the ring fence.

JAMES W. BOULTBEE.

Inform Mr. Cotton.—10/8/86. Informed.—J.W.B., 10/8/86.

Sir,

Sir,

Cobar, 18 August, 1886.

Copy of  
P.W.P.,  
86-4,071.

I have the honor to acknowledge receipt of your letter, as per margin, relative to the recent damage at Muriel, caused by the heavy rain. Since forwarding the caretaker's letter minuted by myself, I have visited Muriel Tank and forwarded my report. The caretaker has been instructed to allow any stock requiring it to water at the old drinking place.

The damage has been caused by the great height of the conserved water over the surface, percolating into the bank which was built to form the horsewalk, and this bank has subsided to the extent of a foot at least. The edges of the bank have also washed away, rendering it difficult to make the necessary repairs.

I beg to suggest that the most effectual way to make the necessary repairs would be by driving piles or very stout stakes about half way down the slope of the present embankment as it stands, and logging up inside these piles to the required height, when it can be again built up with gravel and clay.

The pump is not injured in any way, but cannot be worked, owing to the sinking of the horsewalk. The watering place, with all appliances and appurtenances, are in fair order as reported, with the exception of the damage to the bank.

I think the logging is absolutely necessary, and that any earth now put on the bank without the logs to protect it would wash into the tank with the first rain.

JAMES COTTON,

Overseer, Public Watering Places.

The Chief Inspector, Public Watering Places Branch.

A copy of this letter may be sent to the Works Department.—H.G., 26/8/86. Copied and sent to Works.—R.W.G., 26/8/86.

Sir,

Cobar, 10 September, 1886.

P.W.P.,  
86-4,331.

I have the honor to acknowledge receipt of your letter, informing me that my reports and communication, referring to the damage done to the horsewalk at Muriel Tank, have been referred to the Works Department.

Trusting that some immediate action may be taken towards repairs.

I have, &amp;c.,

JAMES COTTON,

Overseer, Public Watering Places.

The Chief Inspector of Stock, Department of Mines.

Ask Mr. Cotton whether work has been completed.—H.G., 20/11/86. Asked.—20/11/86.

Sir,

Cobar, 24 November, 1886.

P.W.P.,  
86-5,526.

I beg to acknowledge receipt of your letter, *re* horsewalk at Muriel Tank, and I have now the honor to inform you that the horsewalk was reported upon as completed, in my periodical report of the tank, dated 21st September, 1886.

I have, &amp;c.,

JAMES COTTON,

Overseer, Public Watering Places.

Chief Inspector of Public Watering Places, Department of Mines.

P.W.P.,  
86-3,830.

Report by James Cotton, Overseer Public Watering Places, Cobar, on the Muriel Tank, Road from Cobar to Nyngan, in charge of F. Malarky, tenant, for June, and July, 1886.

State of drains.—Fair order.  
Silt tank.—Under water.  
Inlet or flume.—Under water.  
Main tank.—Under water.  
Embankments.—Fair order.

*Watering Appliances.*

State of supply-tank.—Good order.  
Troughing.—In good order.  
Machinery.—Horse gear pump in good order.

*Paddocks and Fencing.*

State of fencing.—In good order.  
State of gates.—In good order.

*Rates collected since last report.*

	£	s.	d.
Month ending 30th June, 1886 ... ..	6	9	8
„ 31st July, 1886 ... ..	5	10	10
	£12	0	6

*Traffic since last report.*

	Horses.	Cattle.	Mail horses.
Month ending 30th June, 1886 ...	491	94	480
„ 31st July, 1886 ...	403	28	496

Weekly

Weekly depth of water since last report.—17 feet.

Remarks and recommendations.—Referring to Malarky's letter, reporting damage to embankment, and my minute on the letter of 30th ultimo, I have to report that I inspected the tank on the 5th instant, and find the horsewalk subsided about 18 inches, and the pump not workable on that account. I have interviewed Mr. Road Superintendent Adam on the subject, and suggested that piles should be driven round the embankment as it stands and logs laid inside the piles to the proper height and filled up with gravel. This appears to be the only way to make the horsewalk permanent. The bank was originally built of loose red earth, and any portion that is now disturbed will wash into the tank with the next rain.

Cobar, 7 August, 1886.

JAMES COTTON,  
Overseer, Public Watering Places.

[See also Mr. Inspector Boulton's report on Muriel Tank, 86-3,549, with fluming papers.]

#### Shearlegs Tank.

Cobar, 25 June, 1886.

Report by Acting Inspector J. W. Boulton, on the Shearlegs Tank, Road from Hillston to Cobar, in charge of John Hennings, tenant, for 22nd June, 1886.

Copy of  
P. W. P.,  
86-3,214.

State of drains.—Require cleaning, since rain has put some silt in them, the bank protecting the drain is burst, but Mr. Cotton informs me this was broken purposely as the banks of the tank were endangered by the great rush of water.

Silt tank.—Not visible.

Inlet or flume.—Just visible, the banks each side has been carried away. (See sketch).

Main tank.—Water is 2 feet 6 inches to 3 feet at embankments.

Embankments.—Gutters require filling in.

#### Watering appliances.

State of supply tank.—Leaks a little, wants tar.

Troughing, but wants tar.

Machinery.—Tangye 4-horse power, boiler painted white. I recommend this be scraped, and boiler tarred when hot. Engine painted white, it wants a coat of green paint, looks dirty. Brasses clean. Grimmond, travelling engineer, had this working a short time ago, then in good order. Lessee was absent, his man did not understand the machinery. I preferred not to interfere with it, so I did not test it.

#### Paddocks and fencing.

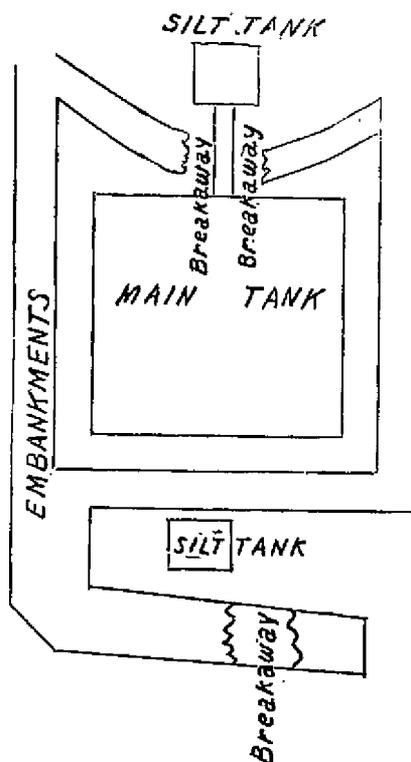
State of fencing.—Good, and new.

State of gates.—Good, catch wanted for one gate.

Remarks.—This is a magnificent catch, 50 points I am told sends a great rush of water into the tank; the paddock is good. Lessee's man asked if tenants are permitted to plough and crop the land. I should be glad to have instructions on this point.

Rates collected since last report.—See form L.

Weekly depth of water since since last report.—3 feet over edge of excavation.



#### Caretaker's work.

Work laid out for caretaker.—In regard to the break of the bank at the flume. The bank in the first place is not high enough, and is now all but covered. Mr. Cotton informs me this break was done some time ago, but owing to the amount of water, repairs could not be effected. To do any good the bank should be raised about 3 feet. It will be months before they can get near the break.

Remarks and recommendations.—There are two silt tanks, the one on the south side I cannot conceive the use of, as it is on low side of the tank, and there is no fluming or inlet at all connecting it with the main tank. The embankment behind the silt-tank has been carried away. I cannot see that anything would be gained by having it made up again. The place wants a little cleaning up, and a few bones of dead stock require burning. The lease of this tank has been or is about to be transferred to a man named Francisco.

JAMES W. BOULTBEE,  
Inspector of Public Watering Places.

The Chief Inspector of Public Watering Places, Mines Department, Sydney.

ADDENDUM.

[Return received from Works Department too late to appear in its place among the papers.]

The Under Secretary for Public Works to The Under Secretary for Mines.

Sir, Department of Public Works, Sydney, 3 February, 1888.

At the special request of the Honorable the Secretary for Mines, I am directed to transmit herewith, for his information, copy of a return showing the cost of tanks, wells, and dams constructed by this Department, and of machinery for working same.

I have, &c.,  
JOHN RAE.

Submitted.—H. W., 3/2/88. Seen.—F. A., 3/2/88. The Chief Inspector of P. W. Places.—  
H. W., 3/2/88.

[Enclosure.]

RETURN showing cost of Tanks, Wells, and Dams; also Machinery for working same.

Road.	Watering-placc.	Earthwork, Shoot, Fencing, &c.		S. Tanks Troughing, Machinery.		Total.	
		£	s. d.	£	s. d.	£	s. d.
Deniliquin to Hay .....	Pretty Pino Well .....					1,672	0 5
	Wagonilla " .....						
	Pine Ridge Tank .....	2,155	9 1	615	7 4	2,670	16 5
	Black Swamp " .....	1,420	10 8	414	1 4	1,834	12 0
Tocumwall to Jerilderie .....	16-mile Gums " .....	1,186	7 8	571	1 4	1,757	9 0
	Murray Hut Well .....					2,225	15 3
	Berrican Creek " .....						
Hay to Booligal .....	Wallandool " .....					1,756	5 7
	One-tree Tank .....	2,398	14 10	746	2 4	3,144	17 2
Booligal to Wilcannia .....	Quandongs " .....	1,742	11 2	639	1 1	2,381	12 3
	Tom's Lake " .....	2,149	6 1	614	1 8	2,763	7 9
	*Jumping Sandhill Well .....					1,124	12 1
	*Lognum Hut " .....	613	5 8	597	16 7	1,211	1 10
	Mossgiel Tank .....	1,764	13 7	776	0 10	2,540	14 5
	*Holy Box Well .....					1,064	9 9
	Ivanhoe Tank .....	2,011	15 11	699	7 6	2,711	3 5
Mossgiel to Paddington.....	Boonoonna " .....			587	4 2		
	Ward's " .....	1,413	11 9	637	0 9	2,050	12 6
	12-mile " .....					3,393	4 3
	26-mile " .....	1,387	17 10	469	5 11	1,857	3 9
	35-mile " .....	2,931	3 10	667	6 0	3,598	9 10
	48-mile " .....	2,590	9 1	435	4 2	3,025	13 3
	Carowra Swamp " .....	1,926	19 3	568	15 5	2,495	14 8
	Dowdican's " .....			In progress.		1,066	19 9
Balranald to Ivanhoe.....	Box Creek " .....	1,866	19 2	623	16 4	2,490	15 6
	Youhl Plain " .....	2,253	8 7	516	16 3	2,770	4 10
	Til Til " .....	2,164	16 3	593	7 4	2,758	8 7
	†Dolmoreve Well .....	1,219	9 10			1,219	9 10
	Claro Tank .....	2,019	4 10	630	9 6	2,649	14 4
	Gunnaramby " .....	1,818	14 0	578	11 0	2,395	5 0
	†Willandra Well .....			In progress.		1,087	5 8
Carathool to Hillston.....	Dry Lake " .....					794	4 0
	†Gunbar " .....					1,555	1 11
	Crows' Nest " .....					1,130	7 2
Whitton to Euabalong .....	9-Mile or Ulong Tank .....	1,440	14 4	504	11 0	1,945	5 4
	Mount Elliott " .....	1,185	5 3	515	17 2	1,701	2 5
	Pulletop " .....	1,511	1 6	557	6 10	2,068	8 4
	Waterman's " .....			In progress.		40	16 4
Narrandera to Grenfell .....	Harman's " .....			do		360	0 0
	Hillston to Carathool.....	Roto Well .....				1,181	4 0
Condobolin to Cobar .....	North Roto " .....					1,266	16 3
	Merri Merriwa Tank .....	2,530	12 6	723	17 11	3,254	10 5
	Wagga " .....	2,601	11 6	587	18 9	3,189	10 3
	Roto Holes " .....	2,565	5 0	382	3 8	2,947	8 8
	Sandy Creek " .....	2,240	16 6	565	9 3	2,806	5 9
	Priory " .....	2,252	13 7	476	14 9	2,729	8 4
	Shearlegs " .....	2,538	16 5	407	9 8	2,946	6 1
	Gibbs " .....	2,281	16 6	552	14 9	2,834	11 3
	Mowabla " .....	2,061	6 11	550	19 3	2,612	6 2
	Boona " .....	2,285	9 4	574	14 8	2,860	4 0
	Tinda " .....	2,456	5 9	600	0 11	3,056	6 8
	Mombill " .....	1,960	5 0	698	7 0	2,558	12 0
Nyngan to Cobar .....	Wicklow " .....	2,221	11 8	527	2 6	2,748	14 2
	Beloura " .....	2,290	0 9	539	2 1	2,829	2 10
	Nymagee " .....	2,418	6 8	522	5 7	2,940	12 3
	Keighran's " .....	2,498	0 0	567	15 2	3,065	15 2
	Hermitage " .....	3,038	1 7	660	14 11	3,698	16 6
	Muriel " .....	1,456	13 2	505	14 2	1,962	7 4
	Booroomugga " .....	979	4 3	481	12 0	1,460	16 3
Nyngan to Nymagee .....	Thorndale " .....	2,051	16 7	484	8 0	2,536	4 7
	Gilgie's " .....	1,514	19 6	495	19 4	2,010	18 10
	Babinda " .....	2,309	14 1	537	0 1	2,847	3 2
	Leslie's " .....	1,674	1 3	512	11 11	2,186	13 2
Cobar to Wilcannia .....	Meadows " .....			In progress.		953	11 7
	Springfield " .....			do		1,206	3 4
	Barnat " .....			do		786	12 11

\* Unfit for human consumption.

† Do do and stock.

‡ Do do do. This well is abandoned, and a new shaft is, it is said, being commenced.

Road.	Watering-place.	Earthwork, Shoot, Fencing, &c.	S. Tanks Troughing, Machinery.	Total.
		£ s. d.	£ s. d.	£ s. d.
Cobar to Louth .....	Cuttigullaroo Tank .....	1,200 9 11	598 3 3	1,798 13 2
	Booroondarra .....	2,233 19 5	569 16 0	2,803 15 5
	Kerrigundie .....	2,202 15 0	725 8 7	2,928 3 7
	Mulya .....	1,222 0 3	584 10 0	1,806 10 3
Cobar to Bourke .....	Cobar (stock) .....	880 5 5	.....	880 5 5
	Cobar (town) 2 .....	8,743 16 3	.....	8,743 16 3
	Nullima .....	966 11 0	461 1 9	1,427 12 9
	Tindarie .....	977 8 8	472 4 3	1,449 12 11
	Hilman's .....	1,620 15 10	550 2 9	2,170 18 7
	Curraweena .....	1,118 14 1	463 0 8	1,581 14 9
	Corilla .....	1,303 12 0	520 12 4	1,824 4 4
	Two Waterholes .....	1,075 4 6	651 15 11	1,727 0 5
Bourke to Eringonia .....	The Lake .....	2,129 15 5	437 17 4	2,567 12 9
	Clay-pan Hollow .....	2,083 16 3	470 17 1	2,554 13 4
Eringonia to Brewarrina .....	18-mile .....	1,599 18 9	582 13 2	2,182 6 11
	Ledknappa .....	2,127 16 7	576 18 3	2,704 14 10
Bourke to Hungerford .....	Ford's Bridge .....	2,662 14 4	580 7 10	3,243 2 2
	Yantabilla .....	In progress.	.....	756 10 10
Bourke to Wanaaring .....	18-mile .....	do	.....	.....
	Kulkine .....	Purchased for.	.....	850 0 0
Byrock to Brewarrina .....	Mulga, No. 5 .....	1,586 15 1	488 12 9	2,075 7 10
	Nelie's Paddock .....	1,545 19 0	551 6 10	2,097 5 10
Trangie to Dandaloo .....	Derribong .....	2,212 11 6	442 1 2	2,654 12 8
Nevertire to Coonamble .....	Nevertire .....	1,872 15 10	510 12 5	2,383 8 3
	Bullagreen .....	1,281 14 2	813 7 10	2,095 2 0
Dubbo District .....	Girilambone .....	1,646 7 7	879 18 9	2,526 6 4
	Tomingly .....	In progress.	.....	837 11 0
Wilcannia to Hungerford .....	*Seaville's .....	1,151 17 4	.....	1,151 17 4
	Copago .....	1,741 11 9	.....	1,741 11 9
	Peri Spring .....	1,549 7 6	.....	1,549 7 6
	Yantatangee .....	.....	.....	.....
	Warramurtie .....	1,536 8 0	.....	1,536 8 0
	Goomboolara .....	.....	.....	1,407 8 5
Wilcannia to Tibbooburra .....	Mulga Valley Well .....	In progress.	.....	920 7 9
	*Dry Lake Tank .....	.....	.....	1,004 17 11
	Beefwood Well .....	.....	.....	1,230 8 4
	Mena Murtie .....	.....	.....	967 3 1
	Tarella Tank .....	1,101 13 4	378 9 10	1,480 3 2
	The Peak .....	1,635 11 10	377 7 9	2,012 19 7
	Murlippa .....	1,865 10 11	344 5 4	2,209 16 3
	*Cobham .....	1,251 8 6	.....	1,251 8 6
	Milparinka Well .....	1,185 9 11	341 8 9	1,526 18 8
	Warratta Tank .....	1,587 17 8	414 12 6	2,002 10 2
	Tibbooburra Well .....	.....	.....	1,238 47 6
Silverton District .....	Silverton Tank .....	.....	.....	.....
	Silverton Well .....	.....	.....	5,749 2 1
	Rat-hole Tank .....	.....	510 7 5	.....
	Thackeringa .....	1,656 5 10	403 5 9	2,059 11 7
	Purnamoota .....	1,968 1 7	413 19 3	2,382 0 10
	Wilson's Dam .....	1,533 19 9	387 15 6	1,921 15 3
	Broken-hill Tank .....	In progress.	.....	1,181 3 4
Walgett to Bangate .....	Boro Waterhole .....	.....	.....	2,379 18 6
	Lightning Ridge .....	.....	.....	2,729 7 10
	Narran .....	1,912 11 0	397 2 4	2,309 13 4
Barwon to Narran .....	Cumborah .....	.....	.....	2,518 3 1
Nurrabri to Moree .....	Galathera .....	1,665 15 5	481 8 0	2,147 3 5
	Boggy Creek .....	2,058 9 0	570 17 7	2,629 6 7
Gunnedah to Coonabarabran .....	†Normanstone Well .....	In progress.	.....	1,090 15 3
	Baloola .....	.....	.....	1,024 0 6
	Mannum .....	.....	.....	828 8 6
Coonabarabran to Pilliga .....	Baradine .....	.....	.....	1,001 16 1
Albury District .....	Jindera Tank .....	1,023 2 0	379 18 4	1,403 0 4
	Walla Walla .....	1,336 2 3	239 7 10	1,575 10 1
	Carson's Swamp .....	819 11 6	.....	819 11 6
	Brocklesby .....	948 0 0	528 12 4	1,476 12 4
	Lowesdale .....	1,215 15 9	471 16 11	1,687 12 8
	Daysdale .....	1,305 12 1	271 18 6	1,577 10 7
	Wallace Town Dam .....	609 15 0	.....	609 15 0
	Junea .....	.....	.....	.....
	Hurley's .....	511 4 6	.....	511 4 6
	Major's Waterhole .....	1,219 15 2	.....	1,219 15 2
Wagga District .....	Coolaman Tank .....	1,533 1 8	314 19 0	1,848 0 8
Warialdra to Inverell .....	Whiteoaks Well .....	.....	.....	620 1 11
Mount Hope .....	Mount Hope Tank .....	1,845 2 0	486 4 4	2,331 6 4
Parkes to Bogan .....	Brolgan .....	1,283 2 10	567 5 9	1,850 8 7
Bourke to Wanaaring .....	†Goonery Well .....	.....	.....	450 8 7
Wilcannia to Tibbooburra .....	J K Waterhole .....	1,095 6 0	390 0 0	1,485 6 0
	Coally Dam .....	546 1 0	.....	546 1 0

\* Under water since January, 1885.

† Abandoned; no water.

‡ This is an artesian bore put down by the Drills Branch, Mines Department. This item of expenditure is doubtless for service tank and troughing. H.O., 6/2, 88.

NOTES.—The cubic contents of the above tanks may be ascertained on reference to pages 213–214 of the printed papers. A million gallons represents 5,943 cubic yards.

On page 207 will be found an abstract showing prices per cubic yard for excavating tanks from 1882 to 1886.

Comparison is invited between the above table furnished by the Department of Works on February 3rd, 1888, and the table on pages 213-214, supplied by the same Department on 5 January, 1885. Some discrepancy appears to exist with regard to the gross cost of the following works as shown in these tables. It will be seen on reference to the former table that the "cost" was in respect of works completed at the dates it was compiled.

	Return of January 5, 1885.	Return of February 3, 1888.
Black Swamp Tank .....	£1,710 5 4	£1,834 12 0
Pine Ridge .....	1,774 2 11	2,670 16 5
Tom's Lake .....	2,542 4 7	2,763 7 9
Mossiel .....	2,445 18 4	2,540 14 5
Wagga .....	1,906 7 6	3,189 10 3
Rock Holes .....	2,427 14 8	2,947 8 8
Sandy Creek .....	2,061 5 0	2,806 5 9
Shearlegs .....	2,583 8 2	2,946 6 1
Mowabla .....	2,163 8 2	2,612 6 2
Tinda .....	2,612 18 10	3,056 6 8
Mombil .....	2,460 3 5	2,558 12 0
Beloura .....	2,222 3 10	2,829 2 10
Nymage .....	3,002 3 5	2,940 12 3
Mount Hope .....	2,272 13 4	2,331 6 4
Garilambone .....	1,709 16 6	2,526 6 4
Jindera .....	1,351 18 9	1,403 0 4
Walla Walla .....	1,377 8 10	1,575 10 1
The Lake .....	2,294 18 11	2,567 12 9
Claypan Hollow Tank .....	2,086 6 11	2,554 13 4
Baradine Well .....	888 1 11	1,001 16 1
Crows' Nest Well .....	777 7 9	1,130 7 2

Minute by The Chief Inspector of Public Watering Places to The Under Secretary for Mines.

Subject:—Discrepancies in Returns furnished by Department of Works as to cost of Tanks and Wells.

Department of Mines, Public Watering Places,  
Sydney, 6 February, 1888.

P.W.P.,  
88-649. My attention having been called to some discrepancies in the cost of certain of the works as given in the returns furnished by the Works Department in January, 1885, and February, 1888. I have thought it desirable to append the above "notes" to the final return which is now prepared for printing for the use of the Commission, and for the return ordered by Parliament.

The discrepancies referred to amount to a considerable sum, and as in the return of 1885 it appeared to be distinctly implied that the amounts, except where noted, were for the work completed and full of water, it may be reasonably inferred that the later works constructed since, the prices of which are now given for the first time, have perhaps outstanding claims in the same way against them. As upon statements of the Works Department I have been asked to supply certified vouchers for work carried out by this Department (which were at once furnished) it appears to me quite justifiable that the Royal Commission may be invited to take the same course to verify these prices.

HARRY GILLIAT,  
Chief Inspector, P.W. Places.

The following is a list of averages compiled from the works return of February 3rd, 1885:—

		Tanks.		Average cost.	
		No. of Works.	£ s. d.		
Earthwork	...	90	1,842	17	0
Machinery	...	81	532	2	3
Total	...	96	£2,314	15	4
		Wells.			
Total	...	23	£1,078	4	9
		Dams.			
Total	...	5	£961	14	2

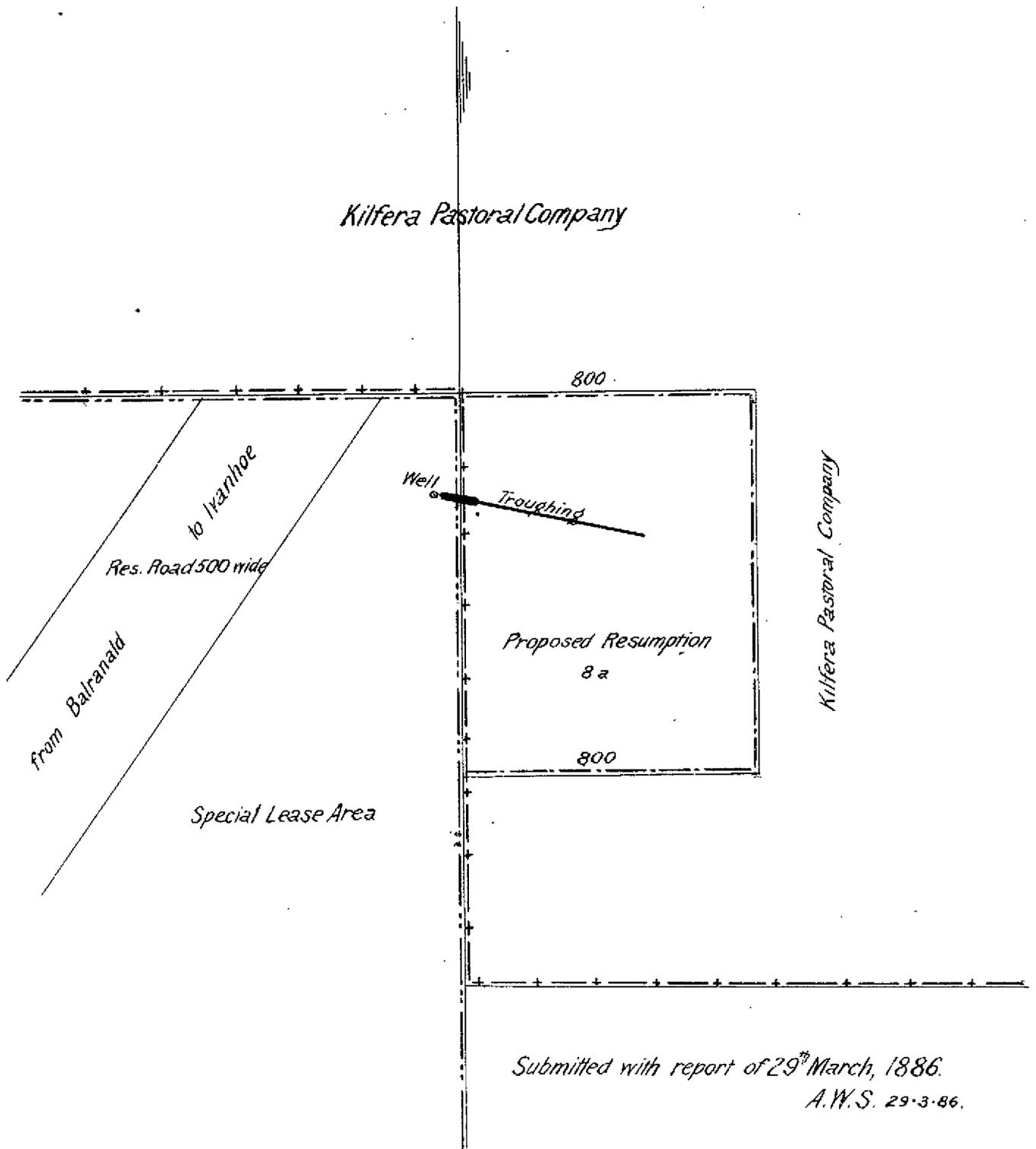
H.G., 6/2/88.

Submitted.—H.W., 6/2/88. Approved.—F.A., 6/2/88.

[Thirteen plans.]

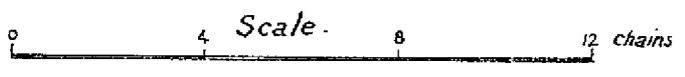


APPENDIX B



The part edged Red on Original shown thus — — — — —  
 " " " Blue " " " — — — — —  
 " " " Green " " " — + — + — + — + —

(Sig 422.-)

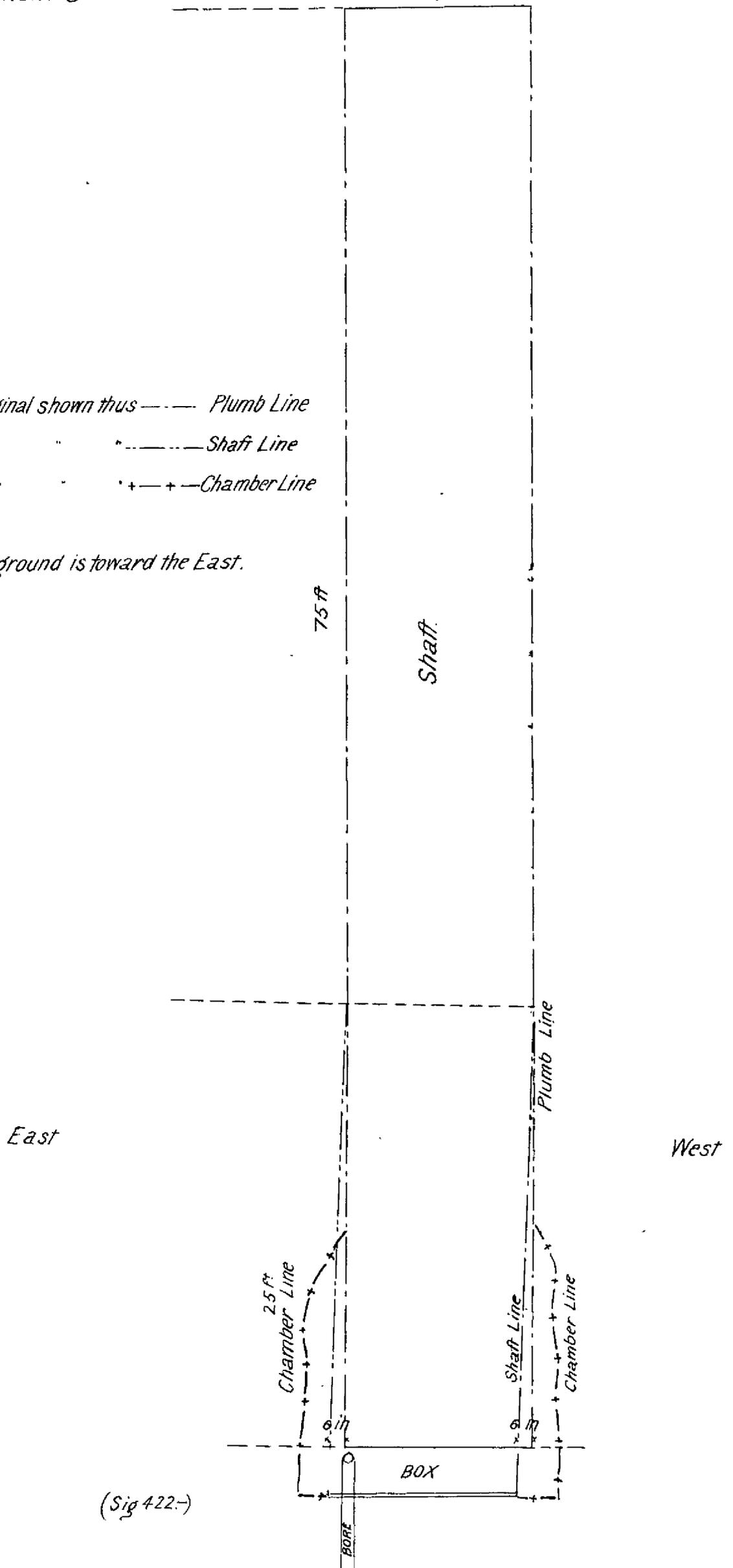


Willandra Well.

APPENDIX C.

Blue line on Original shown thus — — — — — Plumb Line  
Red . . . . . Shaft Line  
Green . . . . . Chamber Line

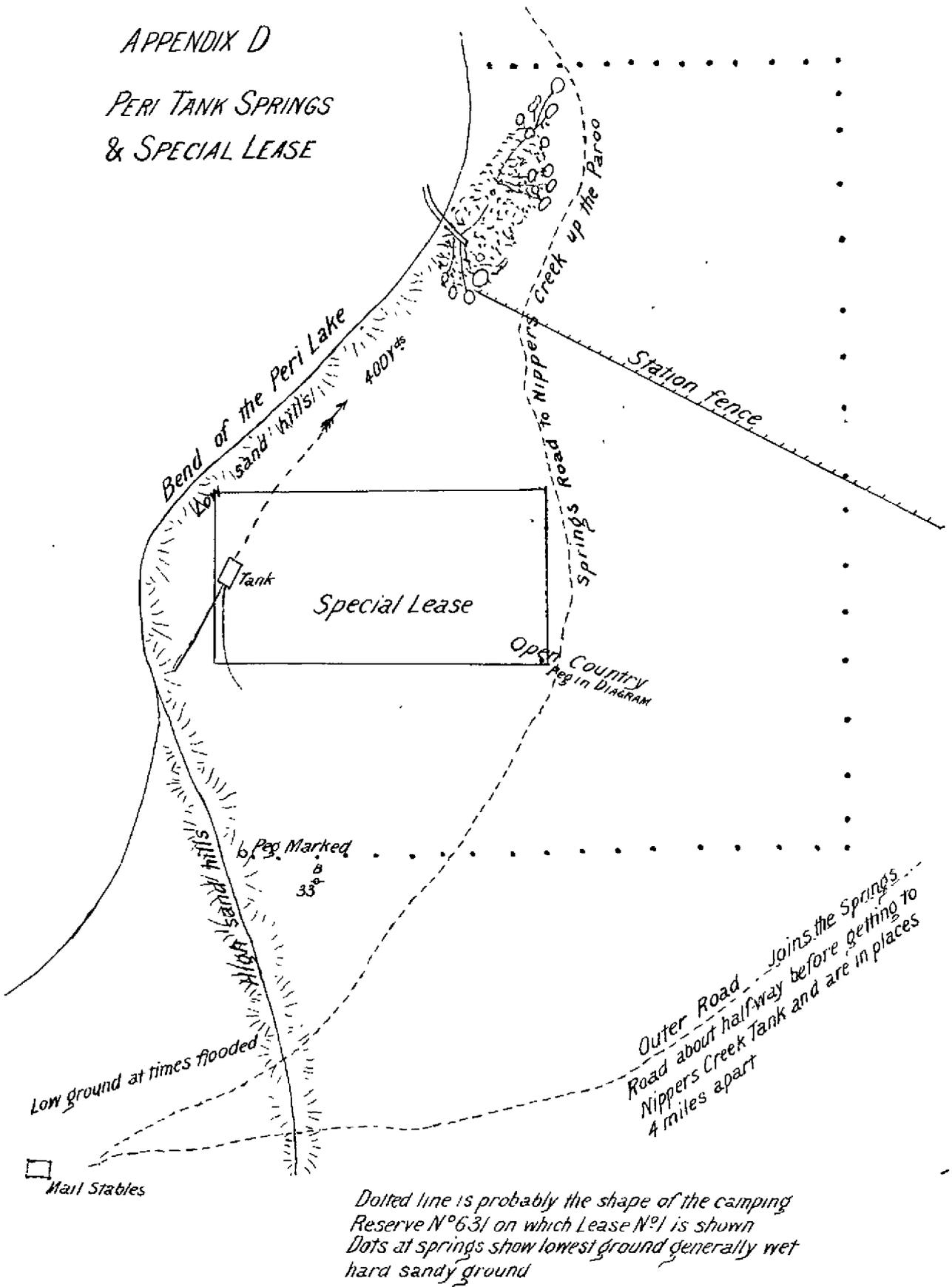
The Lay of the ground is toward the East.



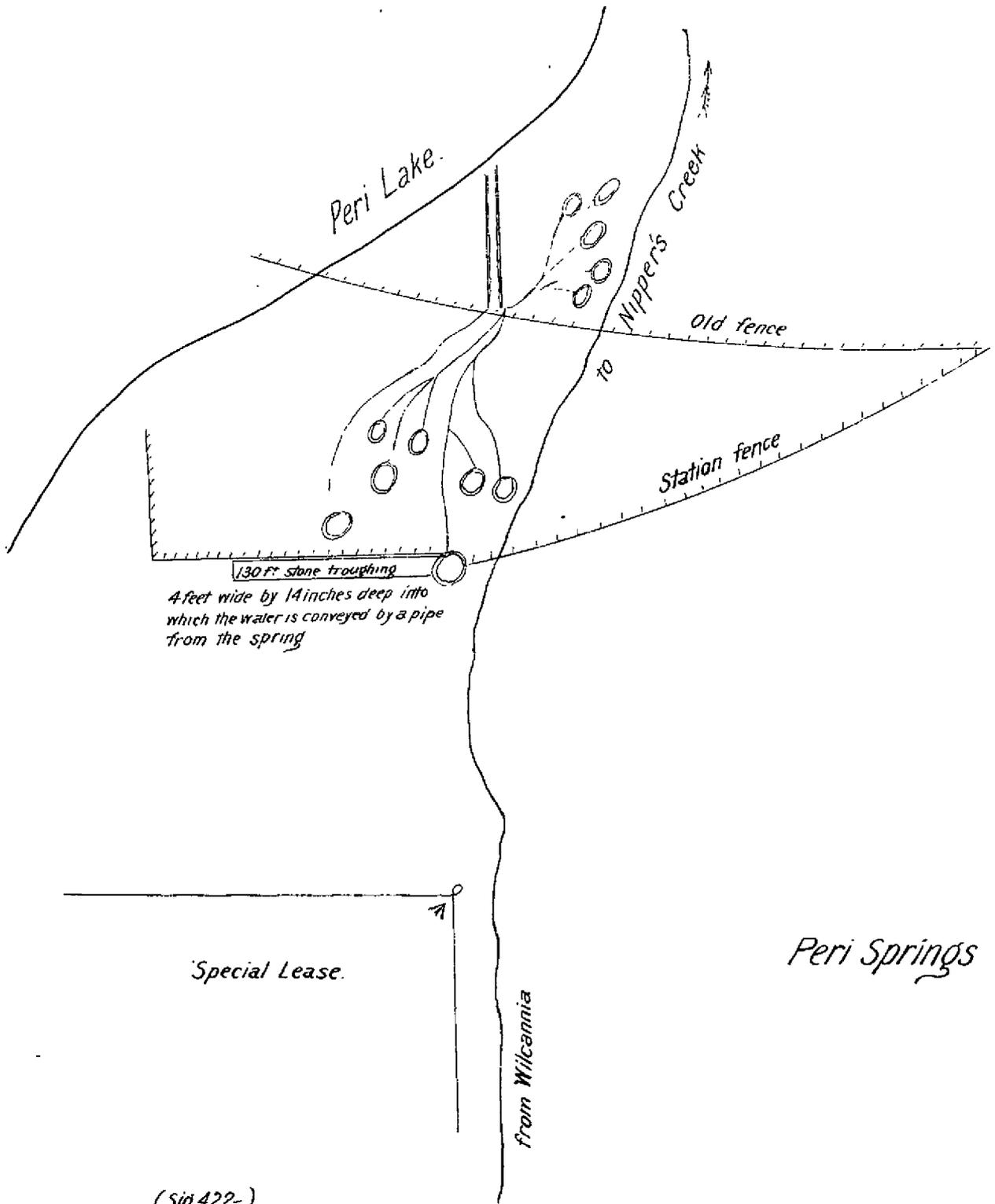
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APPENDIX D

PERI TANK SPRINGS  
& SPECIAL LEASE

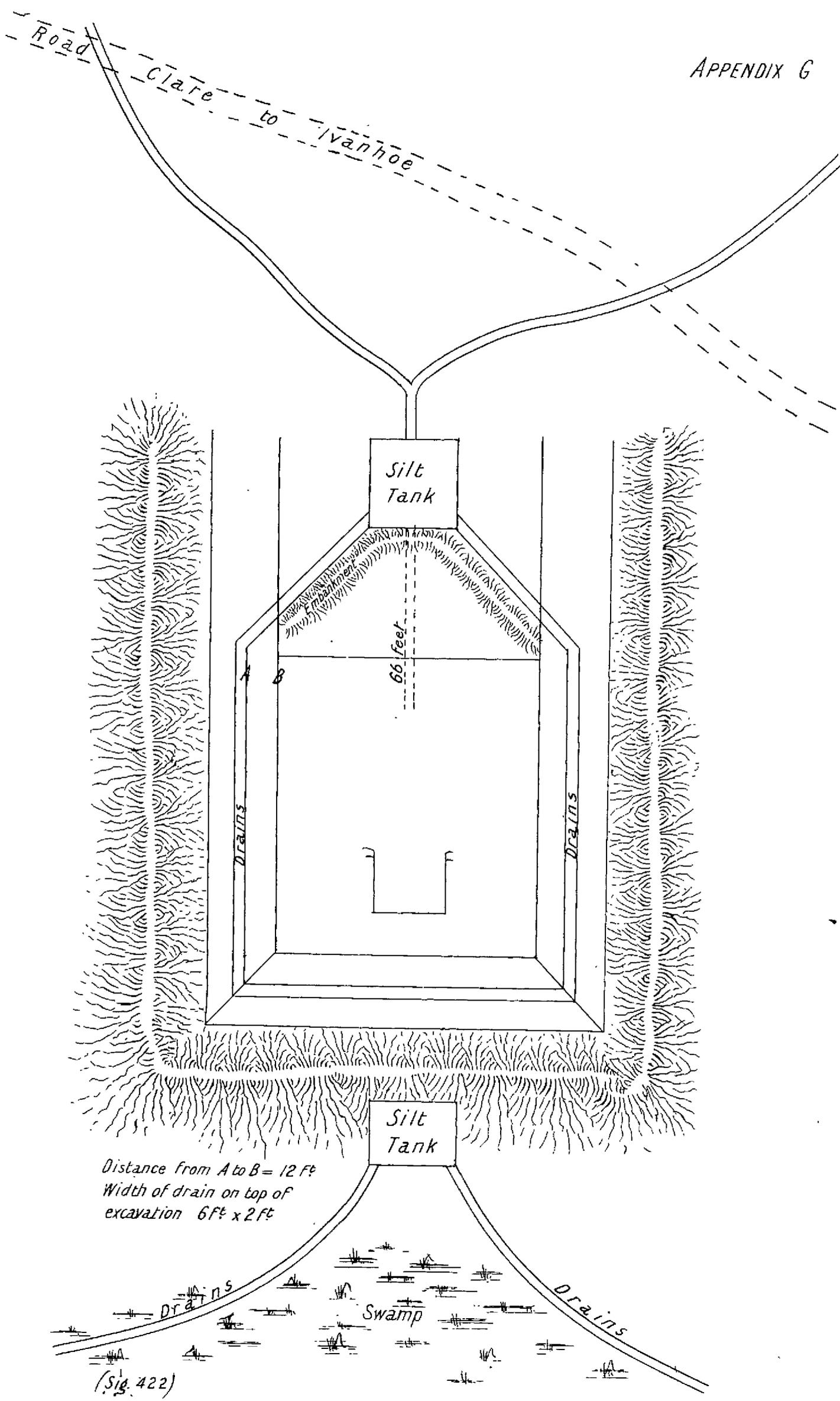


APPENDIX E



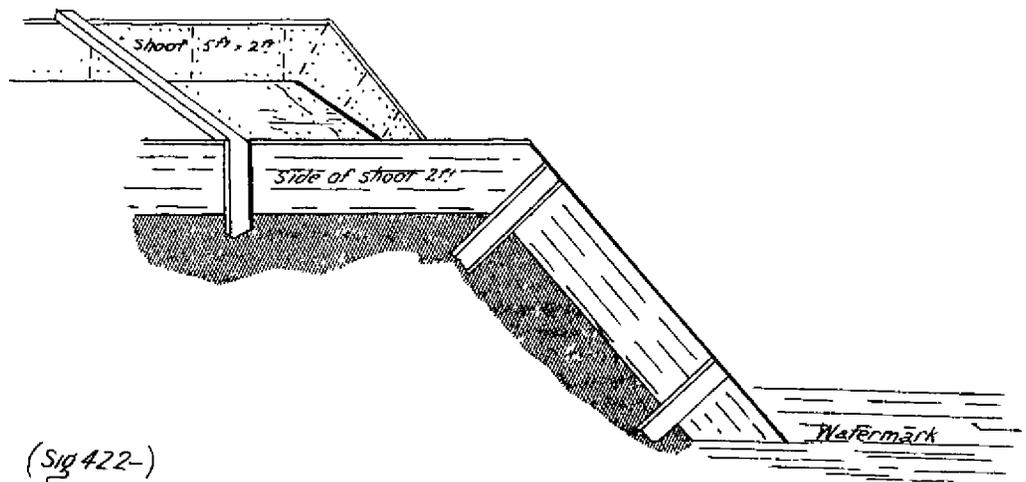
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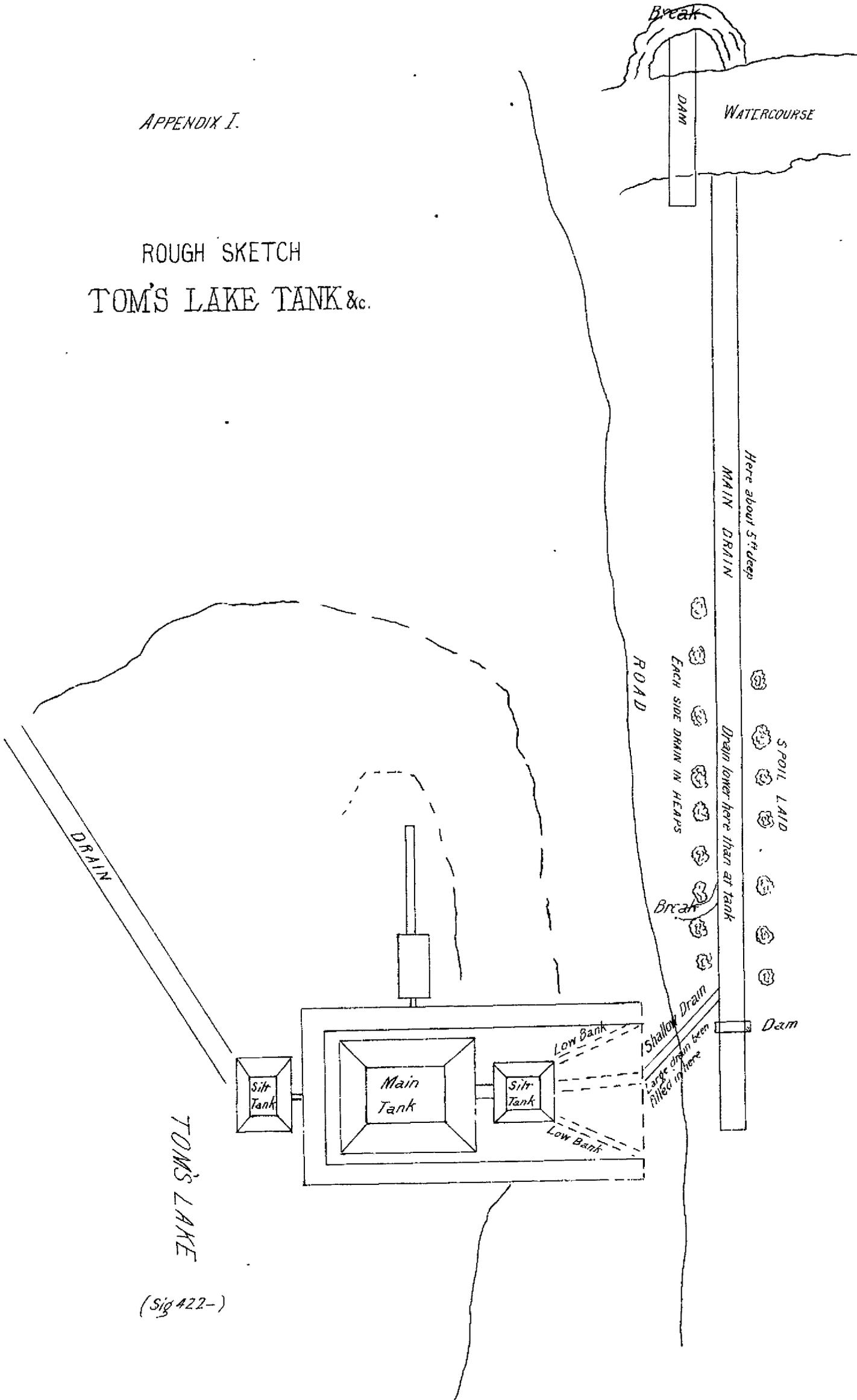
APPENDIX H.

Shoot lined with galvanized iron shown thus :...:  
Ground washed from underneath " "   
Shoot 2 ft.  
Posts 2 ft. 6 in. in ground.



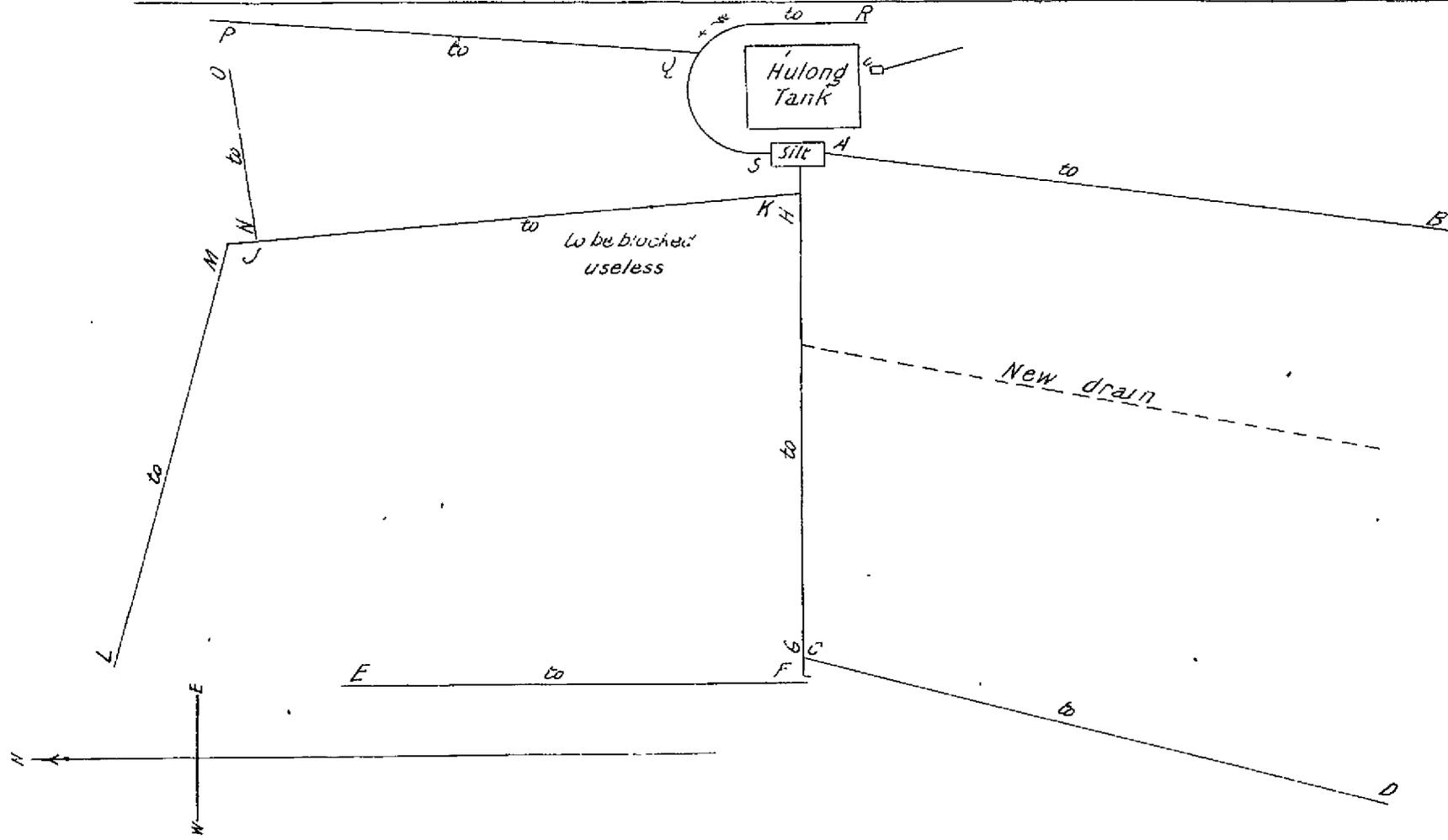
APPENDIX I.

ROUGH SKETCH  
TOM'S LAKE TANK &c.



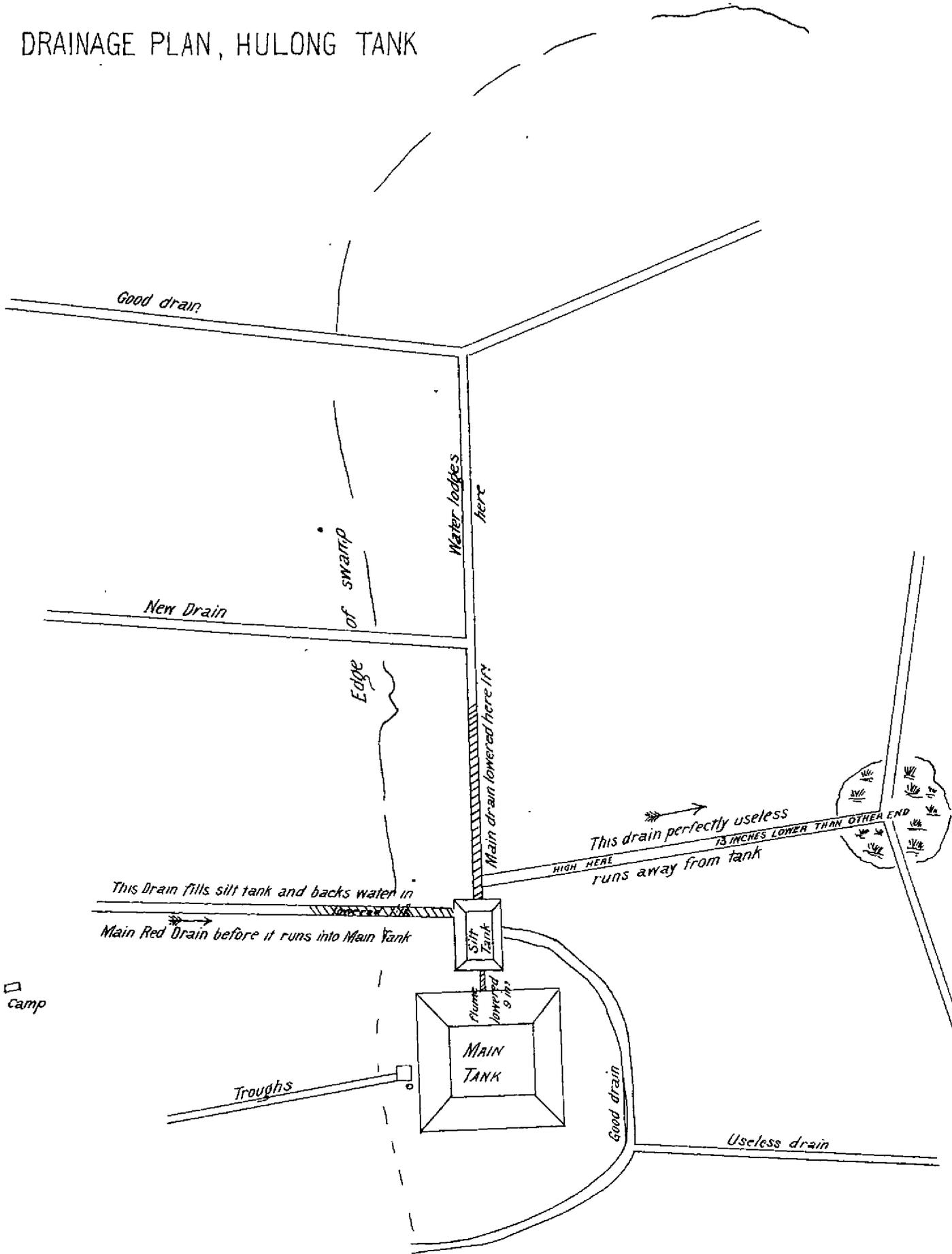
(Sig 422-)

Road from Lake Cudgellico to Whitton Railway Station



(Sig. 422)

# DRAINAGE PLAN, HULONG TANK



WHITTON TO LAKE CUDGELLICO

(Sig 422-)

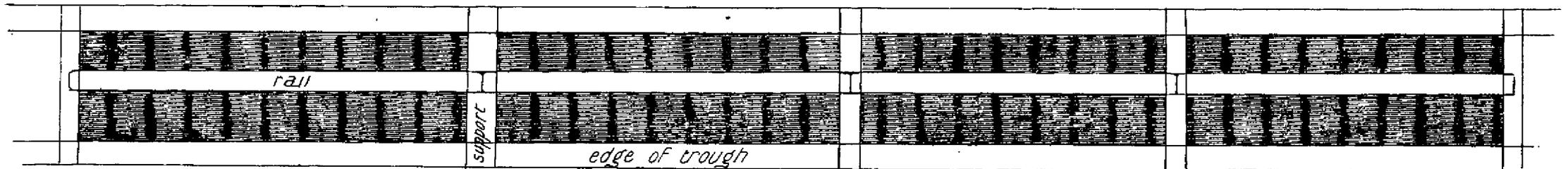
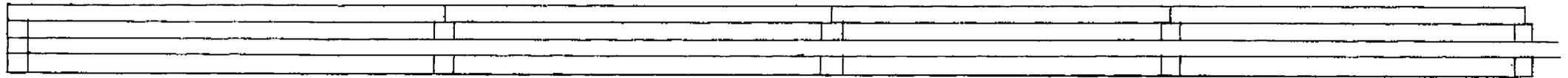
Hatched portions have been lowered

# Rough sketch

showing the proposed alteration of railing at the  
troughs of Tindary Tank

*James Cotton, Overseer*

Side view



(Sig. 422)

1887.

(THIRD SESSION.)

LEGISLATIVE ASSEMBLY.

NEW SOUTH WALES.

## PUBLIC TANKS.

(GALATHERA AND BOGGY CREEK.)

*Ordered by the Legislative Assembly to be printed, 23 November, 1887.*

RETURN (*in part*) to an *Order* of the Honorable the Legislative Assembly of New South Wales, dated 15th February, 1884, That there be laid upon the Table of this House, a Return showing,—

- “(1.) The number of Public Tanks, Wells, or Dams constructed, or in course of construction, in the Namoi, Gunnedah, Gwydir, Bogan, and Bourke Electorates (distinguishing the Electorate), specifying the road upon which constructed, name of the place, and distance from each other on the same line of road.
- “(2.) The name of contractor in each case, the cost of construction, and amounts paid since by way of repairs, and if such were let by tender or otherwise.
- “(3.) How such are worked,—by whim, windmill, windlass, or horse-power; if fenced in, or how protected.
- “(4.) Denoting those handed over to the Mines Department for management,—the uncompleted ones, with the names of contractors, and time fixed for completion.
- “(5.) Yearly rent received from each of these, names of lessees and caretakers, scale of charges adopted at each, with copy of general regulations, and if such has been published for general information.
- “(6.) Numbers, particulars, area, and date of proclamation in *Gazette* of all Travelling Stock Reserves connected with or surrounding such Tanks, Wells, or Dams, and if such are fenced, or intended to be.
- “(7.) Names of present Tank Inspectors; copies of their reports, or of Stock Inspectors, or any other person relating in any way to these Tanks, &c.”

*(Mr. Dangar.)*

## SCHEDULE.

NO.	PAGE.
1. The Inspector of Stock, Narrabri, to the Chief Inspector of Stock, reporting on the bad state of the Galathera and Boggy Creek tanks, and stating that unless immediate steps are taken, both main tanks would be filled with earth &c. 4 July, 1883 .....	2
2. The Caretaker, Boggy Creek tank, to the Chief Inspector of Stock, with reference to money collected at that tank. 5 August, 1883. ....	2
3. Mr. W. D. Wright to the Chief Inspector of Stock, <i>re</i> state of drinking tank, Boggy Creek—water unfit for stock to drink, &c. (Minutes thereon.) 29 February, 1884 .....	2
4. Mr. A. W. P. Copeman, Overseer Public Tanks and Wells, to the Chief Inspector of Stock, stating that Boggy Creek and Galathera tanks are in a too unfinished state to report on, and are likely to be for some time. (Minutes thereon.) 17 March, 1884 .....	2
5. Mr. W. B. Budge, Road Superintendent, to the Commissioner and Engineer for Roads and Bridges—Report on water in Boggy Creek tank. (Minutes thereon.) 18 March, 1884 .....	3

## PUBLIC TANKS.

## No. 1.

The Inspector of Stock, Narrabri, to The Chief Inspector of Stock.

Sir,

Narrabri, 4 July, 1883.

I have the honor to inform you that I have been out again to the Galathera and Boggy Creek tanks, and am very sorry to have to inform you that, unless immediate steps are taken to arrest it, both main tanks will be filled in with earth in a very short time; owing to there being an insufficient batter to them, the constant action of the water is undermining the banks of the tank and causing them to fall in. I would earnestly beg to urge that the Department take immediate steps to stop this, and put the tanks in working order before it is too late; if not done shortly, all the money expended upon them hitherto will have been wasted.

The weather just now is favourable, and the repairs could be carried out readily. Summer will be upon us in a very short time, and if something is not done travelling stock will be tortured, as heretofore, with the pangs of thirst, and in many cases reach water after crossing these arid plains but to die, as I have frequently witnessed.

I have, &amp;c.,

ARTHUR W. P. COPEMAN,  
Inspector of Stock.

## No. 2.

The Caretaker, Boggy Creek Tank, to The Chief Inspector of Stock.

Sir,

Boggy Creek, 5 August, 1883.

I have received by this morning's coach a printed form, I presume for the money collected at this tank for which I suppose they hold me responsible. No doubt you are aware that I have received instructions, ever since my appointment to the Boggy Creek tank, not to allow any stock inside the fence, by the District Inspector; if they persisted in driving stock in, I was to summons them, which I have done once. I don't know why they should send to me for the money collected when they know very well that no stock is allowed to water either at this tank or Galathera, although I think it is very wrong that this tank is not thrown open. I think if the public were allowed to have the use of the water, that is in the drinking tank, then something could be done to it in the way of repairs, which it needs very badly. The water cannot come out of the standing tank on account of the pipe being stopped up, and there is no way of getting at it to clean it only by letting stock drink what water there is in the drinking tank. I am sending this form back to you.

I have, &amp;c.,

CYRUS W. MORROW.

## No. 3.

Mr. W. D. Wright to The Chief Inspector of Stock.

Sir,

Boggy Creek, 29 February, 1884.

I have the honor to report to you that the water in the drinking tank here is unfit for stock to drink, it is perfectly green. I brought a number of both horses and cattle across the plains to the tank to day, but they would not touch it.

The tank at Galathera is now a great blessing, but there are in my opinion several serious matters of alteration which require to be made in that tank.

I have, &amp;c.,

W. D. WRIGHT.

Mr. Gilliat.—A.B., B.C., 3/3/84.

The notice of the Department of Public Works has been several times lately called to the complaints in connection with the Galathera and Boggy Creek tanks. I think this might be forwarded for the information of the Commissioner and Engineer of Roads.—H.G., B.C., 6/3/84. Mr. Bruce.

Submitted.—A.B., 7/3/84. The Under Secretary for Mines. Submitted.—H.W., 10/3/84. Approved. I wish the Works Department would do something about these.—J. P. ABBOTT, 11/3/84. The Under Secretary for Public Works.—H.W., B.C., 11/3/84. Roads.—J.R., B.C., 15/3/84. Mr. Wood.—W.C.B., 17/3/84.

I attach report from the local officer, the complaint made is a necessary result of the drinking tank system, when there is not a steady demand for water to allow of a free flow or to allow of noxious foreign matter being removed. It has been our intention to fix pump service tank, &c., at this place and the delay is due to Mr. Nussan's delay in carrying out his contract of service tanks.—A.P.W., 20/3/84. The Commissioner and Engineer for Roads and Bridges.

The pump is at Narrabri.—W.C.B., 20/3/83. The Under Secretary, B.C.

## No. 4.

The Overseer Public Tanks and Wells to The Chief Inspector of Stock.

Sir,

Narrabri, 17 March, 1884.

I have the honor to inform you that I have visited the Galathera and Boggy Creek tanks for the purpose of reporting upon them, but have refrained from doing so, owing to the unfinished state they are, and are likely to be in for some time to come. At Boggy Creek, stock will not be able to water, as the supply is exhausted in the drinking tank and no means of feeding it again, Galathera

Galathera is open to the public, and a return coming in from it. It is still in an unfinished state, and the troughing requires fencing in. Mr. Budge, the Road Superintendent, instructed the caretaker to use his horses for the purpose of lifting the water, but never made any arrangement with him as to payment for use of same. Will I do this?

The Galathera caretaker requires a supply of weekly return forms. I enclose a letter received from him, *re* travelling to Narrabri to remit his moneys and sign his attested returns. Can he be allowed anything for travelling in and out?

Will I send in report as to present state of tanks or wait till they are handed over? The contractor at Boggy Creek says he will be quite six months at work there.

I have, &c.,

A. W. P. COPEMAN,  
Overseer of Public Tanks and Wells.

Mr. Gilliat.—A.B., B.C., 19/3/84. The Chief Inspector of Stock,—Mr. Overseer Copeman might be instructed to arrange for the forwarding of rates collected by caretakers in his district in the manner adopted by other overseers. An understanding with the Department of Public Works seems desirable with reference to the caretaker lifting water at the Galathera tank. This department has not been informed of the completion of the lifting appliances, and it seems undesirable to interfere until so notified; at the same time it is urgent the caretaker should have water in readiness for persons requiring it. Any engagements made by the District Road Superintendent will—Mr. Copeman might be informed—be discharged by his own department. A copy of Mr. Copeman's letter might perhaps be forwarded to the Works.—H.G., B.C., 1/4/84.

### No. 5.

Mr. Road Superintendent Budge to The Commissioner and Engineer for Roads.

Sir,

Narrabri, 18 March, 1884.

In compliance with the instructions contained in telegram sent by Mr. Wood yesterday, I beg to report as follows on water in the Boggy Creek Tank:—

The water in the drinking tank is totally unfit for use.

The water in the reservoir is 8 ft. deep, and sweet and good.

Until the drinking tank is emptied and cleaned out it will be unfit for use, and until that time water must be taken directly from the reservoir.

A wooden trough and temporary pump might meet the difficulty for the present, as water is obtainable six miles north of Boggy Creek, and also at Galathera.

A service tank and pump, similar to the one at Galathera, or a substitute for one, should be erected as soon as possible.

I have, &c.,

W. P. BUDGE,  
Road Superintendent.

Mr. Wood,—See me at once.—W.C.B.

This would have been remedied ere this had Mr. Nussan satisfied the terms of his contract by delivering the iron tanks he has contracted for; the pump was forwarded some months ago.—A.P.W., 20/3/84. The Commissioner and Engineer for Roads and Bridges.

Forward to Mines.—T.A.W., 22/3/84. The Under Secretary for Mines.—W.F. (for U. S.), B.C., 24/3/84. Mr. Gilliat.—A.B., B.C., 25/3/84. I may point out that this is an additional instance of the importance of having water supplied from pumps and troughings.—H.G., B.C., 1/4/84. Mr. Bruce. Submitted.—A.B., 2/4/84. The Under Secretary for Mines. Submitted.—G.E.H. (for U. S.). Seen; inform Mr. Wright.—J. P. ABBOTT, 5/4/84.



1887.

(THIRD SESSION.)

LEGISLATIVE ASSEMBLY.

NEW SOUTH WALES.

## PUBLIC WATERING PLACES.

(COST OF MAINTENANCE AND REVENUE FROM, FOR TWO YEARS ENDING 30 SEPTEMBER, 1887.)

*Ordered by the Legislative Assembly to be printed, 20 October, 1887.*

Department of Mines, Sydney, 13 October, 1887.

RETURN showing cost of maintenance and revenue of Public Watering Places constructed during the two years ending 30 September, 1887:—

No. of Tanks	...	...	...	...	...	...	29
„ Wells	...	...	...	...	...	...	8
„ Dams	...	...	...	...	...	...	3
							40 watering places.

## MAINTENANCE.

							£	s.	d.
Caretakers' wages	...	...	...	...	...	...	6,093	17	6
Tools	...	...	...	...	...	...	200	0	0
Overseers' travelling allowance	...	...	...	...	...	...	200	0	0
							£6,493	17	6

## REVENUE.

Collected by caretakers	...	...	...	...	...	...	902	6	2
Rental of nine watering places leased	...	...	...	...	...	...	427	10	0
							£1,329	16	2

The amount collected by the caretakers was unusually small during the past two years owing to the abundant rainfall.

RETURN showing Public Watering Places constructed during the last two years (from 1st October, 1885), locality, and net revenue derived from each.

Public Watering Place.	Road.	Revenue from 1st October, 1885.		
		£	s.	d.
Walla Walla Tank ... ..	Albury to Walla Walla ... ..	52	1	4
Hovell's Dam ... ..	Howlong to Walla Walla ... ..	41	5	9
Brocklesby Tank ... ..	Howlong to Walbundry ... ..	3	15	7
Dolmoreve Well ... ..	Balranald to Ivanhoe ... ..	4	7	8
Polygonum Hut Well ... ..	Booligal to Mossiel ... ..	42	11	8
Helman's Tank ... ..	Cobar to Bourke ... ..	135	15	0
Girilambone Tank ... ..	Bourke to Nyngan ... ..	5	7	8
Derribong Tank ... ..	Trangie to Dandaloo ... ..	.....	.....	.....
Babinda Tank ... ..	Nymagee to Nyngan ... ..	33	10	10
Gilgai Tank ... ..	Nymagee to Nyngan ... ..	153	1	3
Thorndale Tank ... ..	Nymagee to Nyngan ... ..	87	0	9
Booroondarra Tank ... ..	Cobar to Louth ... ..	92	9	6
Kerrigundi Tank ... ..	Cobar to Louth ... ..	89	11	6
Bullagreen Tank ... ..	Coonamble to Warren ... ..	1	10	2
Lowesdale Tank ... ..	Corowa to Urana ... ..	.....	.....	.....
Daysdale Tank ... ..	Corowa to Urana ... ..	8	7	8
Carson's Swamp Tank ... ..	Corowa to Walbundry ... ..	0	9	2
Baradine Well ... ..	Pilliga, <i>via</i> Baradine, to Coonabarabran ... ..	9	17	4
Mannum Well ... ..	Coonabarabran to Gunnedah ... ..	4	19	10
Pretty Pine Well ... ..	Deniliquin to Hay ... ..	65	8	7
Wangonilla Well ... ..	Deniliquin to Hay ... ..	23	6	10
Brolgan Creek Tank ... ..	Parkes to Bogan Gates ... ..	2	16	0
Illabo ... ..	Illabo ... ..	.....	.....	.....
Clare Tank ... ..	Balranald to Ivanhoe ... ..	7	14	2
Gunnaraby Tank ... ..	Balranald to Ivanhoe ... ..	0	13	4
Cowrowra Swamp Tank ... ..	Mossiel to Paddington ... ..	16	16	0
Ivanhoe Tank ... ..	Mossiel to Ivanhoe ... ..	11	6	4
Mt. Manara Tank ... ..	Ivanhoe to Wilcannia ... ..	57	19	8
Ulong Tank ... ..	Whitton Railway Station to Cudgellico ... ..	24	5	11
Mt. Elliot Tank ... ..	Whitton Railway Station to Cudgellico ... ..	10	15	1
Pulletop Tank ... ..	Whitton Railway Station to Cudgellico ... ..	73	3	8
Coolaman Tank ... ..	Cowabie to Wagga ... ..	0	16	6
Glendon Tank ... ..	Walgett, <i>via</i> Bangate, to Goodooga ... ..	0	5	6
Mena Murtie Well ... ..	Wilcannia to Milparinka ... ..	.....	.....	.....
Rat Hole Tank ... ..	Silverton to UMBERUMBERKA ... ..	199	19	5
Purnamoota Tank ... ..	Purnamoota ... ..	2	7	11
Day Dream Tank ... ..	Silverton to Nickleville ... ..	5	17	8
Silverton Well ... ..	Silverton ... ..	34	5	7
Thackerina Tank ... ..	Silverton to UMBERUMBERKA ... ..	25	15	4
	Total ... ..	£	1,329	16 2

1887-8.

NEW SOUTH WALES.

LANDS FOR PUBLIC PURPOSES ACQUISITION ACT.  
(RESUMPTION OF LAND UNDER, IN CONNECTION WITH CONSTRUCTION OF THE DAYSDALE TANK.)

Presented to Parliament, pursuant to Act 44 Vic. No. 16, sec. 6.

NOTIFICATION OF RESUMPTION OF LAND UNDER  
44 VICTORIA No. 16.

NEW SOUTH WALES, } By His Excellency The Right Honourable  
to wit. { CHARLES ROBERT, BARON CARRINGTON,  
a Member of Her Majesty's Most  
Honourable Privy Council, Knight  
(L.S.) Grand Cross of the Most Distinguished  
CARRINGTON, Order of Saint Michael and Saint  
Governor. George, Governor and Commander-in-  
Chief of the Colony of New South  
Wales and its Dependencies.

WHEREAS I, the Governor aforesaid, with the advice of the Executive Council of the said Colony, have duly sanctioned the carrying out of certain public works for and in connection with the conservation of water, that is to say by the construction of the Daysdale Tank, for and towards the completion of which said work public funds are available under the provisions of the "Appropriation Act of 1887." And whereas the lands hereinafter described are required for the construction of the said works: Now, I, the Governor of the said Colony, with the advice of the Executive Council of the said Colony, in pursuance of the powers in this behalf given to or vested in me by the "Lands for Public Purposes Acquisition Act," do by this notification, published in the Gazette and in a newspaper, that is to say, in the "Sydney Morning Herald," circulated in the Police District wherein the said lands are situated, declare that the land hereinafter described have been resumed for the public purpose hereinafter mentioned, that is to say, for and in connection with the conservation of water by the construction of the Daysdale Tank, to the intent that, upon the publication of this notification in the Gazette, the legal estate in the said land shall forthwith be vested in the Minister for Public Works and his successors, on behalf of

Her Majesty, for the purpose of the said last-mentioned Act, for an estate of inheritance in fee-simple in possession freed and discharged from all trusts, obligations, estate, interests, contracts, charges, rates, rights-of-way, or other easements whatsoever; and to the intent, further, that the legal estate therein, together with all powers incident thereto or conferred by the said Act, shall be vested in the said Minister as a trustee, with the powers stated in the said last-mentioned Act: And I declare that the following is a description of the land hereinbefore referred to, that is to say:—

All that piece or parcel of land situate in the parish of Gordon, county of Hume, and Colony of New South Wales: Commencing at the south-west corner of portion 24 of 250 acres, on the Coreen Creek; and bounded thence on the south by part of the south boundary of portion 24, east about 1 chain and 17 links; on the north-east by a line bearing north 30 degrees 32 minutes west 8 chains and 14 links; on the north by a line west about 1 chain and 60 links to the bank of the Coreen Creek aforesaid, and by that creek in a south-easterly direction for about 8 chains; thence east about 50 links to the point of commencement, containing 1 acre 2 roods or thereabouts, and said to be in the possession and occupation of William Wilson.

In witness whereof, I have hereunto set my Hand and caused the Great Seal of the Colony to be hereto affixed, at Government House, Sydney, this tenth day of April, in the year of our Lord one thousand eight hundred and eighty-eight, and in the fifty-first year of Her Majesty's Reign.

By His Excellency's Command,  
JOHN SUTHERLAND.

GOD SAVE THE QUEEN!



1887-8.

LEGISLATIVE ASSEMBLY.

NEW SOUTH WALES.

## BORING OPERATIONS ON THE BOURKE TO WANAARING ROAD.

(REPORT OF SUPERINTENDENT OF DRILLS ON.)

*Ordered by the Legislative Assembly to be printed, 28 February, 1888.*

*[Laid upon the Table of the Honorable the Legislative Assembly of New South Wales by the Secretary for Mines, in answer to Question No. 18, Votes 57, of Thursday, 23 February, 1888.]*

REPORT by the Superintendent of Drills on the Boring operations on the 101½ mile, Bourke to Wanaaring Road.

Sir,

Department of Mines, Sydney, February, 1888.

I have the honor and the pleasing duty to inform you that the boring operations under Foreman D. C. Carmichael, on the 101½ mile, Bourke to Wanaaring Road, have been crowned with success. Last year, during the month of May, I started from Sydney to Bourke, and *via* Wanaaring to Milparinka, for the purpose of examining the country west of the Paroo as to its indication for artesian water supply. I had Carmichael with me, and we took a track known as the old peg line, which had been travelled over by very few white persons. The track has generally been known as the Dry Track to Mount Browne (and on which track two men nearly perished for want of water within this last fortnight, one of whom was rescued, but the other perished near the 48-mile post). We successfully reached Milparinka, and I marked off eight different boring sites *en route*, about 15 miles apart of each other. On my return trip to Bourke I also marked the site known as 101½ west of West Bourke, or 105 miles west of Bourke, and 11½ miles east of Wanaaring on the Paroo.

Operations at the 101½-mile bore were commenced the latter end of June, but having to pierce through thick layers of quartzite, limestone, and drift, the progress made has been slower than it otherwise would have been.

On the 8th instant Foreman Carmichael wired me that on the previous day he tapped a supply of artesian water at a depth of 851 feet, equal to 7,400 gallons per day. I replied to Carmichael that he had done well, but that he should bore deeper, as I was certain a large supply of artesian water would be tapped. To-day Carmichael wires me that an increased supply of artesian water had been tapped at the depth of 900 feet (or 50 feet deeper than where first met with), flowing to the surface at the rate of 21,600 gallons per day, still increasing; and I am certain that in a few feet deeper a still larger supply will be obtained, more than sufficient for the purpose intended, and the bore, which is 5 inches at bottom, is larger than is really required.

The full importance of this artesian water supply can hardly be estimated at present; it will not only be a valuable boon for human beings, and stock which have to travel here in dry seasons, but it will enhance the value of all the pastoral properties which are in the area of the Cretaceous formation. It also proves that Mr. C. S. Wilkinson, Government Geologist, was right in advising the Government to start boring for artesian water west of Bourke, and which report and advice were acted upon, and boring was commenced in 1882, near the mudholes and artesian well of Goonery, where, at no great depth, artesian water was obtained. During my term of Gold-fields Warden at Mount Browne, in 1881, I also wrote that Milparinka ought to be connected with Bourke by opening up underground water supplies along the route, which was likely to be found in abundance. I am glad that under my supervision the two deepest artesian wells in New South Wales have been opened—one 87 miles west of Bourke, 960 feet in depth, flowing at the rate of 35,000 gallons of excellent quality water per day; the other, 105 miles west of Bourke, now 900 feet in depth (still boring), flowing to surface 21,600 gallons per day water of good quality, and volume still increasing.

I am confident that the success attained at the bore site marked out by me at the 101½ mile, or 105 miles west of Bourke, will also be attained at the eight boring sites marked out by me about the same time, west of the Paroo, between Wanaaring and Milparinka; and I beg to recommend that these sites may be operated upon as soon as possible during these favourable seasons, more especially as the nature of the country is a dry sandy soil unsuitable for tank construction.

Before I close this report I again beg to bring under your notice Foreman D. C. Carmichael, who has always been willing and ready to assist me in all matters in connection with the boring operations under his immediate charge, and through whose ability, energy, and perseverance a good deal of the success obtained is due.

In a few days more I expect to report still greater results.

I have, &c.,

W. H. J. SLEE,

Superintendent of Drills.

Since writing the above Carmichael wired again that heavy flow of water flowing from bore to the road, and ample supply for all purposes. He may be wired to stop boring and fix tubing, and fence similar to 75-mile bore.—W. H. J. SLEE.

1887-8.

LEGISLATIVE ASSEMBLY.  
NEW SOUTH WALES.

THE RABBIT PEST.

(REPORT OF HEALTH BOARD AND OTHER PAPERS ON PROPOSALS TO EFFECT DESTRUCTION OF RABBITS BY MEANS OF DISEASES TO BE INTRODUCED.)

*Ordered by the Legislative Assembly to be printed, 14 March, 1888.*

No. 1.

The Secretary for Lands to The Colonial Secretary.

Sir,

I wish you would cause the enclosed papers, in which proposals are made to the Government to sanction the introduction of contagious diseases among rabbits, for the purpose of ensuring their destruction, to be referred to the Health Board, for their consideration and report, as to whether the introduction of these diseases, as proposed, would be dangerous to human life or health.

The papers are—

- Mons. Pasteur's scheme.
- Drs. Ellis & Butcher's scheme.
- Professor Watson's scheme.

THOS. GARRETT, 8/2/88.

The Principal Under Secretary.—C.O., B.C., 8/2/88. Referred for report of the Board as desired by the Minister for Lands.—H.P., 8/2/88. C.W., B.C., 8/2/88. The Under Secretary for Finance and Trade. Approved.—J.F.B., 13/2/88. The Secretary, Board of Health.—F.K. (for U.S.), B.C., 13/2/88.

M. Pasteur's Scheme.

[Translated from *Le Temps* (Paris), 29th November, 1887.]

M. Pasteur has favoured us with the following letter :—

M. PASTEUR AND THE DESTRUCTION OF RABBITS.

To the editor of *Le Temps*.

Paris, 27 November.

Your journal announced a few days ago that the Government of New South Wales felt itself so powerless to cope with the a particular pest, the increase of rabbits, that it offered a reward of 625,000 francs (£25,000) for the discovery of a means to exterminate them.

Large areas of New Zealand, no less infested than Australia, are abandoned by the farmers, who have given up the raising of sheep owing to the impossibility of feeding them. Every winter the rabbits are killed in millions, but this carnage does not appear to lessen the numbers.

Will you permit me to make known to those distant countries, by the medium of *Le Temps*, certain ideas, the application of which may meet with some success?

Up to the present the means employed for the destruction of the pest has consisted of mineral substances, notably phosphorized combinations. In adopting such means, has not the wrong course been taken? Of what use are such mineral poisons to destroy animals which propagate at a frightful rate? These poisons kill only on the spot where they are placed, but to reach the great body of the living is it not rather necessary, if I may dare to say it, to adopt a poison gifted with life, like them, and, like them, able to multiply with a surprising fecundity?

I would like to see death carried into the burrows of New South Wales and New Zealand by trying to communicate to the rabbits a disease which should become epidemic.

Such

Such a disease exists under the name of poultry cholera (*choléra des poules*), and has been the object of careful study on my part. It is equally peculiar to rabbits. Among my experiments with this disease was the following:—I gathered together in a limited space a certain number of fowls, and by giving them food infected by the microbe, which is the cause of poultry cholera, they were not slow to die. Poultry yards are sometimes devastated by real epidemics of this evil, whose propagation is due, without doubt, to the droppings of the first sick fowls, which infect the soil and the food.

“I imagine that the same thing would happen with rabbits, and that on returning to their burrows to die they would communicate the disease to others who would propagate it in their turn.” But what is to be done so that the first rabbits shall become tainted with the destructive evil? Nothing is more simple.

Around a burrow I would place a light movable fence, enclosing a certain space, where the rabbits would come to seek their food. Experiments have proved that it is easy to cultivate with perfect purity, and on as large a scale as may be desired, the microbe of poultry cholera in water in which meat has been boiled. With this liquor, full of microbes, the food of the rabbits should be sprinkled, and in a short time they would perish here and there within the enclosure, and spread the evil on all sides.

I may add that the parasite of the disease of which I have just spoken is harmless to farm animals, except, of course, poultry, but these are not compelled to live in the open field.

I doubt not that there may be persons in the infested countries quite ready to adopt the means which I propose, a very simple method, and one which, in any case, is worthy of being tried.

Please accept, Mr. Editor, the assurance of my most distinguished consideration.

PASTEUR.

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Addressed to Abigail, Secretary, Mines, Sydney.

Paris, 19/1/88.

HAVE you received the communication which appeared in the *Temps* newspaper? I have since made conclusive experiments. May I send immediately delegates, with the certainty that the Commission will investigate the process?

PASTEUR.

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## Professor Watson's Scheme.

No. 1.

PROFESSOR WATSON ON RABBIT DESTRUCTION.

From the *S. A. Register*, Monday, October 5, 1885.

To the Editor.

Sir,

As all questions bearing directly or indirectly on the public good find full discussion in your journal, I venture to send you the following remarks on the rabbit nuisance. We are not in a position to look hopefully forward to the extermination of this pest, either in the immediate or remote future, by any of the means at present in vogue. The labour involved in their application is so great that we must regard them rather as palliatives than radical measures, and as such, but barely sufficient to cope with the continual marginal spread of the pest in already infested districts, much less to prevent a possible dissemination of the evil at a distance by unscrupulous and interested persons. Complete extermination by direct violence such as shooting, snaring, &c., under existing conditions may be looked on as practically impossible, although it is true that wire fencing, acting as a preventive of invasion from without, facilitates the application of direct violence within; but under certain circumstances buck rabbits manage to scramble over more serious obstacles than wire fences. Rivers also, which are looked upon as even more restrictive than fences, are easily swum across by individuals of both sexes, as readily as by hares, kangaroos, emus, and pigs, when hard pressed by dogs. In flood times, too, rabbits might also be drifted across streams in hollow logs, if we may judge from the fact of large fish being frequently found stranded a considerable distance inland, and we know also that rabbits have been ferried across rivers by dishonest men. (See *Register*, September 15, 1885.) Having thus touched upon the more or less inadequate nature of fences and rivers to confine rabbits within given limits, it remains to consider what effects may be produced by the agency of poison.

The rabbit requiring no water when surrounded by green herbage naturally prefers fresh grass to dry oats (poisoned or otherwise) intentionally placed in its way, and will in all probability leave them untouched as long as the more succulent food is within its reach. It is only in times of drought that the animal, being forced to moisten its meal of dry grass, and finding the neighbouring waterhole fenced off, falls a victim to poisoned water left in its run. A single dose of some deadly gas or volatile liquid (bisulphide of carbon) although it may exterminate a particular colony of rabbits, does not affect the neighbouring ones; and the process, at the expense of time, labour, and money, has to be repeated in every warren in succession. No doubt the widespread cultivation of a plant which, while agreeable but deadly to the rabbit, would be innocuous to other animals, and which would thrive under the same varying conditions of season and place as its intended victim, would prove the most efficacious of remedies, but unfortunately for both squatters and farmers such a plant has yet to be discovered. The introduction of animals preying upon rabbits has been frequently mentioned, I suppose on the principle of the law of the survival of the fittest; but this scheme, to prove effective, presumes an increase on their part in direct ratio to the decrease of the rodent they are called upon to destroy; and assuming that the rabbit was finally wiped out by their means, they themselves would remain to constitute a pest necessitating drastic measures for its cure.

The introduction among rabbits of some form of disease such as *filaria*, *syphilis*, or *tuberculosis*, has been proposed, and rejected as dangerous to man, on the ground that it could only be compared to the scattering fire of a blunderbuss, which hits other objects besides that at which it is aimed; or to the introduction of the Colorado beetle or the locust for the purpose of eradicating the Scotch thistle, which while perhaps effecting their object ruin the surrounding crops. Of undoubted value would be the introduction of a fatal disease incident to rabbits alone—analogous, in fact, to one I remember as having caused

caused sad havoc among the native dogs on the Upper Murray. No doubt one factor in the disappearance of those dogs was strychnine, but it was not poison alone which transformed the large red jocund-looking dingo into a poor hairless diarrhœic wretch, too weak to howl or even to escape from the stick of the weary swagman in whose path it happened to lie, much less to overtake as prey the light-footed bandicoot which crossed its own.

More directly connected with the subject under discussion was the total disappearance of a whole tribe of rabbits, the descendants of some score or more turned loose in 1858 under apparently the most favourable conditions, all their wants being supplied by a bounteous nature in a protected glade on the Victorian side of the Upper Murray, where, for two years, and notwithstanding the presence of dingo, iguana, and hawk, they increased and multiplied, but finally, during the course of the third year, disappeared. It might be impossible ever to make a retrospective diagnosis of twenty-five years as to the cause of their death, but I am inclined to attribute it to a parasite, perhaps still to be found in Australia, but at any rate having its European prototype in the *Sarcoptes cuniculi* mentioned in the "Anatomie des Kaninchens," by the illustrious biologist, Krause. As his pupil I remember well the importance he used to attach to early topical treatment (Peruvian balsam, &c.) for the eradication of that parasite in rabbits brought to his laboratory for physiological purposes, as late treatment always proved in vain.

The following short description of the course of the disease induced by this fatal parasite may interest your lay as well as your medical readers:—

At first there is apparently little the matter with the rabbit. It soon, however, shows a few crusts about its face, which extend by continuity of epidermal tissue, as well as by auto infection from scratching to more distant parts of its integumental surface. It begins to lose flesh from loss of appetite, unrest and slow septic intoxication resulting from the venous and lymphatic absorption of the products of a hitherto purely localised and easily curable cutaneous affection. Extensive suppuration, principally of the cervical and sub-maxillary lymphatic glands, corresponding to the lymphatic capillary areas of the face, supervenes. In like manner the absorbed toxic matter circulating in the blood induces coagulation and extensive thrombosis (plugging) in various parts of its venous system, and usually some low form of pneumonia intervening mercifully puts an end to its sufferings.

I propose, therefore, the introduction into South Australia of a few German rabbits infested with this parasite, thereby constituting a nucleus, which would soon produce the disease in some thousands of their Australian cousins. A stock of infected animals could thus be formed, from which samples could be distributed, and the propagation of a disease encouraged, which, when left to itself, leads infallibly to the death of the patient, and indirectly to that of his kindred.

In older animals this disease is relatively slow, lasting more than a year, but, in consequence, it allows them for a longer period to be a source of infection to their younger brethren, in whom there is a relatively greater predisposition to acquire the parasite, and in whom from some inherent pyogenic tendency on their part the resulting disease runs a more rapid but none the less fatal course.

The above plan for the inoculation and consequent death of the rabbit has the advantage of being peculiarly adapted for application in rocky fastnesses and belts of scrub, which on account of their almost inaccessible character become the happy breeding grounds of this prolific pest. It is in country of this kind where the rabbits are thickest that the victims of the disease will necessarily be both absolutely and relatively the most numerous. Of special importance is the fact that the parasite being peculiar to the rabbit is harmless to man and sheep, each of whom is already sufficiently handicapped by their own specific forms, *sarcoptes hominis* (itch), and *sarcoptes ovis* (scab), respectively. It is just possible that in parts of Australia some obscure climatic or telluric conditions may exist which would minimise its ravages, just as in Central Australia the fluke-livered ox of the Murray swamps outlives its parasites (*distoma*), which when they die undergo calcification, and, except as ordinary foreign bodies (swallowed pins, &c.), are thenceforth inert. In conclusion, I would like to ask how many years it would take if we ceased to import fresh stock, and if at the same time we encouraged to the utmost the propagation of ordinary scab, before our sheep would eventually become extinct? What would become of our vineyards and potatoes were phylloxera in the one case and the potato disease in the other in like manner encouraged? What would be the fate of a human idiot affected with itch and abandoned by his fellow-creatures? What has and is still hourly taking place among our aborigines since first we unintentionally strewed the germs of consumption (*Kochs bacillus*) amongst them?

The University, Adelaide, September 30.

I am, &c.,

ARCHD. WATSON, M.D., F.R.C.S.

(No. 2.)

*South Australian Register*, 16th November, 1887.

#### DESTROYING RABBITS BY DISEASE.

The following report by Dr. Paterson (Colonial Surgeon) relative to the danger to stock through the introduction of disease amongst rabbits, was laid before the Assembly on Tuesday by the Commissioner of Crown Lands:—"In pursuance of your instructions I conferred with Professor Watson on the subject of the disease which he proposes to introduce for the extermination of rabbits—1. In reference to the nature of the disease; 2. With a view to expressing an opinion whether the disease in question was communicable to man, horses, sheep, cattle, and pigs. I had an interview with Professor Watson, who readily furnished the information asked for, showed me the infected animals, and demonstrated the nature of the disease under the microscope. The rabbits experimented on are confined within the precincts of the old powder magazine at the rear of the University buildings. They occupy a small area of ground which is intersected with their burrows. A high wall with deep foundations prevents any possibility of escape, either above or below the surface. I counted eight rabbits in this enclosure, of which, judging by the colour, two were wild, the remainder domesticated animals. Lying about were the dead bodies of a considerable number of young ones, which had come to their full time, but were either stillborn or had died immediately after birth. This effect of the disease in checking fecundity should not be overlooked. One rabbit, a white one, was in an advanced stage of the disease. It was inactive and emaciated. The fur was falling off its body in places, and the face about the nose and eyes was without hair, and covered with a scurfy incrustation. The animal having been caught and a pinch of fur removed from its body, the scurf adhering to the roots of the hair was separated, and placed under the microscope, and the presence of

of an insect parasite revealed. This parasite is the *Sarcoptes cuniculi*. Its existence denotes that the animal is affected with rabbit itch or rabbit scab. *Sarcoptes cuniculi* belongs to the family of the Acarani or true itch mites. Itch mites infest the bodies of a large number of animals, including man, horses, cattle, pigs, camels, dogs, cats, goats, lions, tigers, and others. They differ in size and external appearance according to the species of animal whose body they inhabit. They are confined to the skin exclusively, never penetrating to the tissues below the skin. The bodies and eggs cannot be taken up into the circulation, as they are larger than the capillary vessels, and so cannot effect an entrance. The itch mites of man and the lower animals have been variously estimated to live from twenty to forty days, and even two months, according as they are placed under unfavourable or favourable conditions. The total number of eggs laid by the female in the burrow which she makes for herself in the skin has been computed by Gerlach not to exceed fifty, but Hebra says he never saw in one burrow more than fourteen eggs, besides ten or twelve empty shells. The disease in question—rabbit scab—is rabbit itch. In the rabbit it corresponds to itch in the human subject, mange in horses, cattle, pigs, and dogs, and to scab in sheep, all of which diseases are dependent on the presence of an insect parasite. Itch in the human subject is due to an itch mite which has been variously named *Acarus scabiei hominis*, *Acarus exulcerans* (Linnaeus), *Sarcoptes hominis* (Raspail). In the horse it is called *Sarcoptes equi*; in the ox, *Sarcoptes bovis*; in the pig, *Sarcoptes suis*; in the dog, *Sarcoptes canis*; in the cat, *Sarcoptes catorum*. It is an eminently contagious disease. In the human being it is communicated from person to person by contact in eight cases out of ten, according to Bourgingnon, by their sleeping together. It would be a waste of words to describe at length the extreme contagiousness of mange in horses, cattle, pigs, and dogs, or that of scab in sheep. Reference to any veterinary work will confirm what is said here both as to the virulence and the nature of these affections. In rabbits itch is not only a virulent but a fatal disease. Professor Watson assures me that every animal which has been exposed to the contagion has caught it and died. Its remarkable influence in restraining increase has been already mentioned. But the rabbit in captivity and the rabbit in its natural state in the open country are under very different conditions. The itch mite is said to be fond of warmth, and to display increased liveliness when exposed to the rays of the sun, and the warmth engendered by the contact of two living bodies, as of two persons sleeping in the same bed, is believed to play a prominent part in the spread of the disease by inducing the creature to leave its burrow and wander about. The heat of our climate may operate in a similar way; but, as a set-off against this, it is to be borne in mind that itch as observed in man in Europe is not confined to warm latitudes, but is prevalent in the northern countries of that continent in an aggravated form. There the disease has been chiefly observed in rabbits reared in hutches. So far as I have been able to ascertain it has not been observed in the wild rabbit, but any information on this point is scanty. There are many things in the environment of the wild rabbit, especially in certain localities, which would make against the virulence of the disease, some of which may be surmised; others, and these probably the most important, might escape conjecture. Contact with saline or sulphurous substances in the earth, brackish water, the contact of fresh earth in the formation of new burrows, brushing the coat against aromatic shrubs, or when the herbage fails an enforced diet of leaves like those of the eucalyptus, containing essential oils which are known to be poisonous to the mite, and the increased resisting power to the effect of the disease imparted to the animal by an active open-air life—all those would modify and perhaps in the end render the vitality of the mite impossible. Anyhow this can be said—that history records no plague, however desolating, which by itself, and unaided by other causes, has exterminated man or animal. 2. As regards the communicability of the disease to man, horse, ox, sheep, or pig. As to man there need be little or no ground for apprehension. The skin and fur of infected animals as articles of commerce are valueless, and therefore would not be handled; the carcass would be rejected for food, or, if used, would be innocuous, as the disease does not penetrate below the skin. Itch in man is a curable disease, and neither endangers life nor injures the health of the patient. Persons are known to have it from youth to old age without impairment of their general health. At the same time it is a disreputable and loathsome malady. Kuchenmeister in his manual of human parasites states that itch mites of the following animals have been accidentally transferred to man, and have been found upon him:—*Sarcoptes cati* (cat), *Sarcoptes bovis* (ox), *Sarcoptes canis* (dog), *Sarcoptes equi* (horse). He also states that the *Sarcoptes catorum* may be transferred to a variety of animals, and among others to sheep, and quotes his authorities. Professor Watson has experimented on himself both with live rabbit mite (*Sarcoptes cuniculi*) and its ova without effect, and emphatically denies that rabbit itch is communicable to human beings. With regard to the transference of certain itch mites from the lower animals, and the communication of itch by them to man, some observers are of opinion that the insects so transferred die out without being able to reproduce themselves in their new locality. When the disease is of longer duration than is warranted by this belief, they explain its persistence by the repeated reproduction of fresh batches of the creature by constant contact of the patient with the animal from which the contagion was derived in the first instance. Kuchenmeister expresses his belief that if mites from the lower animals are able to establish themselves permanently on man, it will apply only to those which have a close resemblance to the human parasite. Hebra, another eminent dermatologist, holds that there is no difference between the mites which infest man and the lower animals—that they are not different species of one family, but only variations of one and the same animal; that, in fact, the mites of the lower animals and men are identical. On this point Hebra is entirely at variance with veterinary surgeons of the English school. The following extract shows his views:— \* \* \* My observations on the lower animals, as well as on the human patients, have led me to believe that not only several of the acari said by Gerlach to have been taken from different animals, but those described by Fürstenberg under the names of *Sarcoptes scabiei* and *Scabiei crustosæ* belong to the same genus and to the same species, or (it is better to say) are specimens of one and the same animal. \* \* \* There is no better proof of the identity of the acari which have hitherto been found in different animals than the fact that the diseases produced by them have always been communicable, whether by design or accident, from those animals to man, and *vice versa*. Is *Sarcoptes cuniculi* transferable to the horse, ox, or pig? Professor Watson replies to this that there are no experiments in this country, but that Krause, a recent German writer on the rabbit, denies its communicability to horses, cattle, or pigs. Mange in horses is a highly contagious disorder, and is due to the presence of an itch mite, *Sarcoptes equi*. Mahew, author of various treatises on the horse, says that all doubts seem to have been put to rest by the investigations conducted by M. Bourgingnon, who demonstrated the unfitness of one creature to support parasites generated by another. Is *Sarcoptes cuniculi* communicable to sheep?

Professor

Professor Watson replies emphatically no, and in confirmation of his opinion refers to experiments on three sheep belonging to the S.A. Stockowners' Association, which were under care in M. Marceau's back yard. They were young healthy animals, unshorn. About a month ago they had been inoculated by separating the wool all down the back and applying the contagious material copiously to the skin of the back and other parts of the body. The animals were rather wild, but M. Marceau caught and threw one so as to allow of a careful examination. There was no disease apparent, and I believe none was present. Professor Watson admits that according to Krause, *Sarcoptes cuniculi* is communicable to cats. Now Kuchenmeister states that *Sarcoptes catorum* is communicable among other animals to sheep. If Kuchenmeister is correct there is a presumption that *Sarcoptes cuniculi* may also be communicable to sheep, either with or without passing in the first instance through the cat, and it would tend to confirm Hebra's view of the identity of the various itch mites, and that they are not different species, but only variations of one and the same animal. Is the disease communicable to marsupials? Professor Watson replies possibly, yet to try. I do not share Professor Watson's confident opinion that *Sarcoptes cuniculi* is not communicable to sheep, so far as it is based on the experiments that have been made here. The literature of itch contains numerous instances of unsuccessful experiments to communicate the disease by inoculation. To be of any value the experiments must be of more varied character and under more varied conditions. They should be made on shorn as well as unshorn sheep, and the contagious material applied on a loose bandage round the body. Quiet animals, accustomed to be handled, such as have been brought up about a farm, would be preferable to those on a run. The natural mode of conveying the contagion might be initiated by introducing infected rabbits into the pen, and experiments should be made not only with sheep, but with horses, cattle, and pigs. An instance is related of a cat communicating mange (*Sarcoptes*) to a horse by perching on its back in the stable. So far as I can see the weight of evidence inclines to Hebra's view that the itch mites in different animals are identical, and therefore interchangeable. But opinion on a matter of this sort is nothing but conjecture. The question can only be decided by direct experiments. If the scheme is to accomplish its purpose centres of infection must be multiplied indefinitely over the country infested by rabbits. The dissemination of scab and mange would be too high a price to pay even for bunny's annihilation, and before the Government can sanction such a step it should be in possession of evidence to satisfy the most sceptical minds that the disease is not communicable. I do not see much force in the sentimental objections to the scheme, bunny's undue multiplication in outlying country being attributable to the absence of his natural enemies—man, dogs, and birds of prey. The reduction of his number by disease is only a scientific way of restoring the natural balance of life. Professor Watson's scheme deserves further investigation. If it is harmless to stock it may prove a useful auxiliary in dealing with the rabbit pest, even if it fails to eradicate it."

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(No. 3.)

EXTRACT from a semi-official note received from Mr. Taylor, in charge of the Rabbit Branch.—H. W., 15/12/87.

AMONGST other things I desire to mention that I saw the diseased rabbits and heard a great deal about them and the experiments made. The rabbits are now the property of a committee of pastoralists, of which Mr. H. B. Hughes is the chairman, and admission to this exclusive committee or association is obtained upon payment of the sum of £50.

I do not think I will be far out when I state that before long these rabbits, of which they have about seventy, will be turned out, if not in New South Wales, at least in such close proximity to the border, that they will serve the purpose intended. I must state that I have become imbued with some of the confidence that many of our squatters have with regard to this disease, and I think the Government should without delay carry out experiments, but not in the same manner as has been done in Adelaide. There the rabbits are confined in an enclosure, about 20 feet by 12 feet, with not a vestige of grass, &c., and the bodies of dead rabbits lying about, the stench from them being very offensive. The infected rabbits are most abject looking objects, and I do not think that a person who has once seen the disease could ever mistake it. The skin is covered with an incrustation similar to scurf, and between the crutch they are quite bare. The genitive organs are in such a state that breeding is impossible, and although it is some time before the rodents die it does not take long for clean rabbits to become infected. I propose, when opportunity offers, to send fuller information on the subject.

I am inclined to think that the Government should obtain specimens of these diseased rabbits and turn them out in a large enclosure, where stock of every description would have room to move about freely, and where natural grasses, scrubs, herbage, &c., is plentiful, as it may be found that with room to move about, &c., some of the natural food may act as antidote to the disease.

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(No. 4.)

Sir,

Wentworth, N.S.W., 12 December, 1887.

I desire to place before you the result of the inquiries I made in Adelaide respecting the action being taken with regard to the Sarcoptic rabbits, and the opinions I formed from an inspection of the infected animals. After meeting several prominent pastoralists, who are interested in the work I am at present engaged upon, I ascertained that the diseased rabbits are not now the property of Professor Watson, a number of gentlemen holding stations either in this Colony or in South Australia having purchased his interest therein, and formed themselves into a committee, having for its object the development of the disease and the advocating of its introduction into infested country. Each member of the committee has contributed to the fund the sum of £50, and Mr. H. B. Hughes is the chairman. After some trouble in finding Mr. Hughes I was at last favored with a sight of the rabbits, which are confined within the walls of an old building, at the rear of the University, the area of which is of a very limited extent, the surface being riddled with burrows. There must have been upwards of sixty live rabbits within the enclosure, and those which I examined closely were more or less diseased. One rabbit was apparently in an advanced stage of the disease, the fur having entirely disappeared from between the hind legs and the back of the neck. The face was covered with a thick scurfy incrustation, somewhat resembling

resembling a coating of lime, and altogether he presented a most dejected appearance. The gentlemen present handled these rabbits with perfect impunity, seemingly having no dread of the disease being communicated to them. In the enclosure I noticed the dead bodies of several fairly grown rabbits, and of some young ones which were either still-born or had died a short time after birth. I am somewhat at a loss to describe clearly the nature of the disease, but the ravages of it were most marked, and I think that an examination of the infected animals, by a gentleman (professional) in the employ of the Government of New South Wales would for many reasons be most desirable.

Mons. Marciaux, an assistant to Professor Watson (who I may mention is absent from Adelaide) informed me that several of the parasites had been taken from the rabbits and placed in his hair, round which a handkerchief was then bound. The hair remained in this state, unwashed, for twelve days and at the expiration of that time no trace of the parasite could be found. I next proceeded in company with several other gentlemen to the residence of Marciaux, where I saw three sheep confined in a small back yard. I was informed that efforts had been made to communicate the disease to these sheep without success. I made a close examination of them, and, so far as I was able to judge, the skin was perfectly clean and the sheep in sound condition, although they had been cooped up there for over two months. These represent the facts as far as I was able to ascertain by careful inquiry and observation, and I will now proceed to make a few suggestions on the subject. It appears that in South Australia any person may keep live rabbits in his possession, the penalty being simply for wilfully turning them loose. When this is borne in mind it can be understood how easily a number of them could be conveyed to points contiguous to the western boundary of this Colony, and, either by accident or by design, escape and possibly spread the disease. As it is I know that a number of persons deeply interested in the extermination of the rabbit pest are each already in possession of a pair of those diseased, and it would be absurd to suppose that they have not been obtained for a specific purpose. I would therefore, as before stated, suggest that a professional gentleman be sent to Adelaide to inspect and report upon the disease, and that a number of the rabbits should be obtained, either by purchase or otherwise, and experiments conducted in a proper manner. The rabbits I saw are within a small and dirty enclosure, without a vestige of herbage of any kind, and they may be said to be existing under unnatural conditions. If the Governments were, as suggested, to obtain diseased rabbits and turn them out, with healthy ones, in a securely enclosed area of (say) 640 acres, where their natural food is accessible, it could then be seen whether the disease is as readily communicable as it appears to be. Sheep, cattle, horses, &c., could roam at large within the enclosure, and it could, in addition, be ascertained whether the natural herbage would not act as an antidote to the disease. If this were done it would, I think, meet with the approval of interested pastoralists, and the owners of country which is at present uninfested would have some guarantee that their interests are not being neglected.

I have, &c.,

HENRY C. TAYLOR.

The Under Secretary for Mines.

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(No. 5.)

Telegram from Adelaide Station to Alex. Bruce, Esq., Chief Inspector of Stock, Department of Mines.

On microscopic examination of Professor Watson's rabbit disease I have found two distinct species of scab acari, namely, *sarcoptes* and *psoroptes*. These varieties infest several mammalian animals, and until the immunity of sheep has been established beyond all doubt, I am decidedly opposed to the liberation of rabbits affected with scabies.

EDWD. STANLEY,  
Government Veterinarian,  
New South Wales.

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(No. 6.)

Sir,

Tintinallogy, 31 December, 1887.

I have the honor to report having met Mr. Taylor, chief of the Rabbit Department, at Cockburn. I found that he had reported on Professor Watson's experiments, detailing information we had gained that it will be unnecessary for me to repeat. I will therefore briefly state my own opinion of what I saw and heard. I was very much surprised to find such slight evidence of disease amongst the rabbits; only two were distinctly affected; one of these was considerably diseased about the head, legs, and scrotum, the disease being superficial and caused by acari; these I examined under the microscope, and found two species, the larger variety, the *psoroptes* having apparently escaped the observation of those in charge. I understood some infested rabbits had been already distributed in South Australia. Mr. H. B. Hughes, who has charge of the rabbits, having purchased them jointly with others from Professor Watson, unhesitatingly attested that he would risk infecting sheep, as he would rather have scab in sheep than the rabbit pest. His statement that does cast their young in consequence of the disease is to me incredible, because scab does not cause abortion—on the contrary, scabby ewes have very healthy lambs. It cannot be expected that wild recently caught pregnant rabbits are going to make a comfortable nest in such a place as they were confined in; it is only natural that they would cast their young under such circumstances. The badly diseased buck still copulated, but was said to scream from pain; it is by no means an uncommon thing for rabbits to scream during connection, so that I consider that evidence of no value. I was told 150 rabbits had died since April, but the cause of their deaths remains a mystery. That the disease can be communicated to cats is admitted; three sheep were repeatedly infected on their bodies, without any result; these I again infected specially with the *psoroptes* on the hairy portions of their body, and shall note the result later on. I wish to note that scabies depends on atmospheric and other conditions, such as the condition of the animals, quantity of feed, &c., as to whether it spreads or not, and it is most exceptional for it to prove fatal in its effects, even to a small extent. As there is a distinct danger of its affecting other animals, and its capability of surviving the hot dry climate to be sufficiently virulent in its effects in rabbits is uncertain, it appears undesirable to encourage its indiscriminate introduction until its effects have been thoroughly tried experimentally.

I remain, &c.,

Alex. Bruce, Esq., Chief Inspector of Stock.

EDWD. STANLEY, G.V.S.

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(No. 7.)

(No. 7.)

Department of Mines, Stock Branch, 19 January, 1888.

MEMO.—

Watson's Rabbit Disease—"Scabies Canalic."'

From the information I have been able to obtain in Adelaide I have the honor of submitting the following report on this disease:—

After two failures, rabbits arrived from Germany last April affected with rabbit scab. It is caused by acari or mites, parasites that live and breed on the skin of mammalian animals and mankind, exciting irritation and causing diseases identical in their nature, but known by various names, according to the animals affected.

We have scabies in sheep, camels, rabbits, &c., and itch in human beings, mange in dogs, horses, cats, &c., and somewhat similar mites are found in cheese, flour, &c.

There are several varieties of acari, as there are several varieties of flies. Each variety has its own special habitation and food; so that the acari of a ruminant will not, generally speaking, live on a carnivora, and what is more remarkable is the fact that two or three distinct species of acari may infest the skin of one animal, but they keep their colonies distinct, and are each found on special parts of the body. Nevertheless, there are exceptions, regulated by external conditions, such as temperature, climatic influences, poverty of condition, intimate association, &c.

During the hardships of the Crimean war our soldiers contracted itch from their mangy horses. It is noticed that the filthy Afghans in charge of camels imported into South Australia suffer with itch contracted from the scabies of their animals.

The same parasite may be common to different animals, as the *sarcoptes* of rabbits find a suitable home on cats. It is quite possible that they may do so on other animals, such as marsupials. Hence it is a very important point to determine experimentally whether it may under any conditions be communicated to and propagated by sheep. Moist cool weather and poverty of condition assist the development of the insects, so hot, dry weather and plentiful feed will retard its progress; hence it is a question that cannot be settled off-hand, but it will require prolonged observation, as a few cases of experimental infection is too limited a method of settling the question. I found the S. A. Government, although they assisted in the introduction of the disease, have declined further expense in the matter. Therefore I suggested to the Secretary for the squatters, who are interesting themselves in extending this disease amongst rabbits, to ask them to select a large area of a rabbit infested country, enclose it, infest it with the disease, and then keep a considerable number of sheep on the same area for several months, subjecting them to periodical examinations of the Chief Inspector of Stock or some other qualified authority. He promised to call a meeting to discuss this proposal and to communicate the result to the N.S.W. Stock Department.

From the foregoing remarks it will be seen that I consider the probability of its infecting sheep is uncertain, perhaps remote, but not impossible.

As to its efficacy for killing rabbits I am very doubtful. From my knowledge of the progress of this disease in other animals, and judging from the extreme paucity of the rabbits I saw actually diseased, not half a dozen (I was told some had been sent away and others had died), and its very slow progress, the rabbit most severely diseased had been suffering for three months, and judging from his condition he is likely to live for another three months, and although he has the skin disease well established on his legs, head, and scrotium (N.B.) it does not attack the body nor prevent him from copulating.

I was told abortion and sterility are results of infection, also that the infected were in burrows out of sight, but I accepted these statements (although I believe they were in good faith) *cum grano salis*, as I know too well that such skin diseases have no direct effect on the generative organs, and cannot be regarded as fatal in their character. If, as appears, very few rabbits exposed in a confined space take the disease, its progress amongst wild ones at large would be still less, as the healthy will avoid cohabitation with the afflicted. The Darwinian theory of the selection of the fittest will prevail, and although some of the afflicted may die the majority will live long enough to propagate the species before doing so.

Disease of this character when it attacks the whole surface of the body will cause marasmus, debility, and wasting of the body, exhausting the vital powers and ultimately death, but the rate of mortality is extremely small, and there are very few instances on record where the disease has assumed an epidemic character amongst animals, and even supposing such an outbreak could be induced it would be limited by local geographical and atmospheric conditions to a very small area. I therefore arrive at the conclusion that it is not desirable to introduce this foreign disease, because large numbers of rabbits in their natural state would escape infections. It is not without danger to other animals. It is very slow in its progress, and does not prevent rabbits breeding, and it is not fatal in its effects to any appreciable extent.

I carefully examined four sheep that had been exposed to the disease, and on some of which I had purposely placed the acari, fourteen days previously; traces of local irritation could be seen, but although the disease may not become established on these sheep, I could not consider such crude experiments as conclusive, because these sheep are too artificially kept, and the present high summer temperature is fatal to the development of the acari.

EDWD. STANLEY, F.R.C.V.S.,

Government Veterinarian.

Alex. Bruce, Esq., Chief Inspector of Stock.

Minute of The Chief Inspector of Stock on The Government Veterinarian's report.

In submitting this report, I think it right to call special attention to the fact, noticed by Mr. Stanley, that the time of the year and the season are such as to render the diseases here referred to comparatively inert, and that it would not be safe to act upon any results which may be obtained until after next winter, particularly as the experiments have been but few, and only a short time has elapsed since they were commenced.

A.B., 20/1/88.

Drs.

## Drs. Ellis and Butcher's scheme.

(No. 1.)

To the Minister for Mines,—

Double Bay,

Sir,

As the medical profession has of recent years been studying the relation of germs to the various diseases, as originally proved by Pasteur, and it now having been proved that a certain number of diseases of animals are dependent on the presence of organisms capable of being transmitted by inoculation, it struck me some time ago that the study might be turned with advantage to the extermination of rabbits, not as has been proposed by inoculating them with diseases common to man or to other animals, but with some disease of their own. Pursuing this idea, I have imported the necessary apparatus for the cultivation of germs, with a view to taking up the study with reference to rabbits. The idea I hold is that nowhere does any animal or plant prevail in very large numbers for any length of time without some disease appearing, as has notably been exemplified where any country has devoted itself to any particular production. To study the diseases of rabbits to any advantage it would first be necessary that I should be allowed to keep a few rabbits, and, secondarily, that if anywhere through the Colony rabbits appear either to be suffering or dying out, from any particular disease (as has occurred at least once to my knowledge), I should receive information of the fact, and that some of the sick rabbits should be sent to me to study the disease, and if possible isolate its cause with a view to its inoculation and its propagation through the Colony. I should like, in addition, to have access to any papers which treat of the disappearance of rabbits anywhere, or other allied matters. I am already acquainted with a specific disease in Germany; it is an external parasite, and *only* infects rabbits, and is very fatal. It would of course be necessary to import it for its study in the climate. What I require is:—

- 1st. That I should have leave to keep rabbits on some specified place.
- 2nd. That I should receive knowledge and specimens of any disease of rabbits through the Colony.
- 3rd. That I should with certain restrictions both have the leave and the aid of the Government in importing rabbits with the disease I have mentioned, and any other disease I may hear of in the future.

I remain, &c.,

HENRY A. ELLIS.

My dear Abigail,—

I know Dr. Ellis well, and am sure he is quite competent to perform anything he undertakes. I know that he has been studying the growth of germs for some time, and I believe there is only one other scientific man in Sydney who has his appliances for conducting experiments, and there are few who have his knowledge.

Yours, &c.,

B. R. WISE.

Hon. F. Abigail.

(No. 2.)

The Hon. Minister for Mines, Rabbit Branch,—

Sir,

Tintinallogy, Wilcannia, 10 September, 1887.

In accordance with permission received from Mr. A. J. Clark, your inspector for this district, I have been keeping rabbits alive for experimental purposes. My first experiments were conducted in Wilcannia, to try the effects and doses of poisons such as could be used for general destruction on large areas of country. The results are somewhat surprising at first sight, but I may say that the doses and results can be spoken to by various independent witnesses as Messrs. Barnes, Dickens, Desdilly, and others of Wilcannia, saw most of the doses administered and noted with me the effects. All doses were weighed by Mr. Gibson, a qualified chemist in Wilcannia.

In the first place, I find that a full grown rabbit will, with unlimited food, such as it likes, take a dose of arsenic out of all proportion to its size, and feel no ill effects.

- a. In one instance 1 grain of pure arsenic was administered for four successive days without any result whatever; the effect of  $1\frac{1}{2}$  grain on the fifth day killed the rabbit.
- b. Half a grain daily was administered to ten full grown rabbits for eight days, and not one sickened.
- c. Two grains killed a buck in twenty-two hours.
- d. When kept short of food, or fed on gum leaves or bark, the dose was sooner felt, but required just as much. I may here say that the rabbits would not touch the ordinary bark till nearly starving.

With strychnine the effect was very different as  $1\frac{1}{8}$  of a grain of strychnine killed in 20 minutes a well fed rabbit.

In these trials of strychnia I started with  $\frac{1}{2}$  of a grain, and decreased to find the least dose effective. The quantity named,  $\frac{1}{8}$  of a grain, was effectual in every case.

In leaving for future report the poisoning by other means, I may say that as far as the poison used goes it would not matter to the stock on the run which poison is used. I say, as one with practical experience of this country, that it will be necessary when carried out on a large scale to have men looking after the baits used to gather up the remains and burn them.

My attention was drawn some time since to report that South Australia was endeavouring to introduce "rabbit scab" from Germany. The rabbits died on the voyage. I have now in my possession a number of rabbits on which I have, by inoculation from a rabbit caught in the bush, introduced a disease which I believe to be a form of scab. But before giving a fuller report I should like to know from your Government Veterinary Surgeon what is known of this rabbit scab.

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I may say that both by inoculation and contagion I have passed on the disease, and that its effects are, so far, to cause death in half the cases.

I am trying its effects now on sheep, especially isolated, to see the effect on stock.

I trust that you will get me the information I ask if possible, as the problem of rabbit destruction lies, I am certain, in disease not in poison.

I have further to ask you that in case I find that this disease can be safely spread to give me authority to bring a case of live rabbits to Sydney for examination.

It is useless your sending any other than a qualified veterinary to see a matter like this, and I think that if brought to Sydney that further skilled report could be obtained.

Meanwhile I will continue work in various ways. Awaiting reply,

I have, &c.,

HERBERT BUTCHER,  
M.R.C.S., L.S.A.

(No. 3.)

The Hon. Minister for Mines,—

Sir,

10 October, 1887.

As we expect within a short period to be ready to apply our method for the extermination of rabbits, we would feel obliged if information could be given to us as to tests the Government will think sufficient before allowing us to apply our method, as regards the safety of stock of applying it. Also any other test which they may think it necessary for us to fulfil.

We would respectfully propose that the best method of arriving at a definite conclusion would be the allowing us to test our method in an isolated portion of the thickly infested district of the Middle Darling River, such as one of the river islands, where we would propose exterminating the rabbits, keeping all varieties of stock thereon without detriment to same, under special Government supervision if necessary. Likewise we would be much obliged if we could be informed as to the *personnel* of the board which is to be appointed to test the efficacy of the plans, and where they propose to apply the test. Also, if the various rabbit inspectors along the route from Wilcannia to Sydney, *via* Bourke, may be informed of the permission given to us to transfer rabbits in locked boxes from one to the other, such cases being marked with our names in full.

We have, &c.,

HENRY A. ELLIS, M.B., *per* H.B.  
HERBERT BUTCHER, M.R.C.S.E.

Care of Herbert Butcher, "Metropolitan Hotel," King-street, Sydney.

(No. 4.)

TELEGRAM from Wilcannia, addressed to Harrie Wood, Under Secretary, Mines.

We are ready for Stanley's inspection with regard to inspection of stock; would like him to come at once, also, to know if the Department requires any other guarantee before allowing inoculation of whole run.

BUTCHER & ELLIS,  
Tintinallogy, 12/12/87.

(No. 5.)

To Alex. Bruce, Chief Inspector Stock, Sydney,—

Wilcannia.

BUTCHER'S disease is very interesting; it takes fourteen to twenty days to develop in rabbits; experiments on other animals would require several weeks observation. I will commence experiments, and suggest Inspector Tully be instructed to assist. He could periodically visit the animals, and report the result. I will return to Sydney and prosecute further inquiry with Dr. Ellis. Please wire reply, *via* Menindie, also Wilcannia.

EDWARD STANLEY,  
Government Vet., Tintinallogy.

(No. 6.)

The Under Secretary, Department of Mines, Rabbit Branch, Sydney,—

Sir,

Wilcannia, 18 December, 1887.

I have the honor to report having made a careful inspection of the experiments being carried on by Dr. H. Butcher, of Tintinallogy. The country selected is a river bend, on Werinbella block, and contains about 600 acres. The mouth of the bend is securely fenced across. The country is very well grassed, and has been unstocked for at least eighteen months. The feed in this bend is better than in any of the adjoining bends. The disease which Dr. Butcher has introduced has the effect of preventing the rabbits from breeding, and also has more effect on young and half-grown rabbits than on old ones. I rode over the whole of this country, but I did not see any young rabbits, although in the adjoining bends I saw four nests, and also a great many young rabbits just able to leave the nest.

On the day I made my inspection Dr. Butcher had 120 rabbits in small yards, boxes, &c., and the death-rate for that day was twenty-six. On my next inspection I shall be able to inform you if there is any decrease in the number of rabbits on the country experimented on.

I have, &c.,

A. J. CLARKE,  
Rabbit Inspector.

\* 527—B

(No. 7.)

(No. 7.)

Tintinallogy, 7 January, 1888.

Rabbit disease v. Stock.

MEMO.—

I have the honor of reporting the result of my visit to Tintinallogy, the object being to inquire whether there is danger to stock contracting disease from the rabbits in Mr. Butcher's experimental camp, formed on a bend of the river Darling, especially secured by a wire netting fence.

I ascertained that the disease is natural to rabbits, and of local origin, as it exists on the run. Having had several rabbits caught in the originally infested paddock, I made a number of post-mortem examinations, and so found evidence of the affection still prevailing there. Since the disease has attracted Dr. Butcher's attention I am informed thousands of sheep have passed over the same ground. Some sheep and horses have been continually in the next paddock, and it has now been arranged to keep 100 rams in the infested paddock for the next two months. In the river bend, where the diseased rabbits are kept, some have been liberated amongst their healthy fellows. A few sheep, horses, goats, cattle, guinea pigs, dogs, and cats are constantly kept, and several of these have been purposely inoculated, without the slightest indication of the disease being transmitted to them. I am therefore of the opinion that there is little or no danger of stock becoming affected, but to test the matter more completely I have inoculated some fresh animals, and placed them under the observation of Mr. Tully, the district local inspector of stock, with instructions to visit and muster them fortnightly. (Attached see a copy of these instructions.)

Mr. Reid, in charge, and part owner of the run, informs me that all the stock have been, and continue to be, perfectly healthy.  
The Chief Inspector of Stock.

EDWD. STANLEY, F.R.C.V.S.,  
Government Veterinarian.

Tintinallogy, 4 January, 1888.

MEMO.—

In accordance with instructions received from the Chief Inspector of Stock, I have the honor to give you the following statement of experimental animals and others under observation on the river bend near this station, enclosed by a wire netting fence. (This is exclusive of the rabbits retained by Mr. Butcher or of the wild ones already there) :—

20 sheep and 2 lambs	...	...	...	...	...	10 marked, as per margin.
4 goats.						
4 horses	...	...	...	...	...	2 saddle hacks and draught horse.
1 cow, white	...	...	...	...	...	1
1 calf, white	...	...	...	...	...	1
1 calf, red and white.						
3 guinea pigs	...	...	...	...	...	3
Total, 36 animals.						

Please to muster and inspect them fortnightly. In the slip paddock near the wool-sheds are two poddy lambs, and 100 rams are to go in on Monday, 8th January, and two remain about two months.

EDWD. STANLEY, F.R.C.V.S., E.V.S.

Mr. M. Tully, Inspector of Stock, Wilcannia.

(No. 8.)

Sir,

Department of Mines, Stock Branch, 19 February, 1888.

With reference to the disease in rabbits on Tintinallogy Station, I have the honor to report that measures are being taken by Mr. Butcher for the cultivation of a disease found occasionally in the locality with the object of obtaining a virus to assist its spread amongst rabbits, but as the work is only in an early experimental stage it would be premature on my part to express a decided opinion as to its efficacy.

So far as I have seen the pathological conditions are not uniform, the results are uncertain and unsatisfactory; therefore I am not so sanguine of its value for destroying rabbits as the promoter appears to be.

I have, &c.,

EDWD. STANLEY, F.R.C.V.S.,  
Government Veterinarian.

Alex. Bruce, Esq., Chief Inspector of Stock.

(No. 9.)

Reporting on stock under observation at Tintinallogy.

Sir,

Stock Office, Wilcannia, 23 January, 1888.

I have the honor to report that, on the 19th and 20th inst., I inspected the stock described by Mr. Government Veterinarian Stanley as inoculated from diseased rabbits or running on diseased country. All the animals appeared perfectly healthy. Each animal was carefully examined, and no indication of any disease showed itself.

I also mustered the 100 rams and two poddy lambs running in the slip-panel paddock, and could see nothing wrong with them.

The spot where the inoculation was made on the sheep especially scarcely could be found, so little did it show any mark.

Mr. Butcher wishes me to see them again in a fortnight or about the 3rd or 4th of February. It appears to me that there is no danger to stock from this particular disease, and the sooner permission is given to spread it the better.

I have, &c.,

MARK J. C. TULLY,  
Inspector of Stock.

The Chief Inspector of Stock, Department of Mines, Sydney.

## The Under Secretary for Lands to The Principal Under Secretary.

Sir,

Department of Lands, Sydney, 10 February, 1888.

I have the honor to forward herewith a copy of a letter received from Dr. Wilkinson, respecting the method proposed by M. Pasteur for the extermination of rabbits, and to request, by direction of the Secretary for Lands, that you will favour me by forwarding to the Board of Health, for consideration in connection with other papers on the subject already referred to (on 8th instant).

I have, &amp;c.,

CHARLES OLIVER,  
Under Secretary.

The Medical Adviser.—C.W., B.C., 13/2/88.

## Dr. Wilkinson to The Secretary for Lands.

Sir,

Glebe, 9 February, 1888.

Now that there seems to be a general idea that of all the methods proposed for the extermination of the rabbits, Pasteur's method is the one which promises best, it is right to pause and consider how this method may be so tested in the country as to prove first of all its efficacy in destroying the rabbits under the conditions that exist in the Colonies; and, secondly, its innocuousness now and always with regard to man and other animals. Generalisations made in a laboratory do not always hold when they have to face the conditions of the outside world. Further time must elapse before one can trace with the least precision the possible events associated with the life, history, and character of any micro-organism. The study of these micro-organisms is yet in its infancy; and any one familiar with the subject knows only too well how little one can infer concerning the action and qualities of these minute organisms under altered circumstances. There is no logical process that would lead one to infer that an inoculation with a certain bacillus, which would destroy an ordinary mouse in a few hours, would still leave absolutely unharmed a field mouse. Yet such is a fact, and surely when we know that altered circumstances may diminish the virulence of these micro-organisms, we may be justified in assuming that altered circumstances may increase their virulence, aye, and possibly alter their qualities.

Pasteur now with every good intention, and in the best of faith is offering us a dangerous living weapon with which to combat the rabbit pest. His idea is that the microbe of fowl cholera will effectually exterminate the rabbit. Even granting that his experiments have been entirely successful, are we certain that the disease will spread and infect the rabbits over large tracts of country, as it did in his enclosure of a few acres? And more important still, will the disease begin and end with the rabbits? Of this everyone must be certain, that if it kills the rabbits in this wholesale fashion it will not spare the birds, and possibly other animals will become infected. I am not in the mind to put my whole trust in M. Pasteur's sanguine anticipations that we shall have all good and no evil results. M. Pasteur has not always been happy in applying his deductions in the field of science to a practical purpose. We admired the ingenuity and enthusiasm with which he laboured to work out the paths, by which anthrax was communicated to cattle, and his positiveness convinced his admirers he was right. Yet later investigations disproved many of the most important facts; in this very disease too can we say that the virtues, which he so positively claimed for vaccination with his attenuated virus, are of any great practical value? Therefore it is that I say that until we are in a position to know from our own investigations that the microbe of fowl cholera will destroy rabbits without doing any great mischief we should positively forbid the introduction of this disease into the Colonies. It appears to me at least possible that some man of enterprise, out of patience with the utter futility of his own efforts to keep down the rabbits on his run by any of the known methods, may in desperation be tempted to try Pasteur's soup of microbes. In the present state of our knowledge we cannot deny that an evil might be introduced far greater than the one we wish to remedy. It is right then that the Government should take timely steps to prevent any such contingency.

But in order that Pasteur's method should have a full and fair trial, I would suggest that the Government should choose some suitable island where the necessary experiments could be made and watched.

By some such scheme all danger to the people and stock on our continent would be removed. This island could be stocked with rabbits and every form of useful animal that is to be found in the Colony, and in time Pasteur's microbe could be introduced to this isolated community. Time will then soon settle the question without any risk of extensive mischief.

There is, it may be said, still the risk to human beings, but in my opinion this risk is infinitesimal, and few men who have worked with these micro-organisms would have any objection to live on this island, not so much for the purpose of proving their own immunity, but merely to see that the method was being fairly and thoroughly tried. They would then accidentally prove the immunity of human beings against this special disease or any other disease which might be tried for the same object.

There is no occasion to consult with the College of Physicians in London or the authorities, great and many, of whom Mr. Creed speaks. The Colonies can find men who will do the necessary work as well and as thoroughly as the men who would be likely to visit us for this purpose.

Before closing, I should like to say that it seems to me that some encouragement should be given in this Colony to scientific work, which aims at discovering the essential cause of disease, not in man only but also in animals, with a view to checking and possibly eradicating such disease. Such encouragement is given pre-eminently in Germany, and Koch's splendid work has in part flown from it. France vies with Germany, and England is following the example. There should be a Bacteriological Laboratory, either at the University or in connection with the Board of Health, as I urged three years ago. Work of this kind requires much time and constant care. I remember well when Mr. Creed's crude notion of inoculating rabbits with tuberculosis for the purpose of exterminating them was calmly considered by a body of intelligent men. I could not help smiling at the state of knowledge—no, of ignorance, concerning bacteriology. No doubt inoculations with these bacilli of tubercle would have caused the death of the rabbits so inoculated, say in two or three weeks; but if one had the rabbits to inoculate there are much simpler and speedier ways of putting an end to their life than by pricking them with a syringe full of tubercle bacilli. Every one knows that tuberculosis is not a disease that spreads from rabbit to rabbit very rapidly.

Apologising for trespassing so far on your attention,

I am, &amp;c.,

W. CAMAC WILKINSON, M.D.,  
London.

[The Board of Health acknowledged the receipt of this letter, but did not specifically report upon it.—T.G.]

## Report of Board of Health.

As to proposal to exterminate Rabbits by the introduction of contagious diseases.

Board of Health Office, 127, Macquarie-street,  
Sydney, 22 February, 1888.

Sir,

In returning to you the enclosed papers relating to the proposals to exterminate rabbits by the introduction of contagious diseases, I have the honor to inform you that the matter was further considered at a meeting of the Board of Health this day, when the following resolution was passed:—

“The Board of Health having taken into consideration the schemes for the destruction of rabbits by the introduction of contagious diseases referred to the Board, at the request of the Secretary for Lands, and the letter from Dr. Wilkinson attached, are of opinion:—

“1. That while there is every reason to believe that the introduction of the diseases referred to among rabbits crowded in large numbers in a limited area would prove very fatal to them, it is not equally clear that infection would spread to any very great extent among rabbits living in a state of freedom, and with practically an unlimited area at their command. More especially having regard to the history of such epizootics and epidemics as we are acquainted with, it would be too much to expect, as some writers seem to do, that the introduction of any infection would be so successful as to cause complete extermination of the rabbits.

“2. The diseases recommended for introduction are three in number:

“Firstly.—With respect to that recommended by Messrs. Butcher and Ellis, there is no evidence to show what is the real pathological nature of the disease referred to. It is therefore clearly impossible for any one to say that it might not be communicated to human beings or to other animals.

“Secondly.—The disease recommended by Professor Watson is the ‘itch’ or scab of rabbits; the Board are of opinion that there is not sufficient evidence to show that this loathsome affection, if introduced among rabbits, might not be communicated to other animals or even to human beings.

“Thirdly.—The disease recommended by M. Pasteur is a remarkably fatal affection, which prevails among poultry, and is known as ‘chicken cholera.’ It is stated by M. Pasteur that this disease is equally peculiar to rabbits, and he *\*imagines* that it could be readily propagated among them with very fatal results. He states also that the parasite of this disease is harmless to farm animals, excepting of course poultry, but he makes no reference in his letter to the possibility of its communication to human beings: considering the recent discoveries that have been made with reference to the communicability of grave diseases, such for instance as scarlet fever, from the lower animals to man, the Board are of opinion that it would take much clearer and more convincing evidence than has as yet been adduced to prove beyond a doubt that the introduction of a virulent disease like ‘chicken cholera’ might not directly or indirectly produce among human beings disastrous results which are at present unsuspected. In introducing an epidemic or infectious disease of any kind into this country, the Government would be adopting a measure, the results of which cannot be at present foreseen; and if, in the course of events, it were to be found that these results were in any way prejudicial to the health, either of human beings or of stock, it would be almost certainly beyond the power of any authority to remedy the mischief which had been done.

“3. The Board would therefore recommend that the measures proposed for the introduction of infection among rabbits should not be adopted by the Government.

I have, &c.,  
EDMUND SAGER,  
Secretary.

\* Extract from a letter by M. Pasteur to *Le Temps*, Paris, of the 29th November, 1887.

“I imagine that the same thing would happen with rabbits, and that on returning to their burrows to die they would communicate the disease to others, who would propagate it in their turn.”

## Second reference to the Report of Board of Health on M. Pasteur's Scheme.

M. Pasteur's experiments with Chicken Cholera, *re* destruction of Rabbits.

ENCLOSED are two translations of letters received from M. Pasteur on the subject of his experiments with chicken cholera. In the letter of the 5th January M. Pasteur goes very fully into the matter, and gives the result of experiments which indicate a success not hitherto communicated to the Government. These letters should, perhaps, be forwarded to the Colonial Secretary's Department with a view to their being laid before the Board of Health, with the object of it being ascertained whether the Board sees any reason to modify the opinion already expressed as to the danger of permitting the introduction of chicken cholera, as a means of destroying rabbits.

C.O., 25/2/88.

Forward these papers to my hon. colleague, the Colonial Secretary, who will, I hope, send them on to Health Board at once, with request to that body to report hereon as quickly as possible.—T.G., 27/2/88. The Principal Under Secretary.—C.O., B.C., 27/2/88. This should perhaps now be referred to the Board of Health, as herein suggested.—C.W., 27/2/88. Board of Health for report.—H.P., 27/2/88. The Medical Adviser to the Government.—C.W., P.U.S., B.C., 27/2/88. The Board of Health.—H.N.M., 28/2/88.

[Translation.]

[Translation.]

Sir,

Pasteur Institute, Paris, 8 January, 1888.

I have the honor to submit this communication, in reply to the official notification published by your direction in the *Temps de Paris*, and in conformity with the accompanying cutting that I have extracted from that paper.

The delegates whom I am sending to Australia will leave Marseilles for Melbourne on the 8th of February next.

With the hope that they will be accorded a hearty welcome in Australia, and that any scheme will answer all expectations in connection with the destruction of the rabbits that are devastating your fair land, I have the honor to request your acceptance of the assurance of my sincere regard.

The Hon. F. Abigail, &amp;c.

L. PASTEUR.

To Sir Saul Samuel, K.C.M.G., Agent-General for New South Wales,—

Paris, 5 January, 1888.

Upon the destruction of rabbits in Australia and New Zealand.

THE *Revue des Deux-Mondes* in its issue of the 15th of August, 1887, has published an article by Mons. C. de Varigny, from which I make the following extracts:—

“Suddenly enriched by the War of Secession in the United States, which enhanced the price of wool by checking its production in America, the Australian Colonies all at once found themselves in possession of considerable revenues.

“Zealous imitators of English customs, they conceived a passion for the chase, and founded Acclimatization Societies in Australia and New Zealand for the purpose of importing hares and rabbits from Europe. It became a perfect mania, a storm of madness that pervaded the whole Colony. \* \* \* Every large landed proprietor had but one idea, that of creating hunting preserves for his amusement. The soil and climate were both so admirably suited to the rabbits, which in England only have from four to six litters of three or four young ones in the course of the year, that in Australia they had as many as ten litters in the year with eight or ten young ones at a birth.

“Fruitless efforts were made to enclose the land with network, for they burrowed underneath it and gained the open to the intense chagrin of the landowners, whose redoubled endeavors and exertions only served to increase their numbers. They have been so successful that to-day this pest is making New Zealand and Australia desolate. Market gardens are laid waste; and districts, which a few years ago yielded 150 bushels of barley, and from 75 to 80 bushels of wheat per hectare (about 2½ acres), have been abandoned, all cultivation, except in certain localities, having become an impossibility.

“Mons. Crawford mentions the case of a large landowner who, after having expended £40,000 sterling (1,000,000 francs) in endeavouring to get rid of this scourge, was compelled to abandon the attempt. On certain holdings their number is estimated at hundreds of thousands, and every year the tax increases with their numbers. Possessed of marvellous voracity they eat the vegetation down to the very root, and convert enormous tracts of pasture lands, which would support from five and twenty to thirty sheep per hectare, into barren and dusty areas. The vineyards have been ruined, and up to the present time the methods employed for the destruction of these animals have achieved no perceptible results. They are hunted, slaughtered, poisoned, and yet they swarm like ants.

“Mons. Williamson states, that during a journey that he made with a representative of the Government, they noticed that throughout the entire district the vegetation had disappeared. Enormous hordes of rabbits scoured the country, scarcely taking the trouble to move out of the way of their buggy. The ground, riddled with burrows, would only admit of their travelling with extreme caution. The rabbits, says he, are everywhere, over the track, and over the plain; they gambol about in troops, and chase each other over the sandhills; and they are seen sitting in hundreds at the entrances of their burrows. Driven to bay in one direction they find refuge in another, and they increase with such rapidity that a universal deluge is the only thing that would give a satisfactory account of them.”

The following publication has recently confirmed the foregoing remarks.

On the 9th of November and 2nd of December, 1887, the paper, *Le Temps*, of Paris, published the following official notice issued by the Government of New South Wales:—

[Here follows a literal version of the Gazette notice, offering a reward of £25,000 for a method of exterminating the rabbits.]

A very few days before this news was published by *Le Temps* I had received from a resident in New Zealand an account of the depredations that the rabbits were also committing in that island.

On the 27th of November, 1887, I wrote the following letter to *Le Temps*, which was published on the 29th of that month.

Copy of letter attached herewith.—

“To the editor of *Le Temps*.

“Paris, 27 November.

“Your paper announced a few days ago that the Government of New South Wales was so powerless to contend with a plague of a peculiar nature—the rapid increase of rabbits—that it was offering a reward of 625,000 francs for the discovery of a process that would ensure their extermination. Considerable portions of New Zealand, as badly devastated as Australia, have been abandoned by the owners, who have given up the breeding of sheep through their inability to feed them. Every winter the rabbits are killed by millions, but this wholesale slaughter appears to have no effect so far as any diminution in their number is concerned. Will you permit me through the medium of *Le Temps*, to convey some suggestions to those distant lands, which if given effect to may be attended by a certain amount of success.

“Up to the present time mineral substances, especially preparations of phosphorus, have been used for the destruction of this pest. In having recourse to these means has not a wrong course been pursued? What can such mineral poisons avail in the destruction of animals whose propagation is characterized by such alarming vitality? They certainly prove fatal in the locality where they are laid; but

but to cope with living creatures is it not essential, if I dare say so, that a poison should be employed endowed with a vitality similar to their own, and like it, able to increase with the same marvellous fecundity? I would like an attempt to be made to carry death into the burrows of New South Wales and New Zealand by communicating a disease to the rabbits that would become epidemic. One such exists which is known by the name of 'chicken cholera,' and has engrossed my closest attention while engaged in the studies of my laboratory. This disease is equally suitable for rabbits. Now, among the experiments that I have made, I find the following:—I collected a certain number of fowls within a limited space, and by administering food soiled with the microbe which is the cause of chicken cholera, they were not long in dying. Poultry-yards are sometimes depopulated by epidemics of this disorder, the propagation of which is undoubtedly ascribable to the excretions of the first sick fowls that pollute the ground and the food. I am of opinion that the same thing would happen with the rabbits, and that they, upon returning to their burrows to die there, would communicate the disease to others, who in their turn would assist to spread the contagion. But how are the first rabbits to introduce the destroying disease into their systems? Nothing is easier.

"Around a burrow I would erect a light fence, enclosing a certain spot to which the rabbits resort in search of food. Experiments have taught us that it is easy to cultivate the microbe of chicken cholera in a state of perfect purity, and on as large a scale as may be desired, in the broth of any kind of meat. With this broth of microbes the food of the rabbits should be sprinkled, and they dying here and there would spread the disease in all directions.

"I may add that the parasite of the disease that I have just spoken about is harmless to farm-yard animals, except, of course, fowls; but there is no necessity for the latter to feed in the open country.

"I have no doubt that there are persons in the infested districts who are quite prepared to make use of the method proposed, a most simple one, and, in every respect, worthy of a trial.

"Kindly accept, Mr. Editor, this assurance of my most sincere respect.

"PASTEUR."

Immediately after the despatch of this letter I had the curiosity to make experiments on the rabbits themselves. I remembered that chicken cholera is very easily communicable to rabbits, though I had never made a special study of the rodents. I had often seen them die in cages that had not been disinfected after fowls had succumbed to cholera in them. It is an open question, and one which has been answered in the affirmative by many, whether chicken cholera is not simply the septicæmia of rabbits, formerly diagnosed by Dr. Davine.

I was very soon convinced of the facility with which the least meal given to rabbits, after the food has been tainted with the germ of the microbe of chicken cholera, will speedily entail the death of the rodents.

I recapitulate some of the experiments that were made by Mons. Loir, a student attached to my laboratory, at my instigation:—

"On the 27th of November five rabbits were put into a box; they remained there without food until 6 o'clock in the evening. At that hour 100 centigrammes of a virulent growth of chicken cholera were placed in a small basin where the leaves of a cabbage were soaking. These leaves were allowed to drain, and were then given to the five rabbits to be eaten, and in 5 minutes they had finished their meal. At midnight three fresh uninfected rabbits are placed with the others.

"At 8 o'clock in the morning of the 28th November the five infected rabbits seemed ill. At 11 o'clock, that is to say, seventeen hours after their meal, two of them were dead. The remaining three died at 3 in the afternoon, twenty hours after their meal.

On the 28th of November, at 7 in the evening, one of the rabbits that had been confined on the previous day at midnight with those that had eaten the tainted food was found to be dead. The two other rabbits did not become sick.

At 5 o'clock on the evening of Saturday, the 3rd of December, some cabbage leaves—upon which 10 centigrammes of virulent growth of chicken cholera had been spread, diluted with 100 centigrammes of sterilized water—were given to four rabbits. At midnight all the food had disappeared some hours before, and four fresh rabbits were placed with the others.

At 8 o'clock on the morning of the 4th of December two of the rabbits seemed unwell. At 11 o'clock one of them was dead; at 2 o'clock two others died, and at 4 o'clock the last of those that had eaten was dead.

The carcasses were left in the box with the fresh rabbits that were put there at midnight on the previous day.

On the 5th of December one of the rabbits was found to be dead; one on the 6th; a third on the 7th; and the fourth died on the 9th of December. All of these were tame rabbits.

On the 17th of December ten centigrammes of the growth of chicken cholera were administered to a wild rabbit on a cabbage leaf. On the 18th it was dead.

In all the foregoing instances it has been placed beyond doubt that death was owing to the microbe of chicken cholera.

On the 3rd of December and succeeding days experiments were made on the following animals:—Swine, dogs, goats, sheep, rats, and always by the infection of their food; not one of these animals became indisposed.

What is more, its operation on the rabbits is so rapid that there is little or no necessity to increase their supply of food; and, on resuming my previous experiments with fowls, I am convinced that they even would not succumb if allowed to remain on ground which the rabbit food had only partly succeeded in contaminating. Fowls are far less susceptible to the disease than rabbits.

Chicken cholera soon dies upon exposure to the atmosphere. It loses its intensity at 51° centigrade, a temperature by no means uncommon, so I am informed, during the summer in Australia; but it would never be necessary to devote attention to the rabbits during the heat of the day.

The preservation of the microbe of chicken cholera, on the other hand, is attended with no difficulty, and when not exposed to the atmosphere it will last for years; so that the most powerful germs will always be procurable. The experiments that I have already reported on to the Academy of Sciences furnish sufficient evidence of the fact.

The cultivation of chicken cholera may be made from the broth obtained from many different animals. One of the cheapest might undoubtedly be prepared from the flesh of rabbits.

It follows, from the foregoing experiments, that not only do the rabbits that have taken the food impregnated with the microbe die off very quickly—in less than four and twenty hours—but also that the companions of such rabbits, though they have not eaten the infected food, died off in great numbers.

I reserve the question of the mode of contagion—it is a point that I will inquire into later on. Is it true that the rabbits inhabiting one burrow do not consort with the denizens of adjacent burrows?

One may look forward without any misgiving to the success of the method in the case where the rabbits belonging to one burrow do not come in contact with those from neighbouring burrows, and do not spread the contagion after they have become infected.

The disease is so easily communicable through the instrumentality of their food that even if the possibility of contagion from the infected to the noninfected rabbits did not exist the destruction of these animals would be none the less easy.

In my letter to *Le Temps* I refer to the erection of light network around the burrows. This contrivance would now be unnecessary.

I picture to myself an experiment on a large scale in the following manner:—Around one or more burrows I would have a certain quantity of the grass mowed down, which would be gathered together by rakes within reach of the rabbits before they went out in the evening. This grass, tainted with the microbe germ, would be devoured by the rabbits as soon as they came across it in their way. A fence would be powerless to stop them and compel them to eat. There would thus be a repetition to a certain extent of the Reims experiment, which I am about to narrate.

It was most desirable that an experiment on a large scale should be made.

An opportunity for the accomplishment of this desideratum under particularly favourable circumstances soon presented itself.

The widow Pommery, proprietress of the great champagne establishment that bears her name, has sent me the following letter, after the perusal of mine that appeared in *Le Temps*:—

“Sir,

“Reims, 3 December, 1887.

“I have a paddock at Reims, over my cellars, 8 hectares in extent, which is entirely surrounded by walls. I conceived the foolish idea of placing rabbits there for the purpose of providing some town hunting for my grandchildren.

“These creatures have increased to such an extent, and undermine the ground to that degree, that I am anxious to destroy them. Ferrets are unable to dislodge them from the large mounds of chalk in which they have taken refuge.

“If it will be convenient for you to make an experiment of the process that you recommend for the destruction of rabbits in Australia I offer you an easy means of doing so.”

“EVE POMMERY.”

Very soon afterwards I learned from my clever correspondent that through fear of seeing the rabbits in her paddock by force of hunger endeavouring to extend their subterranean galleries to an illimitable extent, and endanger the stability of the arches of the cellars, she had for some considerable time thought that they might be confined to their burrows near the surface by giving them daily a meal of lucerne or hay sprinkled about in the vicinity of their burrows. It will be readily understood, therefore, what an easy matter it would be to try and exterminate the rabbits in Madame Pommery's paddock.

On Friday, the 23rd December, I despatched Mons. Loir to Reims for the purpose of sprinkling the day's food with a fresh growth of the microbe of chicken cholera.

As usual, the food was consumed in a few minutes. The result was something marvellous.

On the 26th of December, Madame Pommery wrote to me in the following terms:—“On Saturday morning (consequently the day after the fatal meal) nineteen dead rabbits were counted outside the burrows. No one visited the paddock on Sunday. On Monday morning thirteen more dead rabbits were counted, and since Saturday not a single rabbit has been seen on the ground. Moreover, as a light fall of snow took place during the night, no traces of their footmarks have been discernible in the neighbourhood of the chalk mounds.”

As a rule, rabbits die in their burrows. The thirty-two dead bodies that were found on the ground in the paddock represent but a very small minority of the dead, as will be seen later on.

In another letter, dated Tuesday, the 27th of December, Madame Pommery writes:—“The lucerne (that which was scattered round the burrows on Monday evening) has not been touched, and, moreover, no footprints have been seen in the snow. Every one of them is dead.”

And Madame Pommery, alluding to the English papers which had freely criticised my scheme, copies of which she courteously forwarded to me, adds:—“What becomes of the English critiques in the face of such a result? A paddock of eight hectares, swarming with rabbits, has become a field of death. Mons. Pasteur poisons one ordinary meal for the rabbits, and a few days afterwards nothing lives; every one is put an end to—every one is dead.”

How many rabbits are dead in the burrows? It is difficult to determine exactly. Nevertheless, Madame Pommery informs me, in a letter that I have received to-day, the 5th of January, “That the workmen estimate the number of rabbits that used each day to come and eat the eight enormous trusses of hay that were daily scattered about their burrows at much more than a thousand.

Madame Pommery adds further, that wherever the least trace of the chalk mounds is visible, the usual resort of the rabbits, heaps of carcasses of two, three, four, and five rabbits may be seen.

In concluding this article, I have the honor to state, for the information of the Agent-General, that it is my intention to despatch two experts to Australia and New Zealand for the purpose of putting into practice in those remote countries the process that I have just explained.

Finally, I express the hope that my labour may be permitted to compete for the reward of £25,000 sterling that has been lately offered by the Government of New South Wales for the extermination of rabbits in Australia.

Kindly accept, Mr. Agent-General, the expression of my sincere regard.

L. PASTEUR,

Of the Institute of France, and of the Royal Society of London.

45 rue d'Ulm, à Paris.

*Echo*, February 14th, 1888.

M. PASTEUR AND THE RABBIT PEST.

(From the *Times*.)

THE rabbit race must be prepared to encounter a formidable antagonist to its progress in the annexation of Australasia. M. Pasteur has entered the lists against it, and has taken the side of the human proprietors. Everybody has heard of the speed with which the few rabbits originally imported have occupied the land. From Australia, from New Zealand, and from Tasmania the same cry resounds. Tenants of the State domain have in vain been ordered to extirpate the intruders, or have sought to effect it in their own interest. When rabbits are very pertinaciously harassed they find a refuge in less disturbed quarters. Rewards have been bountifully offered by the several Governments, and have been largely earned. Many millions have been destroyed in the more extensive Colonies. The comparatively small island of Tasmania exported in a single year 1,100,000 skins. Rabbits make excellent food, which, though the Colonial palate does not appreciate it, is sure of a market abroad. Both for their fur and their flesh, as well as for the premium on their destruction, they are a valuable commodity. All kinds of inducements exist for their slaughter. Yet they survive and thrive through the whole. It would almost seem as if butchery encouraged their multiplication, as roses benefit from free plucking. In despair legislatures declare that the pest is worse than ever after the measures adopted to stay it. Every sort of engine of death has been employed. Antipodean rabbits have to run the gauntlet of guns, traps, nets, and mineral poisons of the sharpest nature, and do not mind in the least. The race appears to have lighted upon qualities of atmosphere and vegetation peculiarly grateful to it in Australasia. It is of a philosophical temperament, and bears with the damp and the frost and the stunted herbage of an English common. Transplanted to the South Sea, it has quickly perceived that there it was meant to be. It can scarcely be said to have acclimatized itself, so congenial to it are all the circumstances of its new lodgings. Hunters and trappers are welcome to the heaviest poll-tax they can levy. The race fills up the gaps in its ranks in an instant. There is a natural thinning machinery in these islands, continually operating, from which on the other side of the globe it is free. Here a drought may befall, or a bitter winter, and it may starve. Winter there is scarcely known, and, though droughts are frequent, it appears to have learnt how to evade their fatal consequences. Here are weasels, stoats, foxes, and rats; and among them they curtail the most prolific warren within moderate dimensions. Australasia possesses no such carnivorous quadrupeds; and the rabbit shows its gratitude for their absence by propagating at a rate of geometrical progression.

As local remedies are ineffectual, New South Wales has sought counsel from the world at large. Its Government has promised a prize of £25,000 for a satisfactory specific. M. Pasteur has noticed the offer, and, if he does not actually himself compete, he suggests, in a letter to the *Temps*, how its conditions might be fulfilled. Previous attacks upon the enemy have been conducted from outside. M. Pasteur believes they must necessarily fail, in the existing state of the field of campaign, against the recuperative power of animal life. While at a few isolated points the besiegers are slaying the casual defenders they meet with, a whole nation is in an intrenched citadel, in command of unlimited food, and with a birth-rate infinitely exceeding the death-rate. External assaults he obviously considers equally futile, whatever the particular description of arm used—whether poison, nets, or shot. The sole real resource, in his judgment, is something which will work automatically, and enlist the tribe itself in his own slaughter. An adequate weapon, he believes, has been invented in the shape of a microbe, which rabbits could be persuaded to distribute as if they were retail vendors at a liberal commission of a patent medicine. There is a malady, denominated hen cholera, especially baneful, though to two classes of animals, it is alleged, exclusively. Poultry suffer from it, as the name implies. When it has once been introduced into a poultry yard nothing but isolation will save the inmates. M. Pasteur, in the course of his researches, has satisfied himself by experiments that if the sick remain with the rest, all in time will catch and perish by the disease. He has ascertained that rabbits are as liable as poultry to hen cholera, and he is confident that their gregarious instinct ensures an impartial communication of the complaint to the entire society. He has devised a way of generating the microbe and bringing it within reach of the rabbits which are to domesticate it in their burrows. He concocts in his chemical kitchen a microbe soup which simply has to be sprinkled over vegetable bait in order to produce the desired catastrophe among the rabbit tasters. They, he warrants them, will do as much for their comrades. As their might be a natural apprehension that the microbe and the pastures incidentally affected by it would be equally noxious to sheep and cattle, he has been at the pains to study its habits in this respect. The conclusion is so far satisfactory that he has discovered the hen cholera microbe will not meddle with any four-footed domestic animal. Its predilection for poultry is not, he supposes, of importance on an Australian sheep farm.

Science concerns itself with truth and fact. M. Pasteur, having set himself to investigate the problem of a cure for a plague which afflicts Australasian colonists, has sought for one by scientific methods. He thinks he has found it, and he has explained its nature. It is hardly his business to decide on the morality of the employment of such a remedy. Those who hold it not to be justifiable have no right to fall foul of the great chemist for publishing the lesson of his laboratory. On the practical moral question anybody is entitled to an opinion, though he be neither a man of science nor an Australian squatter. M. Pasteur's present proposal is not the first of the sort. A year ago, possibly in consequence of his experiments, New Zealand, which has suffered terribly from the depredations of rabbits, tried to import some from Europe inoculated with a sickness it was hoped they might disseminate. The strangers died on the journey, and Englishmen who heard of it did not mourn over the casualty. It cannot be denied that the class of procedure vouched for by M. Pasteur as efficacious has an unpleasant semblance of treachery. There is something of the air about it of poisoning wells. Doubtless it can be argued that the tenderness is squamous which would administer shot, strangulation, and strychnine on the amplest scale to these troublesome rodents, yet revolts from the propagation among them of an epidemic. Yet the sentiment is pretty universal. It raised an uproar when a few redundant Museum pigeons were regaled on poisoned grain, and is not likely to be less active and articulate should advantage be taken by graziers at the Antipodes of M. Pasteur's recondite inquiries. A rat is hedged by no law or sanctity. Every man's hand is against it. The one question is how to eradicate it in the most direct and ruthless manner. But we doubt

very

very much if an ordinary English householder would be inclined to clear his cellars of rats by inveigling one of them into becoming a medium of mortal contagion for its confiding fellows. Before M. Pasteur's plan is applied to Australian rabbit warrens, time might at any rate be allowed for the operation of the experiment mentioned in our columns some months since, of peopling the infested regions with a fair proportion of the wild animals which keep down the superfluity in Great Britain. Perhaps for a rabbit it might be difficult to decide whether death by the teeth of a weasel or stoat were preferable to hen cholera. At all events, mankind in the former case seems to occupy a rather more respectable position with relation to the result.

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The Secretary, Board of Health, to The Principal Under Secretary.

Proposal to exterminate Rabbits by the introduction of Diseases.

Sir,

Board of Health Office, 127, Macquarie-street, Sydney, 29 February, 1888.

I have the honor to inform you that the enclosed papers, respecting further experiments by M. Pasteur with chicken cholera, as a means of exterminating rabbits, forwarded by you on the 27th instant, were read and considered by the Board this day, when the following resolution was passed:—

"The Board, having taken these papers into their careful consideration, see no reason to modify their opinions expressed in their resolution of the 22nd instant."

I have, &c.,

EDMUND SAGER,

Secretary.

The Secretary for Lands.—H.P., 1/3/88.

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Sydney: Charles Potter, Government Printer—1888.

[1s. 3d.]



1887.

(THIRD SESSION.)

LEGISLATIVE ASSEMBLY.

NEW SOUTH WALES.

**THE RABBIT PEST.**

(RUNS INFESTED, AND COST OF EXTERMINATION, &amp;c.)

*Ordered by the Legislative Assembly to be printed, 16 November, 1887.*

RETURN to an *Order* of the Honorable the Legislative Assembly of New South Wales, dated 28th April, 1887, That there be laid upon the Table of this House, a Return showing,—

- “ (1.) The names of each of the pastoral holdings in the Colony, and the district in which the same is situated, which are reputed as being infested with rabbits.
- “ (2.) The total expenditure in each year on each of such holdings since the passing of the Rabbit Act, in and towards the extermination of such rabbits.
- “ (3.) The amount paid by the Department of Mines to each of the owners of such holdings as a subsidy for the cost of such extermination.
- “ (4.) The rents of each of such holdings, including the resumed area, paid by the lessees thereof before the passing of the Land Act of 1884.
- “ (5.) The present appraised rents of such holdings, including the resumed area.”

*(Mr. Abbott.)*

# THE RABBIT PEST.

INFORMATION respecting the Rabbit Pest.

Name of Pastoral Holding reputed as being infested with Rabbits.	District in which same is situated.	Total expenditure in each year on such holding since passing of Rabbit Act in and towards extermination of Rabbits.				Amount paid by Department of Mines to owners as subsidy for the cost of such extermination.				Rent of holding, including resumed area, paid by lessees before passing of Land Act of 1884.	Present appraised rent of holding, including the resumed area.
		1883.	1884.	1885.	1886.	1883.	1884.	1885.	1886.		
		£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.		
Canoon .....	Hay .....	87 17 7	821 15 10	495 5 6	537 11 6	.....	436 7 2	142 1 7	271 5 7	528 0 0	1,091 19 3
Wanganella .....	Deniliquin .....	50 2 11	207 6 10	37 18 0	25 8 0	.....	177 6 1	39 0 1	12 14 0	89 0 0	248 10 0
Moorara .....	Wentworth and Wilcannia .....	1,755 17 2	3,383 3 4	2,707 12 4	6,433 19 10	842 7 10	2,507 3 2	1,842 12 1	2,947 13 7	732 0 0	3,723 19 0
Mallara .....	Wentworth .....	467 12 7	911 8 1	536 14 1	349 17 9	62 1 4	652 8 11	251 2 3	153 1 9	159 0 0	400 7 8
Bunmerenge .....	" .....	445 6 0	1,900 2 5	587 9 6	408 11 0	.....	1,221 13 2	787 5 3	131 2 10	452 12 0	994 0 3
Moorna .....	" .....	1,075 17 6	2,384 14 0	356 4 0	313 14 3	.....	1,102 9 2	772 15 4	192 17 3	339 17 0	377 12 1
Avoca .....	" .....	3,144 12 11	7,113 2 6	2,432 14 4	1,589 9 3	.....	4,050 9 10	2,935 7 3	831 2 7	842 0 10	2,679 1 10
Gol Gol .....	Balranald .....	631 11 11	1,278 2 6	799 11 6	519 7 6	.....	821 8 0	740 12 11	355 4 9	403 0 0	1,329 19 0
Deniliquin .....	Deniliquin .....	52 8 3	190 12 10	.....	42 5 0	.....	153 17 7	21 13 4	4 15 0	81 0 0	472 14 2
Magenta .....	Balranald .....	1,208 4 1	2,891 9 2	2,092 0 6	884 16 0	.....	2,006 5 7	1,691 19 6	892 0 7	295 0 0	1,295 12 1
Tapio .....	Wentworth .....	2,906 9 0	7,481 6 5	3,068 3 3	2,306 13 11	.....	3,712 3 2	3,833 12 0	1,499 7 6	676 10 0	2,038 1 10
Turlee .....	Balranald .....	613 14 0	2,341 4 11	529 1 0	628 7 9	.....	1,919 12 11	607 3 8	317 5 6	168 0 0	860 1 1
Topar .....	Wilcannia .....	4 6 8	132 1 9	373 12 5	783 19 0	.....	22 14 4	63 7 0	38 1 2	414 0 0	1,163 4 7
Mungadal .....	Hay .....	347 5 7	632 1 6	60 5 0	44 6 0	.....	570 12 3	99 12 4	48 5 11	62 0 0	251 7 5
Lake Victoria .....	Wentworth .....	2,656 0 10	4,837 8 8	3,954 3 3	2,516 1 3	.....	3,313 1 10	2,305 14 8	1,434 9 0	1,453 0 0	5,120 6 6
Euston .....	Balranald and Wentworth .....	1,498 4 5	2,536 14 5	1,042 10 0	703 4 4	.....	1,328 16 8	1,830 17 4	311 7 9	55 0 0	136 16 9
Manfred .....	Wilcannia and Balranald .....	1,384 10 8	2,761 4 11	1,564 19 0	2,484 12 6	.....	909 10 0	2,152 8 11	1,721 19 6	545 0 0	2,062 11 9
Canally .....	Balranald .....	3,261 1 5	9,798 5 9	1,562 8 5	2,385 0 0	.....	7,552 16 1	2,817 1 9	942 11 2	751 10 0	2,254 1 1
Poon Boon .....	Deniliquin .....	771 10 11	2,452 19 8	733 3 0	469 17 6	.....	1,166 4 11	1,286 3 7	409 10 10	425 0 0	643 17 4
Quiamoug .....	" .....	37 0 0	46 5 6	.....	.....	.....	14 19 7	0 14 7	.....	10 0 0	298 4 0
Buckalow .....	Wilcannia .....	266 18 6	80 9 1	82 6 6	159 14 0	.....	88 3 5	49 19 7	89 12 7	335 0 0	1,462 18 4
Darling, Block D .....	Balranald .....	323 11 3	425 9 1	217 13 0	206 11 0	.....	135 17 5	411 0 1	182 0 9	40 0 0	192 8 0
Kallara .....	Bourke .....	11 1 9	15 1 0	.....	.....	.....	14 0 4	.....	.....	1,450 13 9	4,024 14 3
Murray Downs .....	Deniliquin .....	538 13 5	722 3 2	.....	118 7 0	.....	381 11 9	273 7 1	17 5 0	199 0 0	416 7 7
Woorooma .....	Deniliquin and Hay .....	40 5 6	734 12 0	504 2 7	212 0 0	.....	146 10 1	324 2 4	51 9 5	80 0 0	421 12 0
Culpaulin .....	Wilcannia .....	.....	68 14 8	229 2 0	1,142 13 10	.....	18 2 6	36 16 6	232 9 2	452 0 0	765 12 1
Huntawang .....	Hillston .....	184 9 0	366 13 3	254 10 4	233 7 10	.....	259 2 9	79 16 0	116 7 2	345 1 10	1,214 10 0
Gunniguldrie .....	Hillston North .....	34 17 0	82 14 1	.....	66 12 8	.....	40 16 2	34 17 3	2 3 6	105 0 0	294 16 8
Paika .....	Balranald .....	2,970 1 1	4,432 5 8	3,137 18 6	1,637 8 6	.....	2,967 13 8	5,248 19 5	2,133 7 3	521 7 6	1,231 18 5
Tapalin .....	Wentworth .....	2,397 16 3	8,537 0 1	3,215 0 0	2,226 7 7	.....	88 9 0	3,445 15 4	1,649 7 7	585 15 0	1,037 10 10
Mallee Cliffs .....	" .....	.....	.....	.....	.....	.....	.....	2,470 5 7	.....	229 0 0	1,030 3 4
Cultowa .....	Wilcannia .....	321 2 8	1,121 4 5	186 18 0	572 10 0	49 19 0	550 15 3	130 7 10	131 15 2	310 0 0	1,564 2 7
Coombr .....	Hillston North .....	125 7 1	145 19 5	167 17 11	221 17 0	.....	107 3 11	93 7 6	45 5 5	130 0 0	467 2 11
Tarcoola .....	Wentworth .....	880 11 10	2,521 5 6	1,371 8 1	1,211 6 0	.....	1,309 19 7	1,349 13 6	407 15 0	466 0 0	1,348 13 8
Pan Ban .....	Balranald .....	186 10 0	149 9 10	190 2 1	510 13 0	.....	91 3 0	272 17 7	257 15 9	153 0 0	482 5 5
Oxley .....	Hay .....	.....	822 15 11	278 5 6	242 18 6	.....	253 18 6	437 14 6	102 5 7	307 10 0	611 7 3
Outer Netallie .....	Wilcannia .....	118 6 11	72 3 3	71 15 0	1,260 7 9	.....	97 6 7	.....	556 7 10	25 0 0	404 6 6
Grassmere .....	" .....	.....	172 12 3	180 13 9	213 2 0	.....	52 17 6	65 14 11	103 16 8	82 0 0	777 2 6
Fulham .....	" .....	.....	40 7 6	117 18 0	132 0 0	.....	162 10 10	.....	90 5 6	56 0 0	707 14 7
Barratta .....	Deniliquin .....	37 11 6	110 7 8	16 9 0	.....	.....	42 1 10	.....	.....	361 0 0	398 10 5
Aratula .....	" .....	.....	257 14 0	27 9 8	62 15 6	.....	108 3 7	167 17 6	.....	78 0 0	289 5 11
Cornalla .....	" .....	.....	.....	.....	.....	.....	.....	.....	24 19 6	281 0 0	520 18 8

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INFORMATION respecting the Rabbit Pest—continued.

Name of Pastoral Holding reputed as being infested with Rabbits.	District in which same is situated.	Total expenditure in each year on such holding since passing of Rabbit Act in and towards extermination of Rabbits.				Amount paid by Department of Mines to owners as subsidy for the cost of such extermination.				Rent of holding, including resumed area, paid by lessees before passing of Land Act of 1884.	Present appraised rent of holding, including the resumed area.
		1883.	1884.	1885.	1886.	1883.	1884.	1885.	1886.		
		£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
Cuthro	Wentworth and Wilcannia	2,768 7 4	5,121 14 2	1,443 0 0	2,788 4 0	.....	2,992 4 4	2,467 18 5	948 10 6	1,062 0 0	4,171 9 6
Bundyulumbah	Hay and Deniliquin	112 6 8	409 16 1	266 14 4	279 4 7	.....	135 8 3	132 12 4	145 4 4	96 0 0	516 4 6
Gebam	Hay	71 7 2	349 13 5	363 7 0	227 2 0	.....	.....	288 19 11	104 18 6	84 0 0	301 17 11
Buckanbee	Bourke	421 9 3	181 9 6	12 12 6	121 13 6	.....	130 2 1	42 12 5	18 16 3	390 0 0	772 18 1
Burrabogie	Hay	212 5 2	825 15 1	629 6 8	419 12 10	.....	458 12 2	190 8 7	156 15 3	316 0 0	1,386 2 7
Tuppall	Deniliquin	50 0 9	97 11 4	31 3 0	91 15 9	.....	70 5 11	18 18 2	6 3 5	150 0 0	448 6 0
Nelyambo	Bourke	75 11 6	501 17 6	324 9 0	595 18 3	.....	202 19 1	145 2 6	98 0 3	495 0 0	3,714 11 11
Packawidgee	Hay and Deniliquin	20 0 0	136 16 1	34 5 9	106 16 0	.....	65 10 5	27 17 5	2 8 8	181 6 8	468 12 6
Netley	Wilcannia	606 19 4	1,537 5 0	1,192 19 6	1,736 1 10	.....	555 10 1	518 5 8	559 19 0	995 0 0	3,264 3 5
Berta	"	127 0 2	.....	182 3 7	607 8 0	.....	82 3 3	34 6 3	227 8 5	80 0 0	789 17 1
Kajuligah	Hillston North	107 0 10	132 0 4	362 3 4	563 5 6	.....	131 0 7	176 14 4	176 1 7	203 10 0	681 15 1
Tierhurst	"	.....	858 6 0	944 3 0	545 1 6	.....	255 9 4	630 2 8	213 13 1	497 10 0	639 10 10
Cocketgedong	Urania	67 10 0	115 17 6	.....	.....	.....	67 17 6	29 5 0	.....	108 0 0	652 7 6
Murtee	Wilcannia	36 11 0	161 12 7	463 17 3	1,864 18 6	.....	57 16 6	96 8 8	440 16 11	575 0 0	1,493 1 9
Corrong	Hay and Balranald	1,070 8 2	7,160 0 9	4,220 15 6	4,737 11 0	.....	2,384 13 8	2,780 3 7	3,501 8 0	1,891 14 0	3,487 15 9
Moolbong	Hillston North	84 16 0	211 13 7	64 10 0	127 15 0	.....	33 4 11	77 12 8	120 3 9	246 0 0	601 4 8
Pevensey	Hay	43 13 3	465 0 8	121 2 0	124 1 7	.....	156 7 3	86 11 7	52 19 7	373 0 0	623 15 0
Toganmain	"	122 12 2	806 10 11	225 15 11	222 2 0	.....	424 17 1	119 18 9	61 0 8	605 0 0	1,361 8 5
Kilfera	Wilcannia and Balranald	588 0 1	3,033 15 2	3,624 6 4	4,856 17 0	.....	664 15 7	2,248 16 7	2,797 2 9	390 0 0	3,003 0 6
Yanga	Balranald South	1,621 5 7	5,588 17 10	3,381 13 8	1,715 19 11	.....	2,910 5 11	1,433 19 3	.....	947 0 0	814 14 9
Boyong	Hay	.....	158 14 11	.....	27 0 9	.....	.....	96 19 5	.....	1,307 4 1	46 0 5
Toogimbie	"	106 11 11	649 16 2	224 9 6	140 2 6	.....	285 12 1	229 9 7	107 14 8	812 0 0	1,247 0 0
South Merrowie	Hillston	115 13 1	94 2 4	94 9 6	104 1 4	.....	92 2 10	.....	43 14 10	115 0 0	67 9 2
Wangaron and Wangaroo	Hillston North	45 11 0	191 7 8	210 15 3	224 9 6	.....	77 15 7	127 6 0	83 3 1	164 10 0	185 18 10
Curranyalpa	Bourke	102 13 0	344 7 9	.....	.....	.....	139 0 7	99 1 4	.....	425 0 0	979 3 9
Budda	do	.....	51 11 6	.....	.....	.....	19 7 0	9 10 2	.....	105 0 0	233 15 10
Til Til	Balranald	1,114 9 10	1,673 14 8	2,279 14 0	2,282 5 6	.....	692 12 8	2,135 3 1	1,670 8 3	400 0 0	1,938 8 1
Bundure	Urania	.....	.....	50 3 9	.....	.....	.....	9 17 7	.....	150 0 0	639 16 11
Albemarle	Wilcannia	1,020 8 9	2,324 12 11	1,634 12 10	5,068 3 9	.....	1,418 1 2	927 10 4	1,109 9 4	648 0 0	2,800 5 11
Uardry	Hay	92 10 10	373 16 4	245 13 10	472 14 9	.....	153 17 6	156 19 4	209 17 8	70 15 0	278 16 2
Groongal	do	296 6 2	1,276 18 8	473 8 8	557 17 6	.....	830 2 6	190 18 4	256 3 3	110 0 0	689 19 6
Tolarno	Wilcannia	1,201 17 1	2,790 17 0	1,930 8 0	3,074 10 2	.....	1,307 19 8	1,883 15 11	1,164 8 7	1,185 0 0	3,521 2 0
Kinchege	do	326 6 6	666 7 4	635 14 0	4,920 7 9	.....	273 6 8	390 3 1	513 7 2	2,892 0 0	4,543 17 3
Howlong	Corowa	217 15 9	426 5 0	271 14 8	209 18 0	.....	323 14 10	90 1 6	58 4 6	10 0 0	32 6 0
Moolah	Hillston North	111 13 0	254 13 4	226 17 8	276 1 6	.....	99 5 4	122 1 8	132 11 2	125 0 0	697 14 2
Clare	Balranald and Hay North	690 5 5	2,057 19 10	1,013 0 3	1,787 7 0	.....	562 11 6	1,715 8 1	980 8 3	460 0 0	1,606 15 1
Baden Park	Wilcannia	15 13 0	318 0 10	1,621 10 11	1,799 4 6	.....	153 4 2	301 10 1	661 11 10	44 0 0	463 19 2
Tupra	Balranald, Hay, and Hay North	2,101 4 10	10,757 14 1	3,557 15 0	2,715 12 0	.....	3,044 11 1	8,267 16 0	1,359 17 10	1,608 1 8	4,236 5 5
Cowl Cowl	Hay and Hillston	200 12 4	605 7 10	650 11 6	1,119 7 6	.....	199 2 10	329 5 6	387 10 10	290 0 0	1,511 16 2
Wyadra	Hillston North	.....	.....	231 1 0	.....	.....	.....	.....	17 18 6	325 0 0	421 4 6
Booligal	Hay North	301 4 5	703 5 3	657 17 0	903 1 6	.....	124 0 1	773 8 6	429 17 0	95 0 0	315 3 11

INFORMATION respecting the Rabbit Pest—continued.

Name of Pastoral Holding reputed as being infested with Rabbits.	District in which same is situated.	Total expenditure in each year on such holding since passing of Rabbit Act in and towards extermination of Rabbits.				Amount paid by Department of Mines as subsidy for the cost of such extermination.				Rent of holding, including resumed area, paid by lessees before passing of Land Act of 1884.	Present appraised rent of holding, including the resumed area.
		1883.	1884.	1885.	1886.	1883.	1884.	1885.	1886.		
		£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
Warwillah.....	Hay.....		183 9 6		183 18 0		53 3 1	41 12 6	33 16 0	50 0 0	253 16 0
Melool.....	Deniliquin.....	137 5 9	390 12 8	16 14 9			182 11 9	134 6 10		158 0 0	438 1 7
Yanko.....	Urana.....			176 15 6	82 19 7			35 9 9		153 0 0	390 11 8
Tchelery.....	Hay.....		374 9 0	115 17 2	40 19 0		150 7 5	68 10 1	24 3 8	105 0 0	432 9 2
Willandra.....	Hillston North.....	490 4 0	1,313 2 11	1,065 2 8	1,163 5 6		231 3 7	870 10 0	609 8 5	1,141 0 0	2,728 15 6
Benerembah.....	Hay.....	190 16 0	526 18 7	400 7 7	178 6 11		344 0 4	116 1 3	50 5 7	230 0 0	777 11 1
Barellan.....	Narrandera.....				37 0 0				4 2 6	200 10 0	565 0 2
Roto.....	Hillston North.....	218 9 11	358 9 9	425 3 3	467 5 6		171 0 1	190 7 11	149 18 11	200 0 0	1,150 4 0
Urunaway.....	do.....		229 3 9	88 11 10	193 4 10		64 7 3	79 18 6		426 0 0	453 3 3
Uabba.....	Hillston.....		39 13 11	91 1 4	89 11 2			38 15 5		292 10 0	480 19 0
Para.....	Wentworth.....	983 16 9	2,391 0 10	2,067 11 3	787 18 3		891 4 7	1,293 13 1	415 3 3	706 15 0	1,344 12 1
Kew.....	Wilcannia.....	45 7 9	51 11 8	96 5 3	843 5 7		50 11 9	15 5 7		35 9 1	269 11 8
North Yanko.....	Narrandera.....				315 7 6					132 15 0	668 9 0
Nap Nap.....	Hay.....	60 17 6	1,429 7 9	344 16 11	392 18 9		668 7 7	337 16 7	281 13 7	1,185 0 0	1,783 17 1
Murulu.....	Balranald.....	487 1 7	1,005 2 5	185 1 0	842 14 0		614 14 8	456 18 11		75 0 0	539 0 5
Arumpo.....	Wentworth.....	463 17 11	1,135 2 3	409 10 0	367 15 6		116 5 11	618 11 1	569 19 3	190 0 0	622 12 11
Burtandy.....	do.....	1,530 17 11	1,356 7 9	488 14 6	228 14 0			1,410 2 9	1,054 8 0	217 0 0	471 7 7
Nyingay.....	Hay.....	14 16 0	108 19 6	16 1 0	69 18 0		53 1 4	16 2 0	4 8 9	50 0 0	138 3 1
Momba.....	Cobar and Wilcannia.....		297 6 7	170 14 0	2,016 3 3		106 3 10	77 2 11	295 8 3	3,485 0 0	9,639 1 2
Mount Manara.....	Wilcannia.....		410 19 5	1,010 0 6	3,184 2 3		98 16 3	440 17 11	918 3 8	60 0 0	796 18 4
Tibora.....	Hillston North.....	23 7 4	153 5 6	179 6 3	155 2 6		35 9 2	69 5 2	89 17 8	30 0 0	341 7 6
Merungle.....	Hay North.....	306 6 11	623 12 2	298 17 0	748 0 6		99 2 6	328 12 2	397 10 8	629 10 0	1,214 13 9
Murray.....	Corowa.....		46 10 0				34 17 6			62 0 0	292 19 11
Barooga.....	do.....		105 10 0				28 2 6	39 6 3		64 0 0	253 10 0
Mount Gipps.....	Wilcannia.....	176 14 8	355 12 7	349 9 0	1,291 5 0		125 6 9	184 17 7	613 6 5	560 10 0	3,051 16 10
Illillawa.....	Hay.....	267 10 6	773 2 0	240 13 0	712 3 3		220 16 5	407 19 2		409 5 8	2,187 5 6
Morago.....	Deniliquin.....		187 2 11							117 2 6	309 5 10
Gnalta.....	Wilcannia.....				274 12 0					30 6 0	1,660 8 8
Billilla.....	do.....	262 5 10	463 18 3	647 3 6	2,953 17 6		229 7 9	404 1 11	574 13 9	767 0 0	1,719 10 3
North Merrowie.....	Hillston North.....	42 19 1	74 4 1	133 15 6	117 10 6		47 5 1	40 19 10	96 2 1	274 0 0	339 17 2
Willurah.....	Hay.....		290 19 2	194 16 4	170 5 6		65 2 6	74 16 10	37 2 5	239 0 0	463 3 6
Barham.....	Deniliquin.....		205 5 6		34 15 0		114 0 7	34 12 0	4 5 0	391 0 0	1,208 4 5
Mooloomoon.....	Hay, Deniliquin, and Balranald South.....	99 12 0	517 2 5	126 17 4	82 7 4		162 15 8	80 8 11	30 10 1	92 0 0	170 7 6
Booabula.....	Hay and Deniliquin.....		169 13 11				66 14 9	50 13 9		244 0 0	220 5 5
Warbreccan.....	Deniliquin.....		60 4 5				10 2 4	33 7 3		10 0 0	157 9 9
Gonn.....	do.....		332 1 4		15 0 0		174 12 11	47 1 1	7 10 0	306 0 0	782 17 10
Keri Keri.....	Hay and Balranald South.....		283 6 9	103 17 9	73 17 3		101 15 8	76 11 2	24 16 11	313 0 0	640 0 11
Thackaringa.....	Wilcannia.....			129 11 0	911 17 0			3 4 6	407 8 6	80 0 0	462 14 2
Chah Sing.....	Deniliquin.....		209 3 5				94 5 4	39 13 5		147 0 0	565 11 11
Bengallow.....	Warialda.....	30 0 0	11 9 3	8 19 6	1 12 0		15 0 0	12 13 5	2 13 6	231 10 0	545 6 11
Garpung.....	Wentworth and Balranald.....	750 4 0	939 15 2	614 13 0	1,392 19 0		261 19 5	892 11 2	394 10 0	95 0 0	731 0 0

INFORMATION respecting the Rabbit Pest—continued.

Name of Pastoral Holding reputed as being infested with Rabbits.	District in which same is situated.	Total expenditure in each year on such holding since passing of Rabbit Act in and towards extermination of Rabbits.				Amount paid by Department of Mines to owners as subsidy for the cost of such extermination				Rent of holding, including resumed area, paid by lessees before passing of Land Act of 1884.	Present appraised rent of holding, including the resumed area.
		1883.	1884.	1885.	1886.	1883.	1884.	1885.	1886.		
		£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
Trida .....	Hillston North .....		383 3 3	682 9 0	834 7 6		25 14 0	288 2 4	484 2 5	320 0 0	1,164 2 6
South Thononga .....	Hay .....	97 1 0	452 2 1	347 7 0	675 12 6		49 7 9	255 4 0	304 7 8	564 0 0	1,293 6 8
Redan .....	Wilcannia .....	36 14 6	85 1 9	54 14 11	42 6 0		35 18 0	32 11 9	3 6 5	30 0 0	216 2 11
Goulgumbla .....	Hay and Urana .....		226 14 3	159 12 2	225 19 0		8 8 11	44 19 2	0 0 3	78 0 0	317 0 0
Weinteriga .....	Wilcannia .....	466 8 1	1,479 10 4	780 16 0	4,768 19 0		636 5 1	570 19 7	249 8 6	1,129 0 0	2,665 16 5
Marooba .....	Hillston North .....	28 7 6	181 2 0	34 8 6	98 1 6		66 7 5	49 15 1	22 7 7	75 0 0	231 9 11
Innesowen .....	Bourke .....		60 9 1				33 4 4	4 1 3		125 15 0	639 10 0
Hartwood .....	Cobar .....		191 1 4				107 9 2	23 16 3		111 0 0	229 14 5
Mootwingee .....	Wilcannia .....			34 5 8	108 8 0				12 3 10	140 0 0	285 19 4
Merri Merriwa .....	Hillston North .....	105 16 0	148 19 6	29 13 6	123 5 6		116 6 1	42 11 8	19 6 1	56 0 0	54 10 0
Benduck .....	Hay .....		413 11 5	102 8 1	109 18 8		50 13 9	171 6 3	51 1 4	153 15 0	603 12 10
Jerilderie .....	Urana .....		105 6 6			7 11 3	54 6 9	14 11 9		132 0 0	281 6 11
North Peak .....	Cobar .....		44 8 3				8 0 10	21 7 3		30 0 0	124 12 0
Canoble .....	Hillston North .....	347 8 5	802 12 1	818 10 4	791 6 0		160 13 7	716 9 3	286 10 8	420 0 0	1,361 5 8
Burrumbuttock* .....	Albury .....		37 3 0				30 12 6			10 0 0	
Ophara .....	Wilcannia .....			45 19 5	188 12 9				138 16 5	25 0 0	228 6 8
Calimo .....	Deniliquin .....		88 2 6	16 18 5			66 1 11			107 0 0	484 5 10
Perricoota .....	" .....		196 7 0	43 3 4	42 8 6		124 14 0	52 9 0	3 15 9	224 15 0	Not yet gazetted.
Glen Lyon .....	Wilcannia .....		150 9 6	272 3 6	1,540 3 0		12 11 3	82 3 2	97 3 9	178 0 0	830 4 2
Boomanoomana .....	Corowa .....		41 11 11		44 17 0		16 14 9	14 9 2	22 8 6	135 0 0	799 4 6
Cobran .....	Deniliquin .....		139 19 9		28 0 0		85 15 10		6 3 4	212 0 0	522 16 10
Moolpar .....	Deniliquin and Balranald South .....		561 10 6	390 4 0	193 11 6		148 6 2	153 18 0	61 7 1	303 0 0	337 4 5
Mathoura .....	Deniliquin .....		58 13 6	24 12 0	33 0 0		6 2 3	32 10 4	13 13 0	90 0 0	185 0 8
Yandembah .....	Hay North .....	24 4 9	40 0 0	22 4 6	55 3 3		9 10 0	22 1 7	11 7 7	55 0 0	262 11 6
Poolamacca .....	Wilcannia .....		18 0 0		395 8 6		13 10 0		143 0 10	323 0 0	1,281 18 9
Mena Murtee .....	" .....		88 11 0	292 8 0	1,071 12 3		14 15 1	23 2 3	139 18 8	285 0 0	1,520 10 10
Corona .....	" .....				341 8 0				22 1 6	1,321 15 0	6,032 17 11
Marra .....	Bourke .....	7 18 9	83 1 10	13 4 6	233 15 0		17 12 4	35 17 10	24 14 7	1,780 0 0	2,467 10 4
Wargam .....	Hay .....			18 17 0	135 10 0				24 7 5	190 0 0	330 15 1
Liewah .....	Deniliquin .....		232 2 3				43 3 4	80 2 11		263 0 0	422 6 3
Keewong .....	Hillston North .....		104 19 0	298 15 2	306 19 6		21 19 0	64 0 9	29 16 8	409 0 0	920 0 9
Yallock .....	" .....	44 10 8	186 2 2	314 5 5	437 15 0		30 19 6	156 15 6	154 3 2	160 0 0	973 11 10
Caroonboon .....	Deniliquin .....		162 7 6	186 7 6	115 13 6			133 11 0	35 1 6	66 0 0	327 17 4
Winbar .....	Bourke .....		103 3 0					67 10 0		942 0 0	2,527 1 10
Paddington .....	Wilcannia and Cobar .....		177 15 4	413 5 11	1,245 0 6			139 8 0	284 2 9	307 0 0	2,163 6 5
Nekarboo .....	" .....	40 8 6	311 5 8	344 11 9	842 14 9			88 3 7	374 6 6	140 0 0	891 6 1
Teryavynia .....	Wilcannia .....	162 15 0	916 6 0	2,615 16 6	11,462 6 6			1,130 18 10	4,977 7 0	1,106 0 0	3,475 17 8
Mossiel .....	Hillston North .....		1,640 1 3	1,174 13 5	1,190 11 0			627 8 11	520 2 1	460 0 0	1,333 1 0
Mt. Boorithumble .....	" .....	55 12 11	73 4 10	170 7 6	90 7 6			89 9 3	18 19 3	30 0 0	112 7 4
Goonalga .....	Wilcannia .....	69 9 3	171 16 4	114 9 9	38 0 0			103 5 0	20 1 3	14 0 0	196 5 9

\* This run has not been brought under the provisions of the Crown Lands Act of 1884, and the lease under Repealed Acts expired on 31st December, 1886.

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INFORMATION respecting the Rabbit Pest—continued.

Name of Pastoral Holding reputed as being infested with Rabbits.	District in which same is situated.	Total expenditure in each year on such holding since passing of Rabbit Act in and towards extermination of Rabbits.				Amount paid by Department of Mines to owners as subsidy for the cost of such extermination.				Rent of holding, including resumed area, paid by lessees before passing of Land Act of 1834.	Present appraised rent of holding, including the resumed area.
		1833.	1834.	1835.	1836.	1833.	1834.	1835.	1836.		
		£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
Marfield .....	Wilcannia .....	241 15 4	777 11 2	2,737 3 11	4,490 4 4	.....	.....	514 0 11	3,541 6 3	200 0 0	1,735 18 4
Gunbar .....	Hay .....	305 12 0	996 2 6	1,371 0 9	1,118 10 6	.....	.....	970 18 6	492 15 7	1,245 0 0	1,560 19 3
Nangunia .....	Corowa .....	.....	19 14 0	.....	.....	.....	.....	14 15 6	.....	31 0 0	99 5 3
North Gogeldrie .....	Narrandera .....	.....	.....	.....	78 10 0	.....	.....	.....	23 11 3	25 0 0	98 13 2
Tintinallong .....	Wilcannia .....	206 3 0	245 6 2	167 15 0	801 17 6	.....	.....	209 5 4	295 15 6	797 0 0	977 2 9
Momalong .....	Corowa .....	.....	20 2 9	.....	.....	.....	.....	15 2 0	.....	175 0 0	436 6 7
Langawirra .....	Wilcannia .....	.....	87 17 6	157 19 6	632 16 6	.....	.....	56 3 0	249 18 0	207 0 0	1,691 13 4
Boundary .....	Wentworth .....	.....	37 8 0	53 18 6	91 3 9	.....	.....	28 1 11	37 9 0	23 0 0	73 11 8
Sturt's Meadows .....	Wilcannia .....	.....	54 10 5	.....	495 7 6	.....	.....	25 12 9	203 18 6	179 0 0	815 2 1
East Thelangerin .....	Hay .....	.....	113 0 0	133 5 0	134 4 9	.....	.....	99 0 8	84 11 11	19 0 0	535 6 9
Culpotaro .....	Hay North .....	.....	227 8 3	323 7 3	506 9 3	.....	.....	207 15 2	212 14 8	198 0 0	280 8 4
Mulwala and Savernake .....	Corowa .....	.....	41 8 7	.....	.....	.....	.....	31 1 5	.....	47 0 0	339 15 0
Conapaira .....	Narrandera .....	.....	30 9 7	101 8 3	89 10 0	.....	.....	23 12 2	4 10 0	460 0 0	1,228 8 9
Mundi Mundi .....	Wilcannia .....	.....	55 5 0	194 1 4	752 14 6	.....	.....	135 17 2	.....	360 10 0	1,238 16 11
Ulonga .....	Hay .....	619 12 7	826 10 5	310 2 0	765 16 0	.....	.....	566 9 2	373 18 2	1,773 0 0	2,283 14 11
Kerarbury .....	Narrandera .....	134 1 6	320 2 2	305 10 11	148 2 6	.....	.....	71 6 5	195 9 2	270 0 0	1,138 19 2
Wirchilleba .....	Hillston North .....	.....	30 16 11	.....	109 2 0	.....	.....	22 11 8	7 2 10	428 0 0	724 12 5
Ballandry .....	Narrandera .....	.....	7 7 9	201 18 5	58 6 6	.....	.....	10 14 7	19 15 0	251 0 0	728 12 4
Binya .....	.....	.....	45 17 7	32 13 0	118 15 9	.....	.....	32 18 4	31 1 4	247 0 0	892 7 9
Wooyro .....	Condoblin and Hillston .....	.....	52 11 2	197 0 4	39 4 0	.....	.....	39 15 5	7 17 1	1,028 0 0	1,862 10 2
Moothumbil .....	Cobar .....	.....	.....	.....	13 12 6	.....	.....	.....	1 13 9	115 0 0	555 6 3
Boondarra .....	Hay North and Hillston North .....	.....	275 16 6	209 3 0	324 10 6	.....	.....	115 6 7	165 16 2	250 0 0	889 4 10
Tom's Lake .....	Hay North .....	.....	.....	74 14 3	91 2 0	.....	.....	32 6 6	42 5 11	70 0 0	355 0 0
Tubbo .....	Narrandera .....	.....	245 15 2	214 11 10	191 16 6	.....	.....	109 14 1	11 17 4	344 0 0	1,092 0 0
Merool Creek .....	Hay .....	.....	.....	38 7 0	73 2 3	.....	.....	0 17 3	5 0 4	25 0 0	175 10 10
Alma .....	Hay North .....	.....	.....	89 9 11	141 15 6	.....	.....	39 6 9	69 7 6	205 0 0	689 10 4
Moirra .....	Wilcannia .....	.....	.....	20 15 0	41 7 6	.....	.....	2 2 0	12 11 3	30 0 0	316 7 1
Geramy .....	Hay .....	.....	15 17 10	20 18 0	9 10 0	.....	.....	21 14 3	4 5 10	18 15 0	20 6 3
Naradhan .....	Hillston .....	.....	.....	.....	56 2 6	.....	.....	.....	4 15 5	152 0 0	1,034 11 4
Bulla Bulla .....	Bourke .....	.....	.....	9 17 0	72 16 6	.....	.....	.....	6 2 7	200 0 0	466 13 4
Cuthawarra .....	Wilcannia .....	.....	.....	.....	629 3 0	.....	.....	.....	12 13 6	118 0 0	411 6 8
Mumbledool .....	Narrandera .....	.....	.....	.....	43 2 0	.....	.....	.....	5 8 6	255 0 0	486 0 9
Gogeldrie .....	.....	.....	.....	.....	47 5 0	.....	.....	.....	5 3 9	150 0 0	331 16 7
South Yalgogrin .....	.....	.....	.....	.....	42 18 3	.....	.....	.....	11 17 7	207 0 0	580 0 3
Brookong .....	Urana and Wagga Wagga .....	.....	51 0 10	.....	.....	.....	.....	.....	37 2 5	117 0 0	1,960 5 1
North Bolero .....	Narrandera .....	.....	.....	.....	7 1 0	.....	.....	.....	2 9 0	80 0 0	139 7 11
Tiltagara .....	Cobar and Wilcannia .....	.....	.....	.....	304 5 6	.....	.....	.....	24 10 8	46 0 0	590 17 6
Yathong .....	Hillston North .....	.....	.....	.....	01 1 4	.....	.....	.....	7 19 4	255 0 0	921 17 5
North Whoey (Murrin) .....	.....	.....	.....	.....	203 10 0	.....	.....	.....	7 15 4	425 0 0	526 18 7
North Abbotsford .....	.....	.....	.....	.....	128 16 2	.....	.....	.....	44 10 7	70 0 0	264 4 9
Tarella .....	Wilcannia .....	.....	.....	.....	796 12 6	.....	.....	.....	23 11 4	714 0 0	2,592 19 1

[Pd.]

Sydney: Charles Potter, Government Printer.—1887.

1887.

(THIRD SESSION.)

LEGISLATIVE ASSEMBLY.

NEW SOUTH WALES.

## THE RABBIT PEST.

(PARTICULARS OF RABBIT-PROOF FENCING ERECTED FOR PREVENTION OF.)

*Ordered by the Legislative Assembly to be printed, 14 December, 1887.*

RETURN to an *Order* made by the Honorable the Legislative Assembly of New South Wales, dated 29th November, 1887, That there be laid upon the Table of this House,—

“ A Return showing the total number of miles of wire netting now erected in the Colony by the Government for the prevention of rabbits; also the total cost of erecting same at per mile, including cost of material, carriage, &c.; also the number of officers who have been employed to inspect such work, and the respective amounts paid to each officer for salary and travelling expenses.”

*(Mr. Wall.)*

RETURN showing the number of miles of wire netting now erected in the Colony by the Government for the prevention of rabbits:—

206½ miles.

Cost of erecting 206½ miles of wire netting as under:—							£	s.	d.
Cost of materials	...	...	...	...	...	...	10,035	4	9
" carriage	...	...	...	...	...	...	1,871	16	6
" erection	...	...	...	...	...	...	4,853	2	0
Salaries to officers	...	...	...	...	...	...	262	2	8
							£17,022	5	11
Total cost per mile ... ..							£82	6	1½
Amounts paid to inspecting officers:—									
Mr. C. J. Lyne, salary	...	...	...	...	...	...	191	2	9
Mr. M. Mealy, salary	...	...	...	...	...	...	70	19	11
(No travelling expenses allowed.)							£262	2	8

[3d.]

384—

[805 copies—Approximate Cost of Printing (labour and material), £1 1s. 10d.]



1887-8.

LEGISLATIVE ASSEMBLY.  
NEW SOUTH WALES.

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RABBIT PEST SUPPRESSION BILL.

(MESSAGE No. 32.)

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*Ordered by the Legislative Assembly to be printed, 10 February, 1888.*

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CARRINGTON,  
*Governor.*

*Message No. 32.*

In accordance with the provisions contained in the 54th section of the Constitution Act, the Governor recommends for the consideration of the Legislative Assembly the expediency of making provision to meet the requisite expenses in connection with a Bill to repeal the "Rabbit Nuisance Act of 1883," and to make better provision for the suppression of the rabbit pest.

*Government House,  
Sydney, 10th February, 1888.*



1887-8.

LEGISLATIVE ASSEMBLY.  
NEW SOUTH WALES.

NOXIOUS WEEDS IN THE DISTRICT OF  
RICHMOND RIVER.

(REPORT, &c., IN CONNECTION WITH.)

*Ordered by the Legislative Assembly to be printed, 10 July, 1888.*

RETURN to an *Order* of the Honorable the Legislative Assembly of New South Wales, dated 27th June, 1888, That there be laid upon the Table of this House,—

“ A copy of the Report, &c., in connexion with Noxious Weeds in the  
“ district of Richmond River.”

(*Mr. Ewing.*)

REPORT *re* Noxious Weeds in the District of Richmond River.

Sir,

Department of Mines, 15 July, 1886.

In accordance with personal instructions from the Honorable the Minister for Mines, I have the honor to report that I carefully noted the spread of the weeds, *Sida Retusa*, *Lantana*, and others, before receiving the Minister's telegram of instructions, through the Chief Inspector of Stock. I found that the *Sida Retusa* had spread over nearly the whole district, with the exception of a large portion of the pastoral country. On nearly all the roadsides it is growing luxuriantly. At Tintenbar, and in all the cleared areas in the neighbourhood, it is terrible, and it is also nearly as bad in the neighbourhood of the Tweed River, where it was first introduced by an inhabitant for the purpose of making fibre from its stems. It seeds very freely, and is spread by the cattle and horses carrying the seeds about in their hoofs. Stock eat it freely, especially when the grass is dry, and it is said that cows thrive well and produce splendid butter and milk when fed on its leaves and tender stalks. I was informed, on most reliable authority, that in the pastoral country, not far from Casino, a small farmer kept his cows through the dry season in a paddock overgrown by this weed and he was able to supply excellent butter, when without this food it would have been impossible.

Notwithstanding this in its favour it should be eradicated, otherwise it is like to become a terrible pest in orchards and arable land.

The *Lantana* has taken entire possession of some portions of the country, and is a fearful pest. On each side of the road from Wyralla to Lismore, and also for some miles around Lismore, hundreds of acres of land that had once been cleared have become utterly useless through the spread of this shrub. It is growing luxuriantly also near and about Ballina, and unless checked soon will take possession of that part of the district. It is continuously in seed, and this is spread about chiefly by birds. It will be exceedingly difficult to eradicate. I think continued burning would be the best means to adopt.

But the worst of all the weeds is the nut grass (*Cyperus rotundus*). I first noticed this on the southern bank of the Richmond River, at and around the Colonial Sugar Company's Mill at Broadwater, then in the parish of Broadwater (on the opposite side of the river); at Coraki, and in the vicinity of Lismore; and I believe it is to be found along the south arm of the Richmond River and beyond Casino; I found it on the Tweed in several localities.

There are several indigenous sedges very like it in appearance, and might easily be mistaken for it, but they are harmless.

The “black thistle” is making its appearance here and there throughout the district, very frequently on the roadsides. It has, I think, been introduced with rye-grass seed, and will become an abominable pest if not looked after.

1008—

[530 copies—Approximate Cost of Printing (labour and materials), £1 13s. 3d.]

The "inkweed," or "dye plant" (*Phytolacca decandra*), or "Virginian poke weed," is a great nuisance, and is the cause of considerable expense to the farmers. The plants appear in millions on nearly every clearing as soon as the fallen timber is burned off. It is a soft-wooded succulent plant, growing sometimes to a height of 20 feet and upwards.

The "blue weed" (*Verbena bastata*), or vervain, is at times a very great nuisance, but it can be destroyed without very great difficulty.

Another weed, called "stinking roger" (*Tagetes calendula*), causes great trouble in cane fields and cultivated lands. It grows to a height, at times, of from 12 to 15 feet. It seeds very freely.

There are many other weeds which cause considerable annoyance, but the above are the worst.

I beg most respectfully to invite attention to one of the largest and most beautiful of the brush timber trees, the "*Castanospermum Australe*," locally known as the "Bean-tree," and also as the "Moreton Bay Chestnut." This tree, or rather the seeds or beans, are a very great nuisance, and cause of loss to stockowners. In very dry seasons, and when the grass is dry, some cattle and horses become ravenously fond of the beans; after eating these death is almost certain to follow. The effect on cattle is the head swells, sometimes bleeding at the nose, scour, and a gradual waste away. A horse drops down dead suddenly without sign of sickness, except hoven. *Post-mortem* examinations of horses invariably show a compacted mass of undigested bean in the stomach. Many persons destroy all the bean-trees to be found on their properties; others do not appear to be aware of the effects of the beans. The trees are very difficult to destroy; shoots sprout up around the stump when the tree is cut down. They are very deep rooted, and their stumps are the most difficult to destroy of all the brush timber trees. I could not ascertain that the beans affected pigs. I think not, for I saw pigs feeding on them freely, and they must have done so for some time before.

There is a grass creeping over the district and eradicating far more nutritious grasses, and that is the "*Stenotaphrum Americanum*," called the "buffalo-grass." Some persons encourage the growth on their farms, but I think they are making a great mistake. It grows with wonderful luxuriance, and soon overgrows almost anything in its way, logs, stumps, &c.

With respect to the "maize blight," I found that the Tweed district suffered the most from the attack of the fungus; here half crops only were obtained as a rule. Some farmers on the banks of the Richmond, and also some on the "Big Scrub," suffered to some extent, but not so much as is generally supposed. I was informed on the "Lower Richmond" that the farmers up the river had suffered terribly, but the higher up the river I went the better the returns appeared to be, and the crops were up to the average. I am quite satisfied that the supposition that a sudden downpour of rain after drought was the cause of the blight is wrong, and I have no doubt that the blight is caused by a fungus. It first appears on the apex of a leaf, then generally in patches, and sometimes it spreads all over the leaf, from apex to base or sheathing petiole. It not only attacks the cuticle but enters the parenchyma of the leaf, and prevents it from performing its proper functions.

When the leaves are severely attacked the grain suffers and shrivels up, sometimes the whole of the grain in a "cob," and sometimes that only on the apex of a "cob"; the fungus does not necessarily attack the grain, but sometimes the spores are found amongst the grain, but not frequently. Plantations of maize are attacked by the fungus very irregularly. An entire field may be blighted, sometimes a half a corner, a strip through the centre, one may be entirely blighted, and an adjoining one escape. Moist or dry soil makes no difference. I believe the best preventives will be the destruction of the spores of the fungus by burning all the refuse leaves, stalks, rubbish, and weeds, deep and subsoil ploughing, wider planting, good drainage, careful and clean cultivation, and rotation. If means are taken to keep the plants in full vigour the disease need not be feared. One important matter should be attended to, and that is the careful selection of good seed. All seeds sown for a number of years successively on the same soil are found to acquire a constitutional tendency to deteriorate, and there is no doubt of the general correctness of the proposition, and the discovery of this fact has given origin to some of the most useful maxims of husbandry which have directed the operations of the cultivator ever since the dawn of the science. I may mention as an instance of the productiveness of the plant that a yield of 200 bushels and 12 quarts per acre was obtained in Columbia, America, by underdraining, manuring, and high cultivation. "There is no plant or vegetable grown by the farmer that is more variable in its yield, or more susceptible of the influences of soil, season, and treatment than this grain. \* \* \* The contingencies attending a large yield of corn are neither few nor trifling, but the persevering and resolute purpose of the well informed cultivator is equal to them all, and the impunity with which his successful crop escapes and defies contingencies is an evidence how much can be accomplished when intelligence is guided by science, and industry by skill."—*Enfield*.

I have, &c.,

WALTER SCOTT CAMPBELL.

1887-8.

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LEGISLATIVE ASSEMBLY.  
NEW SOUTH WALES.

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ADELAIDE JUBILEE INTERNATIONAL  
EXHIBITION, 1887.

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REPORT OF THE PRESIDENT

OF THE

NEW SOUTH WALES COMMISSION.

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ORDERED BY THE LEGISLATIVE ASSEMBLY TO BE PRINTED,  
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1888.



## ADELAIDE JUBILEE INTERNATIONAL EXHIBITION, 1887.

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 REPORT OF THE PRESIDENT OF THE NEW SOUTH WALES COMMISSION.
 

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To His Excellency The Right Honorable CHARLES ROBERT, BARON CARRINGTON, a Member of Her Majesty's Most Honorable Privy Council, Knight Grand Cross of the Most Distinguished Order of Saint Michael and Saint George, Governor and Commander-in-Chief of the Colony of New South Wales and its Dependencies.

MAY IT PLEASE YOUR EXCELLENCY,—

The Commissioners appointed under the Great Seal of the Colony to devise and carry out the details necessary for the collection and transmission to the Adelaide Jubilee International Exhibition, of all articles intended for exposition thereat, have the honor to submit to Your Excellency this their report.

The first members of your Commission were gazetted on the 14th January, 1887, and from time to time, there were added to their number, gentlemen to assist in the work of securing an adequate representation of this Colony.

It was felt that the most strenuous efforts would require to be made to ensure the collection of suitable exhibits, and deliver them in Adelaide in anything like time for the official opening of the Exhibition, which was fixed for the 21st June, 1887, and that during the brief space of time at disposal the greater portion of the Commissions work would have to be compressed. The Commission for the neighbouring Colony of Victoria had got to work some nine months before.

The first meeting of your Commission was held on the 21st January, 1887, a week after the Gazette notice had appeared—The Honorable Arthur Renwick, M.D., M.L.C., Vice-President (afterwards President, on the resignation of His Honor Sir F. M. Darley, Chief Justice), in the chair. The Secretary read the instrument appointing the Commission, and the names of the members will be found in Appendix A. The meeting proceeded with the appointment of a Committee to take charge of finance and shipping arrangements, and agreed that certain members of Commission should formulate and present business in the various Departments comprised within the classification of exhibits published by the authorities in South Australia. Other names were afterwards added for the more immediate control of the business of Departments, and in Appendix B will be found the complete list of these appointments.

In connection with the work of previous Commissions, only one collector of exhibits had been engaged to canvass town and country; but the Commission, having regard to the short interval at disposal, decided at this—the first meeting—that two collectors should be engaged—one to interview likely exhibitors in the city and

Official programme and form of application for space.

and suburbs, and the other to perform similar work in the country districts. The official programme and form of application for space were adopted, and in the programme the New South Wales Commission earnestly invited the producers and manufacturers of the Colony to become exhibitors at Adelaide, and urgently impressed the necessity for immediate action on the part of intending participators. The terms of the official invitation issued to New South Wales exhibitors will be found to form Appendix C. It was resolved "to obtain the approval of the Honorable the Colonial Secretary to a cablegram being sent to the Agent-General for the Colony in London, asking that the return to Sydney of unsold Departmental and Commission exhibits—including maps, and of private collections of photographs and return exhibits, be expedited; and that suitable Court decorations and panels not disposed of, be also returned." The Secretary, in reply to a question, said that he understood that Sir Patrick Jennings, K.C.M.G., had applied—prior to the appointment of the Commission—for 10,000 superficial feet of space for a New South Wales Court, and it was resolved that application be at once made for the increase of this area to 15,000 feet. It was resolved that meetings of Commission be, in the meantime, held weekly—so that all urgent business accruing may be promptly dealt with.

Space to be increased to 15,000 feet.

Exhibits of minerals, timbers, &c., and preparation of pamphlet on Colony.

At the following meeting of Commission steps were taken to procure, with the assistance of the Department of Mines, an appropriate collection of timbers and other forest products of the Colony; a selected Natural History exhibit to be prepared under the auspices of the Trustees of the Australian Museum, while it was resolved that the small pamphlet on the Progress and Resources of the Colony be revised for distribution at the Adelaide Jubilee Exhibition.

Private and Departmental mineral exhibits.

The Finance Committee reported fully on the 8th February as to the mode in which they proposed to deal with the moneys advanced from time to time for the purposes of the local Commission, and a resolution was agreed to recommending that the Minister for Mines be asked to undertake the preparation and collection of minerals, mining and geological maps and diagrams illustrative of the mineral resources of New South Wales; also to make the necessary arrangements for the display of the mineral exhibits of private exhibitors, and that the Commission provide for the cost of the preparation and display of the exhibits. It was reported from the art section that the Art Society of New South Wales would be represented in the New South Wales Court, that the leading photographers of the city would also exhibit, while the Picturesque Atlas Company of Australasia would forward a selection from the drawings made for the purposes of that valuable publication. Mr. Charles Moore, Director of the Botanic Gardens, informed the Commission that efforts were being put forth to ensure an adequate illustration of our varied cereal produce. The Secretary of the Adelaide Exhibition, Mr. J. Fairfax Conigrave, had suggested the desirability of the Secretary of the New South Wales Commission visiting Adelaide for the purpose of inspecting the space apportioned to the Colony. But as no Executive Commissioner had yet been appointed, and the Secretary could not leave Sydney at the present initiatory stage of the Commission's proceedings, it was decided to ask Mr. F. A. Franklin, C.E., J.P., a member of the Commission, and one who possessed all the necessary practical skill, to proceed to Adelaide to confer with the Commissioners of the Jubilee Exhibition, to plan the Court space, suggest subdivision according to Departments of Classifications of Exhibits, formulate plan of decoration, and generally to report.

Exhibits in art section.

Cereals.

Mr. Franklin asked to proceed to Adelaide as delegate of Commission.

Mr.

Mr. Franklin consented to place his services at the disposal of the Commission, for the purpose specified. As but a limited time was available for the preparation of show-cases in Sydney, it was decided that a cablegram be sent to the Agent-General, urging that suitable show-cases from the Colonial and Indian Exhibition, if not already forwarded, be shipped to Sydney for use at Adelaide.

Telegram was read at meeting of the 15th February, from Mr. Franklin, delegate from the Commission, reporting as to New South Wales space; while on the same date Mr. Augustus Morris informed the Commission of the action taken by Department III, on Education and Science, to obtain exhibits; and Mr. Charles Moore received the authority of the meeting for the obtaining and preparation of thirty-one varieties of timbers of commercial value and use in industries.

Mr. Franklin submitted to the next ensuing meeting, detailed report, with plans, and this report was adopted on the 1st March, when Mr. Franklin was present. Plans and specifications for preliminary Court decorations, submitted by Mr. Franklin, were approved, and tender of Mr. James Brunell, of Adelaide, agreed to, for sum of £100. (It may here be mentioned that at this, as at previous and subsequent meetings of the Commission, there were submitted detailed progress reports from the collectors in town and country.) It having been intimated that the allotment of space to New South Wales, did not include the gallery over our Court in the main building, it was resolved, there being no other suitable space, to urge upon the Adelaide Exhibition authorities, the absolute necessity that the allotment to this Colony should include the gallery space referred to.

It was reported to the Commission, on the 8th March, that the Agent-General had been authorised to ship show-cases to Adelaide, and that the "Leyland Brothers," a sailing vessel, was bringing out to Sydney, in addition to return exhibits, a number of packages of decorations from the late Colonial and Indian Exhibition, which would be available for the New South Wales Court in Adelaide. The President reported from special meeting of representatives of departments held that day as to space requirements, and it was recommended that the Adelaide Exhibition authorities be urged to see that our space in the eastern annexe, then in course of erection, be directly in alignment with the boundaries of our space in the main building. It was also held that the whole of our space should be confined to an apportionment between the principal floor of the main building and the eastern annexe, while the Secretary was instructed to point out that no basement space would be required. The Commission had, however, eventually to content itself with the allotment in the basement of part of New South Wales space, although this was indifferently lighted, and by no means so suitable for purposes of display as our other space. Before this meeting closed the Secretary was instructed to prepare, and forward to Adelaide at the earliest possible moment, an abridgment of the New South Wales catalogue, to be incorporated with the general official catalogue, the Commission insisting on their right to prepare and publish for gratuitous distribution, if that be thought advisable, a detailed catalogue of exhibits.

In the interests and for the further convenience of exhibitors it was resolved that the date for the reception of entries for general exhibits be extended from March 31st to April 20th, and for receiving exhibits into store, from April 15th to May 10th, and the Commission, on the report of the Wine Committee, decided to avail of the suggestion of the Adelaide Exhibition authorities, that the Colony, in common with others to be represented, have a separate wine bar.

The

Silver trophy  
and gold  
specimens.

The Commissioners, at a meeting held on the 22nd March, agreed to the recommendation of the Mining Department, to ask for special advance from the Government, for the purchase of sufficient silver, in ingot, to illustrate the growing importance of the silver-mining industry, and also to an expenditure upon characteristic specimens of gold. The Secretary submitted, for the information of the meeting, memorandum drawn up, at his request, by Mr. R. S. Pryce, officer-in-charge of New South Wales exhibits, at the Colonial and Indian Exhibition, describing the character of the Court decorations now on their way to the Colony, and which could be made use of for Adelaide.

Court decora-  
tions from  
London.

Appointment  
of Executive  
Commis-  
sioner.

The appointment of Mr. John Cash Neild, M.P., as Executive Commissioner for New South Wales, for the Adelaide Exhibition, was officially notified to the Commissioners on the 5th April. The Executive Commissioner addressed the meeting, and stated that it was his intention to proceed, without delay, to Adelaide, and a conversation took place as to the matters which would be likely to engage Mr. Neild's attention more immediately after his arrival in South Australia. Mr. Burdett Smith moved, that Mr. Neild be empowered, during his visit to Adelaide, to incur any expense he, in his judgment, may think fit in the interests of the Commission; but this motion was withdrawn, on its being understood that Mr. Neild had power, by the authority vested in him by his Commission, to incur such expenses as he may consider necessary in connection with the representation in Adelaide, that such expenditure will be met by advances directly authorised, the accounts in connection with which will be quite apart from those of the Commission in Sydney, whose functions, as set forth in their appointment, were essentially distinct.

Messrs. Flood  
& Co. offer  
free storage.

The Finance Committee, at meeting held on the 19th April, reported that Messrs. Flood & Co., of the Blackwall Wool Stores, had been so good as to offer free storage for incoming exhibits, and the Committee had decided to accept this offer with thanks; but that payment must be made for such labour in store as the Commission may find it necessary to employ, or the proprietors convenient to spare. The same Committee also recommended the acceptance of tender of the Adelaide Steamship Co., to carry goods to Adelaide, to attend to all necessary Customs business, transfer the exhibits to the train (on which the authorities had granted free carriage) between Port Adelaide and Adelaide, and to deliver to the Exhibition Building for sum of 14s. per ton. This was agreed to, but on account of special circumstances of expense, the Commission raised the amount payable per ton to 16s. 6d.

Acceptance of  
tender of  
Adelaide S.S.  
Co., for  
freights to  
Adelaide.

Executive  
Commissioner  
reports on  
visit to  
Adelaide.

The Executive Commissioner reported to meeting of 26th April, the results of his visit to Adelaide, describing the Court space, which now included portion of the gallery over our space in main building, the obtaining of which had formerly been doubtful,—illustrating his remarks with plans. This report, which sets forth the difficulties which Mr. Neild had to encounter in the matter of securing appropriate and adequate space, will be found as Appendix D, and it was decided, on the motion of the Executive Commissioner that Colonial (New South Wales) wines to the value of say, £200, be purchased for a New South Wales wine bar, and that it was advisable that a local man be sent from Sydney to take charge of this bar.

Court decora-  
tions.

Mr. Neild reported at some length on the 3rd May as to the decoration of the Court space, and its divisions into main floor (Court No. 1), gallery space (Court No. 2), basement space (Court No. 3), and eastern annexe (Court No. 4); and recommended that the packages be despatched from Sydney so marked that they may be placed

placed according to their classification on the floor of section of space or Court in which it is proposed they shall be exhibited. This report, which dealt with other matters, appears as appendix E. It was announced at the same meeting by Mr. Maiden, a member of the Commission, and Curator of the Technological Museum, that the Museum authorities were sending an exhibit which he believed would be the finest of the kind ever shown in a New South Wales Court. Technological  
Museum  
exhibits.

At the meeting of the following week (the 10th May) it was intimated that the Agent-General would forward on the 12th instant, the photographs shown in the New South Wales Court at the recent Exhibition in London, and afterwards donated to the Imperial Jubilee Institute, and now lent by the authorities of the Institute. Steps were taken to ascertain the bearing capacity of the floor and the height of roof, respectively, of the Main Court, basement, and eastern annexe, so that it might be decided where to suitably place the heavier mineral trophies, tin, copper, gold, &c., and it was subsequently agreed that the space best adapted for this purpose, was in the eastern annexe, to which were relegated all minerals and timber exhibits. The Executive Commissioner (see appendix F) reported as to Court decorations and mineral show-cases now on their way to the Colony; the difficulty of providing the whole of the wall space likely to be required for pictures, photographs, and maps; and the general eligibility of the space allotted to this Colony for Exhibition purposes. Photographs  
from London.  
  
Space for  
mineral  
trophies, &c.  
Pictures, &c.

Mr. R. D. Adams, Chairman of the Committee on Finance and Shipping arrangements, reported at weekly meeting on the 17th May as to initiatory shipments of Court decorations and exhibits by the steamers "South Australian" and "Adelaide," 167 packages in all; and also as to the steps that had been taken to insure exhibits while in store, on the voyage to Adelaide, and while on view in the Exhibition Building. Initiatory  
shipments.  
  
Insurances.

Subsequent to this, the exhibits had weekly despatch from the stores in Macquarie-street, Sydney. There was an intermission of some months, when shipments were resumed in connection with the forwarding of wool exhibits to the special show opened on the 9th November. A general alphabetical index to the whole of the shipments of New South Wales exhibits will be found as Appendix G. Weekly  
shipments.

Mr. Charles Moore, Chairman of the Horticultural Section, reported to the Commissioners on the 31st May as to the steps he had taken to obtain large plants, including macrozamia and stag-horn and bird-nest ferns, for the decoration of the New South Wales Court; and in procuring these plants, which were of unusually large dimensions, he had had the very valuable assistance of Mr. David Berry, of Coolangatta, Shoalhaven. The Colonial Secretary afterwards agreed that Mr. Moore should proceed to Adelaide to personally assist the Executive Commissioner in the arrangement of these plants upon the various sections of our Court space. Plants for  
decoration of  
Court.

At subsequent meetings of the Commission, at the instance of the Executive Commissioner, and in compliance with his request, the Commission purchased flags to the value of nearly £100 for Court decorations, and obtained from the Trustees of the Australian Museum a large number of unmounted Natural History specimens to be used for a similar purpose. Flags for  
decoration of  
Court.

The following report from the Secretary was received at meeting of the 12th July:—  
"I have the honor to report, for the information of the Commission, that the President, accompanied by your Secretary, left Sydney on the afternoon of Thursday, the 16th ultimo, to be present at the official opening of the Adelaide Jubilee Visit of the  
President and  
Secretary to  
Adelaide, with  
remarks on  
principal  
exhibit.

Jubilee International Exhibition, fixed for Tuesday, the 21st June—Jubilee Day,—and arrived in Adelaide on the Saturday forenoon. On that day the President paid his first visit to the Exhibition Building, and found that the work of placing and arranging the whole of the Court was being actively proceeded with. This was the case with our Main Court in the principal building, and with our basement space beneath it; but in both several of the principal exhibits were *in situ*. The archway, with statues, a reproduction of that which formed the entrance to the New South Wales Court at the Colonial and Indian Exhibition, formed an imposing introduction to our Main Court; and the wine trophy and agricultural produce trophy, and the exhibits of the Colonial Sugar Refining Company, of Alderman Jones, and of other firms, placed in that Court, were effective in appearance. There were afterwards added the very valuable collection from the Government Printing Office, and other exhibits of interest. The plants obtained by Mr. Moore and arranged by him in Adelaide added much to the attraction of our principal Courts. But at the time of the President's visit the New South Wales space in the eastern annexe, devoted to our extensive and imposing display of mineral wealth and forest products, and the numerous and valuable economic exhibits of the Technological Museum, was more advanced than any other section of our space, and may be said to have been practically complete; and however interesting and attractive other portions of the Exhibition set apart for New South Wales have been, the eastern annexe is certain of special admiration from visitors. As the opening day approached, the various Courts, including our own, assumed a more settled appearance. The ceremonies of that day, in spite of frequent showers in the forenoon, were very largely and influentially attended, and eminently successful. The President of the Commission was present, and was accommodated with a seat on the platform amongst the leading representatives of the countries and colonies participating in the Exhibition. After the cantata had been sung, and the opening addresses delivered, His Excellency the Governor of South Australia (Sir William Robinson) visited the different sections of the New South Wales space, and in the Main Court Mr. J. C. Neild, as Executive Commissioner for the Colony, introduced the following ladies and gentlemen to His Excellency:—The President of the New South Wales Commission, Mrs. J. C. Neild, Mr. F. A. Franklin, C.E., Member of Commission, and Mrs. Franklin, Mr. Kirwan, Member of Commission, and Mrs. Kirwan, Mr. E. Lee, Mr. J. H. Maiden, Mr. Charles Moore, Professor Warren, Mr. Harrie Wood, Member of Commission, and Mrs. Harrie Wood, Mr. J. E. Carne, Mr. A. Cumming, Secretary of Commission, and Mr. A. T. Edwards, Superintendent of New South Wales Court. The President and Secretary returned to Sydney on the 24th of June, having paid several visits to the New South Wales Courts during their stay in Adelaide.

“The Finance Committee furnished to this meeting summary of shipments, with their dates, and the amount of measurement tonnage, and pointed out that exhibits had the earliest possible despatch after reception into store, and that the great bulk of the goods was due, and had been received at the Exhibition Building long before the opening, although it has been learnt from experience that the time taken to deliver goods from Port Adelaide to the Exhibition Building in Adelaide—there being only a single line of rail available, and that over-crowded with work—and to transmit by rail from Sydney to Adelaide, which was done with a few exhibits, including that of the Government Printer's Department—took up a much longer time than was ever anticipated by your Commissioners or the Executive Commissioner.

During

During the trip to Adelaide it was found necessary to call at all the principal shunting stations to hurry on the exhibits sent by rail, many of these having been delayed at these stations by the large amount of goods being forwarded through about this particular time. It is necessary to refer to this matter, as, from a statement in the press, it might possibly be inferred that by the opening day there were only a few packages in the New South Wales Court, whereas more than half the goods (by measurement) had been shipped from Sydney before the end of May, and when it is remembered that the Commission did not hold its first meeting till the end of January—many months after Colonial and other Commissions had been at work, and that the whole city and chief country towns had to be canvassed, and dates perforce extended so as to allow of the preparation and reception of exhibits—it will doubtless be admitted that a good deal has been done within the brief time at the Commission's disposal, and that, in spite of the difficulties to be contended with, this Colony's exhibits form an important and valuable part of the general display at Adelaide."

The following memorandum by Mr. J. Park Wilson, in charge of shipments, was read and submitted by the Chairman of the Finance Committee at the same meeting :— Report as to shipments of exhibits.

"The first shipment was despatched by the "Adelaide" (s.s.) on the 14th May, and included all packages received prior to that date.

"And each week subsequently, the ship leaving on Saturday took away what arrived during the current week. The only exceptions were in the case of the few packages of Art and School exhibits (twenty-four packages in all), which had to be retained for the purpose of being inspected by the Committees appointed for that purpose, and also a few small exhibits, which required to be placed in a repack case for safer carriage.

"These were all forwarded in the shipments leaving Sydney on and prior to the 11th June.

"The greater bulk of goods—250 out of about 400 tons, in all—were shipped from Sydney by the 28th May, while 150 tons were shipped by steamers leaving on the 14th and 21st of same month."

The Finance Committee, at meeting held on the 26th July, submitted a report which was received and adopted—dealing with claims from the Executive Commissioner for amounts which Mr. Neild considered the Commission ought to pay, while he asked for £350 to meet immediate demands—the matter having been remitted to the Committee by the previous meeting of Commission. The report is as follows :— Accounts received from Executive Commissioner.

"It may be necessary to premise that this Commission applied to that for the Colonial and Indian Exhibition for the use of all spare show-cases to be landed in Adelaide. Such being the case the Executive Commissioner may, perhaps, reasonably expect to be repaid the cost of glazing, polishing, and putting the same in good order; and, therefore, provided complete vouchers be shown for the said expenditure, your Committee think that the amounts of £23 8s. 6d. for mineral cases, &c., £16 for repolishing woods, &c., and £10 19s. for repairing and polishing cases, &c., for the Technological Museum exhibits, specified by the Executive Commissioner, are fairly chargeable to this Commission; and also should the Commission authorise the expenditure of £38 for cases ordered by Mr. Maiden for museum

museum specimens; and also of £15 10s. on account of the Fisheries Commission exhibits—that these two last-named amounts may also be fairly chargeable to this Commission—making a total sum in all of £103 17s. 6d.; but with regard to the £70 on account of timber and labour, and for repair of glass cases from London, this Committee must have some more definite information as to items before expressing an opinion on this account. Owing to the pressure caused by the very limited time at the Executive Commissioner's disposal on his arrival in Adelaide, and as your Committee were told by him that fire insurances on exhibits while on view could not possibly be effected in Adelaide, it was felt absolutely necessary by your Committee that in the interests of exhibitors it should take upon itself to immediately complete such insurances in Sydney. This was accordingly done at a cost of £238 1s. 6d.; and your Committee trusts that its action in this matter has the full approval of the Commission. Further, the Executive Commissioner could not obtain flags in Adelaide for the decoration of our Court there, and these therefore had to be immediately purchased by the Commission and forwarded to Mr. Neild, the cost being £95 10s. 9d., whilst again at the very inception of the Commission's work, there had also to be expended a sum of £100 (£75 of which has been paid) for preliminary Court decorations. At the time your Committee recommended these payments to the Commission, its members felt the great responsibility they were incurring, knowing it to be entirely the province of the Executive Commissioner to defray all these costs; but had they hesitated to act, and any serious delay or loss had occurred, through their failing to accept this responsibility, the Commission might probably have deemed your Committee lacking in necessary attention to the interests of exhibitors at a crisis demanding the greatest promptitude and vigour of action. This sums up the matter specially referred to your Committee, and also other accounts of a cognate nature (which have not hitherto been paid by any former Commission), so that a total settlement can be made to date of all disputable items, should the Commission approve of our recommendation; but, as likewise bearing on the subject generally, your Committee brings under your notice that they are also now in receipt of accounts amounting to £170 3s. for wines supplied, and which are now in the possession of the Executive Commissioner at Adelaide, to be sold at the New South Wales wine bar, and eventually accounted for by him to the Treasury, as in all former cases. This latter amount, therefore, your Committee now recommends should also be debited to the Executive Commissioner's account by the Government here, as it certainly is a sum which this Commission is not legitimately liable for."

*Recapitulation.*

Adelaide accounts which may be debited to the New South Wales Commission:—

	£	s.	d.
Mineral cases, &c. ... ..	23	8	6
Repolishing woods, &c. ... ..	16	0	0
Repairing and polishing cases, &c. ... ..	10	19	0
(?) Cases ordered by Mr. Maiden ... ..	38	0	0
(?) Fisheries Commission ... ..	15	10	0
	£103 17 6		

Accounts

Accounts paid in Sydney which Finance Committee thinks should be debited to Executive Commissioner's account :—

	£	s.	d.
Fire insurances ... ..	238	1	6
Flags and poles ... ..	95	10	9
Court decorations (Brunell) ... ..	100	0	0
Wines for New South Wales bar ... ..	170	3	0
	£603 15 3		

The terms of transference of New South Wales exhibits from the New South Wales Court at Adelaide to the local Commission for the Centennial International Exhibition to be held in Melbourne formed the subject of a special report from the Finance Committee, which was adopted at meeting of Commission, held 13th September. This report forms Appendix H.

Transference of exhibits to New South Wales Commission for Melbourne Centennial International Exhibition.

At meeting, on Tuesday, the 20th December, on motion of Mr. C. S. Wilkinson, in charge of the Mining Department, a resolution was passed requesting the Executive Commissioner to have the specimens of minerals, fossils, and timbers, together with the exhibits from the Technological Museum then being shown in Adelaide, repacked, so as to arrive in Sydney in time for the Centennial Intercolonial Exhibition, and asking the Agricultural Society of New South Wales to defray the cost of freights and insurances from Adelaide to Sydney of exhibits so returned, on account of the Society. It was further resolved, on the motion of Mr. Wilkinson, to ask the Colonial Secretary to authorise the loan to the Department of Mines of gold, copper, tin, silver, coal, marble, and antimony, then at Adelaide, so that they may be shown at the Sydney Centennial Exhibition.

Return of exhibits for Centennial Intercolonial Exhibition.

At the same meeting, Mr. W. W. Richardson, in charge of wool section, submitted official list of the awards to New South Wales wool exhibits, and said: "Your Committee was not aware, until a late date, that the South Australian Commission had issued a special circular of classification, and the local Commission had long before issued its own wool circular, which had been largely distributed throughout the Colony; but the Secretary communicated with intending exhibitors, asking them for additional particulars of information demanded by the Adelaide Schedule. The entries were also received by your Commission, under what afterwards appeared to have been a mistaken apprehension that they came, in this respect, under the same category as other exhibits; and the Executive Commissioner made fresh entries with the Adelaide Commission, and these entries, as per information supplied, which in several instances was defective, and led to certain exhibits being disqualified, and several were also thrown out through being skirted, although it was believed here that these would be received, and judged on their respective merits. Nearly the whole of these exhibits will, with the consent of their owners, be shown at the Centennial Intercolonial Exhibition at Moore Park, and the Government has been asked to authorise the loan of the Wool show-cases, in which they were exhibited."

Awards to wool exhibits.

Mr. Donkin, the Chairman of the Wool Jury, who seconded the adoption of the report, said that the show of New South Wales wools was highly creditable.

Summary of  
forward ship  
ments.

At the same meeting Mr. R. D. Adams, Chairman of the Committee on Finance and Shipping Arrangements, reported that there had been, to date, twenty-five shipments, and four consignments by rail, of exhibits to Adelaide, consisting of 2,181 packages and pieces, and measuring in all 458½ tons.

Return ex-  
hibits.

The Exhibition closed on the 7th January, and the following are the dates, as per shipping lists received in Sydney, on which the various shipments of return exhibits were made:—

<i>Date.</i>	<i>Steamship.</i>
11 January ... ..	“Colac.”
16 January ... ..	“Victorian.”
16 January ... ..	“South Australian” and “Warrego.”
31 January ... ..	“Colac.”
18 February ... ..	“Colac.”
2 March ... ..	“Adelaide.”
6 March ... ..	“Colac.”
17 March ... ..	“Adelaide.”
5 April ... ..	“Victorian.”

The first three shipments received in Sydney were, for the most part, intended for the Centennial Intercolonial Exhibition, which was opened on the Agricultural Society's Grounds, Moore Park, on Wednesday, the 25th January. The greater portion of the exhibits thus brought on from Adelaide consisted of minerals, metals, and wool, and with regard to these the Agricultural Society had agreed to pay charges connected with their transit between the Adelaide Exhibition and Sydney; and these exhibits arrived in time to be carefully arranged for display at Moore Park, where they formed a most important portion of the collection of New South Wales products. The Committee on Finance and Shipping Arrangements, dealing with this matter, in a comprehensive report submitted to meeting of Commission, held on the 27th March, 1888, said: “The greater part of New South Wales exhibits (viz., those undisposed of) have now been returned to Sydney, and have been distributed as follows:—The three first shipments to the Agricultural Society and private exhibitors, and subsequent shipments to the Mines Department and New South Wales Commission for the Melbourne Centennial Exhibition at Mort's Stores, including a number of private exhibits, in accordance with the instructions of the owners that they are to be shown in the New South Wales Court at Melbourne, while other private exhibits have been forwarded to their destinations by cart, steamer, and rail. The shipping lists and lists showing modes of disposal are herewith submitted.” At the time this report was made there only remained in store undisposed of about twelve packages of returned exhibits. The Committee further reported that it had been decided to ask the Executive Commissioner if he will be so good as to defray from his account the charges on returned exhibits to Sydney, as this is regarded as portion of the official work falling specially within his province, viz., the delivery to the Commission in Sydney of goods undisposed of after the close of the Exhibition. The Executive Commissioner verbally reported to this meeting as to his action in Adelaide in connection with the suitable representation of this Colony at the Exhibition, and, at the close of his remarks, the following resolution was moved by Mr. R. Burdett Smith, M.P., seconded by Mr. Alderman Jones, and carried unanimously, “That the cordial acknowledgments  
and

Charges on  
returned  
exhibits.

Verbal report  
from Execu-  
tive Commis-  
sioner.

and thanks of the Commission be tendered to Mr. J. C. Neild, M.P., Executive Commissioner for New South Wales, of the Adelaide Exhibition Commission, for the energy, zeal, and ability with which he discharged the important duties confided to him.”

Vote of thanks to Executive Commissioner.

At this same meeting there was read letter addressed to the President, by Sir John Hay, President of the New South Wales Commission for the Melbourne Centennial Exhibition, conveying the decision of the last-named Commission, not to take over official exhibits and court decorations shown and in use in the New South Wales Court at the Adelaide Exhibition.

N.S.W. Commission for the Melbourne C.I.E. decided not to take over Adelaide official exhibits, &c.

The final meeting of the Commission was held at the Colonial Secretary's Office at 4:30 p.m. on Tuesday, the 29th May, 1888, when there were present,—

Journal of final session of Commission, 29 May, 1888.

- The Hon. ARTHUR RENWICK, M.D., M.L.C., President.
- J. C. NEILD, Esq., M.P., Executive Commissioner.
- R. D. ADAMS, Esq.
- J. B. DONKIN, Esq., J.P.
- F. A. FRANKLIN, Esq., J.P.
- EDWARD LEE, Esq., J.P.
- THOS. LITTLEJOHN, Esq.
- Hon. G. A. LLOYD, M.L.C.
- J. H. MAIDEN, Esq., F.R.G.S., Curator, Technological Museum.
- JAMES MARTIN, Esq.
- AUGUSTUS MORRIS, Esq.
- J. M. PURVES, Esq., M.A.
- Alderman ALBAN J. RILEY, Esq., J.P., M.P.
- R. BURDETT SMITH, Esq., J.P., M.P.
- CRITCHETT WALKER, Esq., J.P., Principal Under Secretary.
- HARRIE WOOD, Esq., J.P., Under Secretary for Mines.
- And the Secretary of the Commission.

Mr. NEILD rose and expressed to the members of the Commission his very high sense of the courtesy and kindness which they had shown to him, and his appreciation of the vote of thanks from the Commission at previous meeting.

The following report from the Committee on Finance and Shipping Arrangements, with balance sheet and statement, showing disposal of purchased exhibits, was submitted by Mr. R. D. Adams, Chairman of the Committee, and received:—

Final report of Finance Committee.

Your Committee has the honor to report, for the information of the Commission, that since the last meeting of Commission the following accounts have been passed:—

	£	s.	d.	£	s.	d.
Accounts for March ... ..	95	12	1			
Do for April ... ..	121	14	10			
Do for May ... ..	73	10	7			
Total of accounts (March, April, and May), now submitted ... ..				290	17	6
Total of accounts previously passed ... ..				7,575	3	3
				<hr/>		
				£7,866	0	9
Total of advances from the Treasury ...	7,867	9	4			
From which deducting ... ..	7,866	0	9			
	<hr/>					
Leaves as Cr. balance ...	£1	8	7			

Balance

Balance disposed of by cheque to Secretary for petty expenses in moving furniture, &c., from present premises.

The Commission remitted to your Committee to be dealt with, claims preferred on account of damage, &c., to exhibits. These claims have been carefully considered, and, although under the regulations to which exhibitors subscribed, the Commission is not liable; there were three claims for small amounts, which your Committee, under the circumstances detailed, decided to satisfy, and this they have done by cheques—276 and 283—with regard to two of the claims; while with regard to a third, from the Board of Technical Education, just received, it is recommended for the approval of the Commission, that the Colonial Secretary be respectfully requested to pay a sum of £5 10s. 6d. for broken models and casts, as the Commission is not in the possession of the necessary funds.

Summary of figures in Balance sheet and statement showing disposal of exhibits.

Your Committee now begs to submit balance sheet appended showing the local account and the total of receipts and expenditure to date. Advances from the Treasury, it will be seen, amounted in all to £7,867 9s. 4d., and with exception of small balance (£1 8s. 7d.) this has been expended. But of the gross disbursements it will be seen from tabulated statement also annexed, that no less a sum than £4,998 3s. 10d. has been expended in connection with the purchase and preparation of exhibits, and of this again as much as £3,405 19s. 5d. was dispensed in the purchase of gold, silver, tin, copper, &c., which, if they were sold, would realise a very much greater aggregate sum. But as is fully explained, they are held by the Mines Department, to whom they were handed over by authority for further exhibition purposes. The statement referred to distinctly shows how the purchased exhibits have been dealt with. The balance sheet shows that the Sydney charges have been £2,406 16s. 2d.; the Adelaide charges (payments on account of the Executive Commissioner, including portion of purchased exhibits), £846 0s. 10d.; while there has further been expended in the purchase and preparation of exhibits a sum of £4,613 3s. 9d.

Account sales of exhibits.

Account sales of exhibits, amounting, according to recent memo. from the Executive Commissioner, to £55 15s. 6d. in all, have yet to be rendered to exhibitors. This is a matter which has usually been dealt with by the Finance Committee before closing; but as your Committee has not been furnished with the necessary funds it has been decided to leave the matter in the hands of the Commission. The Executive Commissioner's memorandum of sales is as follows:—

Date.	Exhibitor.	No. in Catalogue.	Article.	Amount.
1887.				
16 December ...	Stephenson & Sons ... ..	260	Sculls... ..	£ s. d. 4 0 0
31 " ...	" " " " " " " "	260	" " " " " " " "	2 0 0
3 November...	Lassetter & Co. ... ..	536	Ice-chest ... ..	3 7 6
3 " ..	Macgregor, Harris, & Co. ...	120	2 water and earth carriers ..	3 10 0
3 " ...	John Donaldson ... ..	265	Cedar plank ... ..	3 0 0
3 " ...	W. Hanscombe ... ..	511	Cheese ... ..	0 16 0
3 " ...	W. Wilson ... ..	514	" " " " " " " "	0 16 0
3 " ...	A. C. Pratt ... ..	84	18 brooms ... ..	2 0 0
3 " ...	A. Sloane ... ..	.....	1 bale wool ... ..	9 11 1
1888.				
1 March ...	Australian Kerosene Oil & Mineral Co.	50	Shales ... ..	3 6 6
14 April ...	Sydney Meat Preserving Co. ...	511	1,006 lb. meat, at 3½d. ...	13 12 5
	J. B. Holmes ... ..	424	Wine used in bar, in bond ...	9 16 0
				£ 55 15 6

It has also been usual, wherever practicable, for the Local Commission to issue diplomas and medals before winding up affairs; but as these are not yet quite ready the Colonial Secretary's Department will be asked to be so good as to distribute them, for which purpose there has been prepared a full list of successful exhibitors, with their names and addresses. So far no complete lists of awards have yet been published in Sydney. From printed list of revised awards recently received from the Secretary of the Adelaide Exhibition copies have been prepared for purpose of local publication.

The Adelaide S.S. Co., in letter of the 23rd instant, applies to the Commission for payment of sum of £128 3s. 7d. on account of January shipments from Adelaide of return exhibits. Your Committee understood that the Executive Commissioner would, as is customary, defray freights and other charges in connection with the return of exhibits to Sydney, though, after all, this is but a matter incidental to the definition of two separate sets of functions and accounts, as the charge must necessarily be paid by the Executive Commissioner, or, failing this, by the Commission itself; therefore on this matter your Committee would be glad to have the direction of the Commission, as it has no funds in hand for this unforeseen expenditure.

The items yet remaining open are—Freights, £128 3s. 7d.; account sales, £55 15s. 6d.; claim of Board of Technical Education, £5 10s. 6d.; in all, £189 9s. 7d.

It was agreed that these three matters be dealt with by the President or Executive Commissioner in communication with the Government. The report was then adopted.

NEW SOUTH WALES COMMISSION FOR THE ADELAIDE JUBILEE INTERNATIONAL EXHIBITION, 1887.

Dr.

BALANCE SHEET, SHOWING LOCAL ACCOUNT.

Cr.

RECEIPTS.				EXPENDITURE.				
1887.				1887-88.				
21 February ...	To 1st Treasury Advance ...	£	s. d.	By Sydney charges :—	£	s. d.	£	s. d.
2 May ...	" 2nd ...	500	0 0	Salaries and wages ...	1,252	13 4		
13 " ...	" 3rd ...	500	0 0	Rent ...	100	0 0		
8 June ...	" 4th ...	1,000	0 0	Stationery ...	41	14 4		
25 July ...	" 5th ...	2,500	0 0	Petty cash and postages ...	116	2 7		
22 August ...	" 6th ...	1,000	0 0	Country collectors' expenses ...	62	17 3		
1 November ...	" 7th ...	1,207	9 4	Advertising ...	178	17 11		
1888.		600	0 0	Insurances—Fire, in store ...	14	11 6		
19 January ...	" 8th ...	500	0 0	" Marine, to Adelaide ...	87	14 4		
14 May ...	" 9th ...	60	0 0	Freights (Exhibits per coasting steamers to Sydney, and from Sydney to Adelaide Exhibition) ...	366	10 0		
				Cartages ...	90	5 7		
				General charges (timber for repacking; files of papers for New South Wales Court; allowance <i>re</i> Hulbert's exhibit, &c.) ...	30	6 10		
				Labour in store ...	55	7 6		
				Storage—free ...	.....			
				Customs entries ...	9	15 0		
				By Adelaide charges—payments on account of Executive Commissioner :—			2,406	16 2
				*Mr. Franklin's expenses, as Delegate of Commission ...	37	16 0		
				Horticultural Department (plants) ...	65	6 3		
				Agricultural Department (wines for New South Wales bar)	210	14 3		
				*Decoration of Court—				
				Brunell's contract ... £100 0 0				
				Flags ... 95 5 9				
				Natural history specimens ... 61 15 0	281	0 10		
				Other disbursements ... 24 0 1				
				*Fire insurance on exhibits at Adelaide Exhibition ...	251	3 6		
				By Purchase of Exhibits, &c. :—			846	0 10
				Mining Department ...	3,708	0 1		
				Agricultural Department (except purchase of wines, <i>ante</i> ) ...	664	14 6		
				Education and Science Department ...	227	7 2		
				Art Department ...	13	2 0		
				By Balance ...			4,613	3 9
							1	8 7
							£7,867	9 4
							£7,867	9 4

\* The Commission was suddenly compelled to take these expenses on itself in consequence of delay in appointment of Executive Commissioner.

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## STATEMENT showing disposal of Exhibits purchased and prepared at cost of New South Wales Commission.

Exhibit.	Cost.		How disposed of.	Value	
	£ s. d.	£ s. d.		£ s. d.	£ s. d.
Auriferous quartz .....	24	4 3	These exhibits were, by the authority of the Government, handed over to the Mines Department, to be shown at the Centennial Intercolonial Exhibition on Moore Park. Had they been sold at time of transfer they would have realized at least cost price, the tin and copper considerably more. There would have been a gain of some £260 on the tin, and of about £140 on the copper; or £400 in all .....	3,405	19 6
Alluvial gold .....	73	8 6			
Silver in ingot .....	2,709	11 4			
Tin do .....	393	9 8			
Copper in bar .....	160	2 2			
Lead .....	33	6 8			
Antimony .....	11	16 11			
Coal .....	74	9 9	By authority of the Government transferred to the Mines Department. These exhibits are estimated as value at cost for further exhibition purposes.....	666	10 4
Iron ores .....	1	2 6			
Marble .....	26	0 0			
Stone cubes .....	10	3 0			
Mining and geological maps.....	19	7 6			
Mineral cases and trophy stands	115	9 0			
Mining photos. (framing and glazing only) .....	3	7 6			
Parqueterie .....	15	0 0			
Timbers (mines) .....	363	8 7			
Do (Mr. Charles Moore's).....	38	2 6			
Timbers (Professor Warren's tests, data for pamphlet).....		53 0 0	Timbers, at his request, sent to Professor Warren .....		53 0 0
Plants for decoration of N.S.W. Court.....		65 6 3	Those in good order donated by Executive Commissioner .....		65 6 3
Flags.....		95 5 9	Transferred by authority to Centennial Celebration Exhibition .....		95 5 9
Cork for grottoes in Court .....		4 13 4	In charge of the Executive Commissioner for disposal .....	210	14 3
Wines for N.S.W. wine-bar.....		210 14 3			
Fisheries and other natural history exhibits, with incidental expenses.....		289 16 11	Portion presented by Executive Commissioner; remainder returned to Sydney, and handed over to Australian Museum, by direction of Colonial Secretary .....		289 16 11
Wool show-cases.....		191 13 0	Transferred, by authority of the Government, to Agricultural Society of N.S.W., for Centennial Intercolonial Exhibition .....		191 13 0
Technological Museum packing-cases.....		15 4 6	Returned with Technological Museum exhibits .....		15 4 6
		£4,998 3 10			£4,998 3 10

A vote of thanks to Government Departments, &c., was moved by Mr. R. Burdett Smith, seconded by the Hon. G. A. Lloyd, and carried unanimously, to the following effect:—

Thanks to Government Departments, private firms, &c.

“That the cordial acknowledgments of this Commission are hereby tendered to the various Government Departments, and private firms and individuals, who contributed to the success of the New South Wales representation at Adelaide; and to the Railway Departments of Victoria, South Australia, and this Colony for free transit of the exhibits by rail, and other facilities courteously afforded.”

A vote of thanks to Messrs. Flood and Co. was moved by Mr. R. D. Adams, seconded by Mr. Edward Lee, and carried unanimously in the following terms:—

Thanks to Messrs. Flood and Co. for free storage.

“That the special thanks of this Commission be conveyed to Messrs. Flood and Co., of the Blackwall Wool Stores, Circular Quay, for their important and valuable concession of free storage of the New South Wales exhibits, both for and from Adelaide.”

A vote of thanks to Finance Committee was moved by Mr. J. M. Purves, seconded by Mr. James Martin, and carried unanimously as follows:—

Thanks to Finance Committee for services.

“That the thanks of this Commission are especially due and are hereby accorded to the Finance Committee, whose functions have been more important and more continuous than those of any other committee.”

Mr.

Mr. R. D. Adams briefly thanked the members of the Commission for the compliment paid to the members of the Committee and himself, and stated it had given him great pleasure to preside over the meetings of the Finance Committee.

Thanks to  
President.

A vote of thanks to the President was moved by Mr. Augustus Morris, seconded by Mr. Critchett Walker, and carried unanimously,

“ That the cordial thanks of the Commission be offered to the President for the admirable and successful manner in which he has conducted the proceedings.”

Mr. Neild also spoke, and complimented the President on the way in which he had carried out his duties.

Reply of  
President.

The President, in reply, said : “ I am sure I have never felt so overcome by my feelings as I do at this time, although on many occasions I have received votes of thanks in connection with my services on somewhat similar occasions ; and this arises from the fact that the expressions so generously employed have come from gentlemen of such large experience in connection with public Commissions. I have always, gentlemen, rendered whatever services lay in my power, as far as my humble ability extended, to promote the objects of the Commission generally. It is therefore with great satisfaction that I receive this kind vote of thanks as an appreciation of the services I have rendered. (Hear, hear.) I thank the Commissioners for their patience and attention to the business of the Commission during the long time it has been in existence ; and I may state that, connected as I have been with many Commissions having similar objects with the present, I have never known any Commissioners more painstaking and attentive to their duties than the gentlemen connected with the Adelaide Exhibition. And now, gentlemen, the Commission having completed its labours in connection with the Adelaide Jubilee International Exhibition, I may state that I am preparing a report of its proceedings up to the present time, and with the authority of the meeting I propose to have it completed and submitted to Parliament at the earliest possible date. I feel that I am only performing my duty in referring to the harmonious action of the whole body of the Commissioners in reference to the important duties which were conferred upon them by the Government. As has already frequently been stated, at the commencement of its labours the Commission was hampered in many ways in the performance of its duties. In the first place there was found to be great reluctance on the part of many to exhibit their goods, or to enter in any way into the competition naturally belonging to an Exhibition, and the Commission had great difficulties in regard to this matter. And next, in consequence of the short time at its disposal to make the necessary preparations, it became a matter of necessity that the Commissioners should use every possible endeavour, even reaching as far as personal applications by members of the Commission in order to obtain what might be considered a fitting and adequate representation at the Adelaide Exhibition ; but in consequence of the zeal and the diligence of many of the Commissioners all these difficulties were overcome, and the New South Wales Court, under the excellent management of the Executive Commissioner, at the opening day presented as complete and effective an appearance as any of the other Courts in the building, and during the whole course of the Exhibition our Court both in regard to the character of its exhibits and the manner in which they were displayed reflected credit on all concerned. (Applause.)

This

This result, of course, was not obtained without considerable personal exertion being made by several of the Commissioners, and although it would be invidious for me to specify all the members of the Commission to whom the country is indebted for their labours in this respect, I cannot avoid referring to Mr. Franklin, who, in the early stages of the work of the Commission, aided its labors considerably by the results of his visit to Adelaide, and his description of the space required for the purposes of the Colony, and other matters of a similiarly important character; and the thanks of the Commission are especially due to the Chairmen of the various Committees, many of whom visited Adelaide, and all of whom took a personal interest in the collection of exhibits in their particular sections. I feel it my duty, in this respect, to make special reference to the very great services rendered by Mr. Charles Moore, Director of the Botanic Gardens. (Hear, hear.) I need scarcely remind you of the invaluable services rendered by the Finance Committee all through the continuance of the labours of the Commission, and more especially to the valuable assistance given by the Chairman of this Committee, Mr. Adams, who, with unwearied industry, has superintended every matter connected with the shipment of exhibits, and the various disbursements of the Commission. (Applause.) One matter which has given me extreme satisfaction is that, so far as this Commission is concerned, the expenses have been kept within truly reasonable bounds, and while everything has been done to make the display of the Colony as satisfactory as possible, no undue or lavish expenditure has been incurred in attaining this object, as will be discovered on careful examination of the final accounts of the Commission. (Hear, hear.) And in the last place it affords me great pleasure to bear testimony to the energetic and devoted attention to all matters connected with the duties of the Commission paid by the Secretary, Mr. Alexander Cumming. Every member of the Commission must be aware that the success of an undertaking such as this is necessarily dependent, to a large extent, on the zeal and devotion of such an officer; and having myself attended all the meetings of the Commission, and otherwise taken a personal interest in its management, I can bear my testimony to the fact that much of the success which has attended the labours of the Commission has been due to the unwearied efforts of its Secretary. (Hear, hear.)

A vote of thanks to the Secretary was moved by Mr. Harrie Wood, seconded Services of Secretary. by Mr. R. D. Adams, and carried unanimously, in terms as follows:—

“ That a special vote of thanks be accorded to Mr. Cumming for the services he has rendered to the Commission.”

Mr. Neild said that it was only due to Mr. Cumming to say that he (Mr. Neild) had never met with so prompt a correspondent.

The Commission agreed that the preparation of Report of its Proceedings for Parliament should be left in the hands of the President.

[The Commission having thus completed the various duties which devolved on them, by virtue of the commission which your Excellency was pleased, in Her Majesty's name, and under the Great Seal of the Colony, to issue, adjourned *sine die*.]

I have the honor to be,

Your Excellency's most obedient Servant,

ARTHUR RENWICK,

President.

## APPENDIX A.

## NEW SOUTH WALES COMMISSION.

(Gazetted 14 January, 1887.)

## PRESIDENT :

The Honorable Arthur Renwick, M.D., M.P.

## VICE-PRESIDENT :

The Honorable John H. Want, M.P.

## EXECUTIVE COMMISSIONER :

John Cash Neild, Esq., M.P.

## MEMBERS OF COMMISSION :

Robert Dudley Adams, Esq.	John Mitchell Purves, Esq., M.A.
John Fitzgerald Burns, Esq., M.P.	Charles Smith Wilkinson, Esq., F.G.S., F.L.S., Geological Surveyor.
Frederick Augustus Franklin, Esq., C.E., J.P.	William Wright Richardson, Esq., J.P.
Thomas Littlejohn, Esq.	John Davies, Esq., C.M.G.
Charles Moore, Esq., F.L.S., Director of the Botanic Gardens.	Alfred Hilder, Esq., J.P.
Eliezer Levi Montefiore, Esq., J.P.	John Jackson Calvert, Esq., J.P., Clerk of the Parliaments.
Augustus Morris, Esq.	

(Gazetted 18 March, 1887.)

Alexander Gray, Esq.	Varney Parkes, Esq., M.P.
Henry Halloran, Esq., C.M.G., J.P.	Alban Joseph Riley, Esq., J.P., M.P., Mayor of Sydney.
John George Hanks, Esq.	Robert Burdett Smith, Esq., M.P.
John Kidd, Esq., J.P.	Critchett Walker, Esq., J.P., Principal Under Secretary.
Edward Lee, Esq.	William Henry Warren, Esq., M.I.C.E., Professor of Engineering, Sydney University.
John Mackenzie, Esq., F.G.S., Examiner of Coal-fields.	Harrie Wood, Esq., J.P., Under Secretary for Mines.
James Martin, Esq.	
Joseph Benjamin Olliffe, Esq.	

(Gazetted 29 April, 1887.)

Evan Jones, Esq.	Joseph Henry Maiden, Esq., Curator and Secretary, Technological Museum.
John Tait, Esq., J.P.	

(Gazetted 14 June, 1887.)

Martin E. Kirwan, Esq.	J. G. Griffin, Esq., A.M.I.C.E.
M. J. Hammond, Esq., J.P.	George Pile, Esq.
R. H. D. White, Esq., J.P.	Albert Chapman, Esq.
J. B. Donkin, Esq., J.P.	Peter F. Hart, Esq.

(Gazetted 1 July, 1887.)

Edward Combes, Esq., C.M.G.	John Macgregor, Esq.
William John Fergusson, Esq.	John McLaughlin, Esq.
Frederick Jamison Gibbes, Esq., M.P.	George McLeod Matheson, Esq., M.P.
Hon. George Alfred Lloyd, M.L.C.	Hon. George Bowen Simpson, Q.C., M.L.C.

(Gazetted 15 July, 1887.)

Charles Cowper, Esq., Sheriff.	William Consett Proctor, Esq.
Joseph Greer, Esq., M.P.	

Alexander Cumming, Esq., Secretary.

## APPENDIX B.

SYNOPSIS of the Classification of Exhibits, with names of Members of Commission in charge.\*

Department.	Section.	Class.	Particulars.
I.—MINING.			
C. S. Wilkinson, Esq.; Alexander Gray, Esq.; John Mackenzie, Esq., F.C.S., Examiner of Coal-fields; Harrie Wood, Esq., J.P., Under Secretary for Mines, to formulate and present business in this Department.	A	100 to 112	Rock, Minerals, and Mining Products.
	B	113 to 117	Metallurgical Products.
	C	118 to 120	Mine Engineering, Models, Maps, and Sections.
II.—MANUFACTURES.			
John Davies, Esq.; John George Hanks, Esq.; Joseph Benjamin Olliffe, Esq.; Alban Joseph Riley, Esq., J.P., M.P., Mayor of Sydney, to formulate and present business in this Department.	A	200 to 205A	Chemical Manufactures.
	B	206 to 213	Ceramics, Pottery, Porcelain, &c.
	C	214 to 216	Glass and Glassware.
	D	217 to 223	Furniture and objects of general use in Construction and in Dwellings.
	E	229 to 238	Yarns and Woven Goods of Vegetable or Mineral Materials.
	F	239 to 248	Yarns and Woven and Felted Goods of Wool and Mixture of Wool.
	G	249 to 258	Silk and Silk Fabrics, &c.
	H	259 to 267	Clothing, Jewelry, Ornaments, and Travelling Equipments.
	I	268 to 275	Paper, Blank Books, Stationery.
	J	276 to 282	Weapons, &c. (Military, Naval, and Sporting).
	K	283 to 289	Medicine and Surgery.
	L	290 to 296	Hardware, Edge Tools, Cutlery, and Metallic Products.
	M	297 to 302	Fabrics of Vegetable, Animal, or Mineral Materials.
N	303 to 306	Carriages, Vehicles, and Accessories.	

\* The President, Vice-President, and Executive Commissioner are *ex-officio* members of all Committees.

## APPENDIX B—continued.

Department.	Section.	Class.	Particulars.
<b>III.—EDUCATION AND SCIENCE.</b>			
Augustus Morris, Esq.; Robert Burdett Smith, Esq., M.P.; Critchett Walker, Esq., J.P., Principal Under Secretary; William Henry Warren, Esq., M.I.C.E., Professor of Engineering, Sydney University, to formulate and present business in this Department.	A	350 to 357	Educational Systems, Methods, and Libraries.
	B	358 to 364	Scientific and Philosophical Instruments and Methods.
	C	365 to 370	Engineering, Architecture, Maps, &c.
	D	371 to 380	Physical, Social, and Moral Condition of Man.
<b>IV.—ART.</b>			
J. J. Culvert, Esq.; F. A. Franklin, Esq.; Henry Halloran, Esq., C.M.G., J.P.; Eliezer Levi Montefiore, Esq., J.P.; Varney Parkes, Esq., M.P.; and Critchett Walker, Esq., J.P., Principal Under Secretary, to formulate and present business to this Department.	A	400 to 405	Sculpture.
	B	406 to 409	Painting.
	C	410 to 414	Drawing, Engraving, and Lithography.
	D	415 to 417	Photography.
	E	418 to 423	Industrial, Architectural, and Ecclesiastical Designs, &c.
	F	424 to 429	Ceramic Decorations, Mosaics, &c.
<b>V.—MACHINERY.</b>			
F. A. Franklin, Esq.; Alexander Gray, Esq.; James Martin, Esq.; and William Henry Warren, Esq., M.I.C.E., Professor of Engineering, Sydney University, to formulate and present business in this Department.	A	500 to 509	Machines, Tools, and Apparatus of Mining, Metallurgy, Chemistry, and the Extractive Arts.
	B	510 to 521	Machines and Tools for Working Metal, Wood, and Stone.
	C	522 to 531	Machines and Implements of Spinning, Weaving, &c.
	D	532 to 539	Machines, &c., used in Sewing, Making Clothing, &c.
	E	540 to 549	Machines for Printing, Making Books, Paper Working, &c.
	F	550 to 555	Motors and Apparatus for the Generation and Transmission of Power.
	G	556 to 564	Hydraulic and Pneumatic Apparatus.
	H	565 to 572	Railway Plant, Rolling Stock, &c.
	I	573 to 583	Machines used in preparing Agricultural Products.
	J	584 to 591	Aerial, Pneumatic, and Water Transportation.
	K	592	Castings (various), Iron, Brass, or other Metal.
	L	593	Machinery and other Apparatus especially adapted to the requirements of the Exhibition.
<b>VI.—AGRICULTURE.</b>			
J. F. Burns, Esq.; Charles Moore, Esq.; Augustus Morris, Esq.; J. M. Purves, Esq.; W. W. Richardson, Esq.; John Kidd, Esq., J.P.; Edward Lee, Esq.; Varney Parkes, Esq., M.P.; William Henry Warren, Esq., M.I.C.E., Professor of Engineering, Sydney University; Harrie Wood, Esq., J.P., Under Secretary for Mines; and Joseph Henry Maiden, Esq., to formulate and present business in this Department.	A	600 to 607	Arboriculture and Forest Products.
	B	608 to 616	Agricultural Products.
	C	619 to 624	Vegetable Products (used as food).
	D	625 to 629	Wine—Spirituous, Fermented, and other Drinks.
	E	630 to 633	Animal Products, Land and Marine (used as food).
	F	634 to 640	Animal Products, Land and Marine (used as materials).
	G	641 to 647	Textile Substances of Vegetable or Animal Origin.
	H	648 to 660	Land Animals.
	I	661 to 662	Insects, &c.
	J	663 to 666	Water Animals, Fish Culture, and Apparatus.
	K	667 to 672	Machines, Implements, and Processes of Manufacture.
	L	673 to 676	Agricultural Engineering and Administration.
	M	677 to 681	Tillage and General Management.
<b>VII.—HORTICULTURE AND FLORICULTURE.</b>			
Charles Moore, Esq.; John George Hanks, Esq.; John Cash Neild, Esq., M.P., to formulate and present business in this Department.	A	700 to 701	Pomology.
	B	702 to 711	Ornamental Trees, Shrubs, and Flowers.
	C	712 to 716	Hothouses, Conservatories, Graperies, and their Management.
	D	717 to 719	Garden Tools, Accessories of Gardening.
	E	720 to 722	Garden Designing, Construction, and Management.

Committee on Finance and Shipping arrangements :

R. D. ADAMS, Esquire.  
 THOMAS LITTLEJOHN, Esquire.  
 HON. GEORGE ALFRED LLOYD, M.I.C.

## APPENDIX C.

## INVITATION ISSUED TO NEW SOUTH WALES EXHIBITORS.

THE New South Wales Commission earnestly invites the producers and manufacturers of the Colony to become exhibitors at Adelaide; and would urgently impress the necessity for immediate action on the part of intending participators, as the applications for space must reach the Commission in Sydney not later than 31st March, 1887, while exhibits are due in Adelaide on the 20th of May, and the official opening takes place on the 20th of June.

It will be remembered that South Australia took part in the Sydney International Exhibition of 1879; and the opportunity is now offered for suitable representation of the produce and manufactures of this Colony in the city of Adelaide.

Every facility, it will be seen, is afforded by the New South Wales Commission to intending exhibitors, who are put to no appreciable expense beyond the preparation of goods for display; while the nearness of their destination and facility for return to the Colony should be additional incentives.

The synopsis of classification only is here printed. The exhibitor need only in entering give the department and section. The class will be filled in in the offices of the Commission for catalogue purposes.

The printed regulations show the nature and extent of the facilities which the Commission offer to the producers and manufacturers of this Colony. These regulations are printed herein, and will also be found on the back of the general form of entry, or application for space.

Exhibitors are requested to furnish on or with entry form, for the purpose of proper compilation of the catalogue, information such as the following:—Wines—full particulars, as per heads of special entry forms; Minerals—locality of mine, extent of yield, and its ratio to quantity of ore; Grain—area under cultivation, yield per acre, weight per bushel; Timber—full particulars as to habitat, growth, and economic value.

Appended are a few special notes, embodying those of the Adelaide Commission, which are essential for the guidance of Exhibitors.

*Art.*—Section IV.—Pictures must be suitably framed. No copies admissible. Only four exhibits to be admitted from any one artist. Exhibitors desirous of having their pictures disposed of by Art Union to so specify their intention.

*Machinery.*—

*Machinery.*—Section T.—Exhibitors of machinery intended to be in motion to so state, that suitable arrangements may be made for motive-power, &c.

*Pastoral*—Wool.—Exhibits of 1886 clip (if any) may be shown from opening of Exhibition in June. Special show for clip of 1887 to be opened in November of that year.

*Agriculture.*—Section VI.—Cereals—3 bushels of each kind should be shown. Wines for competition—six bottles of each kind to be exhibited. Wines for sale, and to be consumed in the Exhibition—not more than six kinds, nor less than twelve dozen, or one quarter-cask of each kind, nor more than 100 cases of one dozen each, or twelve quarter-casks. Total quantity in bulk and bottle not to exceed 330 gallons from any one exhibitor. Wine Committee of South Australian Commission to approve of wines for sale; and all sent for sale to be for exhibition also. Spirits, liqueurs, bitters, and cordials—for exhibition, three bottles; for sale, not less than one dozen, nor more than five dozen in bottle. Ale, beer, and porter—for exhibition, two dozen bottles of each kind, or, in bulk, not less than 18, nor more than 36 gallons; for sale, not less than one hogshead, nor more than five hogsheads. Aerated waters—twenty-four bottles of each kind for exhibition; and for sale, not less than twenty-four dozen, nor more than 100 dozen of any kind.

The Agricultural Society of Adelaide will hold a Live Stock, Agricultural, and Horticultural Show in September, 1887, the Jubilee Exhibition Commission, in addition to the ordinary awards, giving honors in Champion Classes.

The awards for exhibits generally shall consist of three classes, viz. —

1st class—Diploma of first order of merit and medal.

2nd class—Diploma of second order of merit.

3rd class—Diploma of third order of merit.

#### APPENDIX D.

##### REPORT of Executive Commissioner to meeting of Commission, 26th April, 1887.

"AGREEABLY with the wish of the Commission, I left Sydney on the 13th instant, and reaching Adelaide on the 15th instant, I immediately had an interview with the Executive Commissioner for South Australia, Sir Samuel Davenport, who informed me that New South Wales could not have any space in the eastern annexe, as the whole of the space therein was required for South Australia. On inquiring where it was proposed the New South Wales exhibits were to be placed, I was informed that it was thought that they might be shown in the basement of the main building, under the New South Wales Court, and upon my representing that only part of this space was suitable on account of the poor light, I was informed that a meeting of the Executive Committee was to be held on the following Tuesday, when the erection of another annexe would be taken into consideration. I therefore determined to remain in Adelaide until the meeting in question was held, and meanwhile had interviews with a number of the leading inhabitants, whose aid I sought in securing proper consideration for the requirements of this Colony; and I also addressed a lengthy communication to Sir Samuel Davenport, urging that faith should be kept with New South Wales in respect of the space promised in the eastern annexe. In a brief interview with Sir Samuel Davenport, on Tuesday morning, I was informed that in the course of the day I should be placed in possession of the views of the Executive Committee, and consulted as to the space requirements of New South Wales. Soon after midday I received a note from the Secretary, stating that the Committee had adjourned till Friday, and that 'if it is convenient to you to remain until then, I may be in a position to give you some information before your return.' This letter was followed by the appearance of reports of the meeting of the Executive Committee, showing that the Executive Commissioner for South Australia had applied for the entire eastern annexe for his Colony, in addition to double the space in the main building granted to New South Wales—the total space demanded by Sir Samuel Davenport for South Australia being 46,000 feet. The prospects of fair treatment for the Mother Colony appeared increasingly remote, when fortunately an informal meeting was arranged between the Mayor of Adelaide, Mr. E. T. Smith, M.P., Chairman of the Building and Grounds Committee, the prime mover and ruling spirit of the Exhibition, Mr. A. W. Neels (Chairman of the Finance Committee), and myself. After a lengthy examination of the entire buildings, we arrived at an understanding to the effect that No. 1 Court in the eastern annexe should be allotted to South Australia, No. 2 Court to New South Wales, and No. 3 Court to Victoria. These Courts contain, respectively, 7,991 feet, 6,635 feet, and 4,479 feet. This understanding was confirmed by the Executive Committee on Friday last, and I am very glad to be able to congratulate the Commission upon New South Wales having obtained space and position inferior to none in the Exhibition. The space secured to this Colony is as under—Main building, 3,789 feet; basement (say), 4,000 feet; eastern annexe, 6,635 feet; total (say), 14,500 feet. We have also wall space 50 feet in length in the gallery over our Court in the main building, and are entitled to further space in the implement and machinery halls. There is also the wine bar and cellerage for wines. Our eastern annexe Court communicates directly by covered way (to be erected) with our space in the basement, and the passage way in question will certainly become the leading thoroughfare between the two buildings. The decorations contracted for are progressing satisfactorily, and I have arranged with the architects for the buildings with respect to the erection of offices and the fitting of the eastern annexe Court. The end wall of the latter will require lining with T. and G. boarding; the decoration of the roof I propose leaving until the properties used at the Colonial and Indian Exhibition are fully examined, with a view to their adaptability to the requirements of our Court."

(Mr. Neill then explained the nature of the difficulties he had experienced in obtaining the requisite amount of space for the proper display of the exhibits of the Colony. He also stated that the utmost courtesy had been shown him by the press and people of Adelaide, with the exception of the difficulty to which he had referred in his report. In fighting for New South Wales he had been practically fighting for Victoria, and he was certain that if the Parent Colony of Australia had not obtained its full share of space the Sister Colony would have fared badly. He thought he should make this known, as it would explain the position more fully, and because, to some persons, the report might seem egotistical. Mr. Neill then exhibited plans showing the space allotted to New South Wales in the eastern annexe, and explained the same to the members of the Commission.)

#### APPENDIX E.

##### REPORT of Executive Commissioner to Meeting of Commission, 3rd May, 1887.

I BEG to report that I have accepted, through the architects for the buildings, a contract for the lining of the end walls of the New South Wales Court in the eastern annexe, as mentioned in my last report.

With regard to the decorations ordered by the Commission before my appointment, I beg to say that the contractor is at a standstill for want of photographs or views of the cities and towns which it was proposed to paint into the panels prepared for them. I find these photos. or views are not obtainable at the Government Printing Office, and unless procurable elsewhere, the whole decoration must be remodelled. As this work was commenced long before my appointment, I must ask the Commission to supply the views.

As exhibits are beginning to come into store I beg to recommend that they be shipped for Adelaide week by week, provision being made for their insurance against fire when delivered at the Exhibition buildings, and I recommend that arrangements be at once made with the contractors to place the packages in the various divisions of the New South Wales Court, according to instructions given in advance of shipment, by the Executive Commissioner.

For this purpose I suggest that the Court on main floor be called No. 1, gallery space No. 2, basement space No. 3, and eastern annexe No. 4.

The packages being so marked and delivered will save much labour, loss of time, and expense.

Arrangements having been already made for inspection of the Art and Public School exhibits, I recommend that these be examined as rapidly as possible, and, as regards other exhibits, unless there is evidently something of an objectionable character, I recommend that they be despatched without inspection, as any attempt to examine them here would be costly in time and money.

Should any exhibit eventually prove unsuitable on unpacking in Adelaide, it would be returned with less expense than could a general overhaul be made in Sydney.

Agreeably with the wish of the Commission, I met Mr. Chas. Moore at the Botanic Gardens, and accompanied by Mr. F. A. Franklin, we examined the various ferns and other plants suitable for our Court, and agreed upon those not likely to be shown by any other Colony.

With

With reference to palms Mr. Moore will, I believe, make a separate report. It will be requisite for some one to go down in charge of the plants to care for them during the voyage, otherwise they would run the great risk of irreparable damage.

I produce for the information of the Commission, summary of the space required in various sections of classification which, even after making allowance for excessive estimates on the part of some of the applicants for space, shows that I was after all, fortunate in securing, while in Adelaide, an increase of space from 12,500 feet superficial to 14,500 feet. The total allotted is not inclusive of main passages, but necessary avenues between exhibits will have to be deducted therefrom. I also produce summary of the catalogue of New South Wales exhibits for incorporation with the general official catalogue to be published by the Adelaide Exhibition Authorities. The Catalogue of New South Wales Court which will give a more detailed description of our exhibits is now being compiled.

## APPENDIX F.

## REPORT of Executive Commissioner to Meeting of Commission, 10th May, 1887.

I HAVE the honor to report the arrival of the ship "Leyland Brothers," bringing the decorations used in the New South Wales Court at the Colonial and Indian Exhibition, and the cases containing these will be forthwith shipped to Adelaide.

The Agent-General has cabled the Colonial Secretary, in answer to the inquiry made by this Commission, that the show-cases required for the mineral exhibits, &c., were shipped at London for Adelaide direct by the "Liguria," on the 30th March, and that the collections of photographs will be despatched to Adelaide per "Chimborazo" on the 12th inst., a date, I may remark, quite too late to admit of their proper placement in our Court, as they cannot reach the building more than two or three days before the opening.

The quantity of wall space required is so greatly in excess of the space available that some considerable number of these photographs from London must necessarily remain unexhibited.

A meeting of the Mining Committee has been held, and steps taken in order to test the possibility of carrying out the Executive Commissioner's recommendation re a model of one of the Jenolan caves, and upon this matter a report will probably be presented at the next meeting of the Commission.

At the same meeting the question of the strength of the main floor of the Exhibition Building, to bear the strain of the mineral trophies, was discussed, and a telegram was since despatched to Adelaide inquiring whether the floor will bear the weight. If it will not, these trophies must be placed in the basement court.

One of the evening journals has recently published statements to the effect that Victoria has secured a better position to that obtained by this Colony, and though I am in no way responsible for the position selected for New South Wales on the main floor of the principal building, I feel it is but right to say that in my opinion, it possesses many advantages of the space obtained by Victoria; while, as regards the gallery space and eastern annexe Court, secured by me, I have no hesitation in asserting that they are superior in every way to the space granted to the Sister Colony.

## APPENDIX G.

## GENERAL INDEX to Shipments of New South Wales Exhibits, Adelaide Jubilee International Exhibition, 1887.

Name of Exhibitor.	Ship, &c.	Date	No. of Package.	Department.	Section	Class.	Nature of Exhibit.
		1887.					
Adams, George Hill .....	Adelaide ..	11 June	617	II. Manufactures	M	299	Cordage.
Alford, Alice .....	do .....	11 "	617	IV. Art .....	E	418	Designs for tiles.
Anderson, Robert .....	Victorian ..	21 May	319	II. Manufactures	N	301	Perambulators.
Architect of Public Schools ..	Adelaide ..	11 June	695	III. Education...	A	352	Photos. of schools.
Armstrong, Wilham .....	do .....	14 May	17	II. Manufactures	N	306	Riding saddle.
Arnold, Alfred Edward .....	do .....	14 "	125	VI. Agriculture..	F	634	Compressed leather.
Art Society of New South Wales.	do .....	14 "	135-137	IV. Art.....	B	406-407	Oil and water colour paintings.
Australian Agricultural Co. ..	Victorian ..	21 "	281	I. Mining...	A	106	Coal.
Australian Joint Stock Bank. .	Adelaide ..	11 June	642	IV. Art .....	B	407	Drawing of Bank.
Australian Kerosene Oil and Mineral Co.	do .....	28 May	291	I. Mining...	A	106	4 blocks shale.
Do .....	do .....	28 "	473-474	.....	.....	.....	Trophy.
Do .....	Victorian ..	4 June	456-493	II. Manufactures	A	201	Candles.
Do .....	do .....	4 "	494-517	do .....	A	201	Oil.
Bailey, William.....	do .....	21 May	191	VI. Agriculture.	B	609	Maize.
Balfour, Hon. James .....	Adelaide ..	29 Oct.	1008	do .....	G	611	Wool.
Barker, A. E.....	Victorian ..	2 July	893	do .....	B	608	Wheat.
Barker, T. C.....	Adelaide ..	14 May	63-76	do .....	D	625	Wine.
Beaumont, J. T .....	do .....	29 Oct.	1012	do .....	G	641	Wool.
Beltington, J. B. ....	Victorian ..	22 "	1001-1002	do .....	G	641	do
Bevan, Theodore F. ....	Adelaide ..	25 June	878	II. Manufactures	J	282	Ethnological collection.
Do .....	Victorian ..	2 July	897	.....	.....	.....	Pamphlets.
Bishop, L. ....	do .....	21 May	265	I. Mining .....	A	107	Building stone.
Boake, B. C. ....	Adelaide ..	11 June	675-676	IV. Art.....	D	415	Photographs.
Bombala Public School.....	do .....	11 "	617	III. Education...	A	357	Pupils' work.
Bouffler Brothers .....	do .....	28 May	467-472	VI. Agriculture.	D	625	Wine.
Do .....	do .....	6 Aug	951	do .....	D	625	do
Do .....	do .....	25 "	963	do .....	D	625	do
Bowden, G. B. ....	Victorian ..	21 May	169	do .....	B	609	Maize, &c.
Do .....	do .....	21 "	185	do .....	B	609	do
Bowrey Brothers .....	Adelaide ..	14 May	131	III. Education .	B	360	Weighing machines.
Brandt, Charles.....	do .....	14 "	146	VI. Agriculture..	B	608	Wheat.
Bray, James S. ....	do .....	11 June	698	II. Manufactures	II	267	Photographs.
Brecht, Carl .....	do .....	14 May	37	VI. Agriculture..	D	625	Wine.
Breckenridge, Robert .....	Victorian ..	21 "	237	I. Mining .....	A	100	Iron ore.
Broadhead, J. M. ....	Adelaide ..	14 "	113	VI. Agriculture.	B	609	Barley.
Broughall Colliery Co. ....	Victorian ..	21 "	208	I. Mining .....	A	106	Coal.
Brown, J. & A. ....	do .....	21 "	278	do .....	A	106	Coke.
Brown, John .....	Adelaide ..	14 "	77	IV. Art .....	A	405	Carved Emu eggs.
Browne, Thomas .....	Victorian ..	21 "	258	I. Mining .....	A	107	Building stone.
Bull Coal-mining Co. ....	do .....	21 "	200	do .....	A	106	Coal.
Burwood Coal-mining Co. ....	Adelaide ..	28 "	286	do .....	A	106	do
Calvert, Mrs. ....	Railway ..	14 June	821	II. Educational.	G	254	Needlework.
Campbell, George .....	Adelaide ..	14 May	126	VI. Agriculture..	D	625	Wine.
Carmichael, G. T. & J. B.....	do .....	14 "	127-130	do .....	D	625	do
Chissell, W. J. ....	do .....	11 June	617	III. Education .	A	.....	Book in Phonography.

## APPENDIX G—continued.

Name of Exhibitor.	Ship, &c.	Date.	No. of Packages.	Department.	Section.	Class.	Nature of Exhibit.
Clarence River Agricultural Society.	Adelaide	1887. 14 May	56-57	VI. Agriculture..	B	669	Produce.
Clark & Rowley.....	do	11 June	627	III. Education..	C	370	Maps of New South Wales.
Cochran, H.....	Victorian	16 July	931	II. Manufactures	H	261	Cabbage-tree hats.
Cochrane, George.....	Adelaide	25 June	856	I. Mining.....	A	109	Fire-clay.
Coghlan and party.....	Victorian	16 July	941	do	A	103	Silver ore.
Coleman & Sons.....	do	4 June	546	II. Manufactures	A	201	Eucalyptus oil.
Collaroy Co. (Limited).....	Adelaide	29 Oct.	1004	VI. Agriculture.	G	641	Wool.
Collingridge, A.....	Railway	15 June	846	IV. Art.....	B	406, 407	Pictures.
Do	do	15 "	848	do	B	406, 407	do
Colonial Sugar Refining Co.....	Adelaide	11 "	635-637	.....	.....	.....	Show-cases, stands, &c.
Do	do	11 "	647-649	VI. Agriculture.	D	628	Spirits.
Do	do	11 "	650-657	do	C	622	Sugar.
Do	Railway	14 "	729-730	do	C	622	2 casks treacle.
Commissioners for N.S.W.	S. Australian	9 May	No Adelaide Nos.	.....	.....	.....	Court decorations from London.
Do	Adelaide	14 "	151-162	.....	.....	.....	Court decorations.
Do	Victorian	21 "	196-199	.....	.....	.....	do
Do	do	21 "	301-325	.....	.....	.....	do
Do	Adelaide	28 "	397	.....	.....	.....	Vases, &c.
Do	Victorian	4 June	552-555	VI. Agriculture	H	660	Natural history specimens.
Do	do	4 "	588	do	A	600	Timbers.
Do	do	4 "	597	II. Manufactures	D	217	Parqueterie.
Do	do	4 "	598	.....	.....	.....	Stationery for Executive Commissioner.
Do	Adelaide	11 "	638-639	.....	.....	.....	2 bales cork.
Do	do	11 "	678-679	VI. Agriculture	H	660	Natural history specimens.
Do	Railway	14 "	731-819	do	D	625	Purchased wines.
Do	do	14 "	820	do	H	660	Natural history specimens.
Do	do	14 "	821	.....	.....	.....	Labels for exhibits (minerals, &c.).
Do	do	15 "	838-843	VI. Agriculture	D	625	Purchased wines.
Do	do	15 "	849	.....	.....	.....	Bale of flags.
Do	Victorian	18 "	857	VI. Agriculture	D	625	Purchased wines.
Do	Adelaide	25 "	879-893	do	D	625	do
Do	Victorian	2 July	899-903	.....	.....	.....	Pamphlets on Colony.
Do	Adelaide	9 "	907	.....	.....	.....	Show-case for silver.
Do	Victorian	16 "	925-930	.....	.....	.....	Catalogues.
Do	do	16 "	932-940	I. Mining.....	A	103	Silver in ingot.
Do	S. Australian	30 "	943-947	.....	.....	.....	Catalogues.
Do	Victorian	27 Aug.	969-973	.....	.....	.....	do
Do	Adelaide	3 Sept.	977-978	.....	.....	.....	Pamphlets.
Do	Victorian	22 Oct.	990-997	.....	.....	.....	Show-cases for wool.
Do	Adelaide	29 "	1017	.....	.....	.....	2 empty wool show-cases.
Do	do	29 "	1020	I. Mining.....	A	101	Mudgee nugget.
Do	Rail	16 June	850	.....	.....	.....	Flag-poles and heads.
Do	Victorian	10 Sept.	981	.....	.....	.....	Pamphlets.
Do	do	8 Oct.	982-988	VI. Agriculture	D	625	Purchased wines.
Do	do	8 "	989	.....	.....	.....	Prof. Warren's pamphlet.
Do	Adelaide	5 Nov.	1022	.....	.....	.....	Empty wool show-cases.
Conlon, B.....	Victorian	4 June	540	VI. Agriculture..	B	609	Farm produce.
Corrin, John.....	Adelaide	14 May	91	do	B	608	Wheat.
Cotton, Herbert W.....	Railway	15 June	845	III. Education	A	351	Drawing and map.
Cowdery & Thomas.....	Victorian	4 "	596	V. Machinery...	H	509	Rails, sleepers, &c.
Cox, F. & A.....	Adelaide	29 Oct.	1012	VI. Agriculture..	G	641	Wool.
Cross, G. J.....	do	11 June	617	do	A	600	Collection of timbers.
Dadd, Edward.....	do	14 May	132	II. Manufactures	N	306	Horse-shoes.
Do	Victorian	21 "	182	VI. Agriculture.	K	667	Plough.
Dalton, Bros.....	do	21 "	167	do	C	619	Flour.
Dangar, Macdonald, Bros.....	Adelaide	29 Oct.	1018	do	G	641	Wool.
Dawson, J. H.....	Victorian	4 June	591	V. Machinery...	J	583	Sculls.
Dewhurst, A.....	Adelaide	11 "	684	IV. Art.....	D	415	Photographs.
Do	do	11 "	685	do	B	407	Drawings.
Ditzell, Henry.....	Victorian	21 May	186	VI. Agriculture..	B	608	Wheat.
Ditzell, John.....	do	21 "	187	do	D	625	Wine.
Donaldson, John.....	Adelaide	11 June	641	do	A	600	Cedar plank.
Dürner, Henry.....	do	11 "	682-683	IV. Art.....	D	415	Photographs.
Elwin, W. H., & Co.....	Victorian	21 May	176-177	VI. Agriculture..	D	626	Ale and porter.
Eskbank Public School.....	Adelaide	11 June	617	III. Education...	A	351	Pupils' work.
Executive Commissioner.....	Victorian	27 Aug.	975	.....	.....	.....	Stationery.
Faint, George.....	do	21 May	164-166	VI. Agriculture..	B	609	Barley, oats, and wheat.
Fairfax & Sons.....	S. Australian	30 July	951-952	V. Machinery...	F	541	Stereotypes and photographs.
Do	do	do	do	IV. Art.....	D	415	do
Fallon, James T.....	Adelaide	14 May	58-62	VI. Agriculture..	D	625	Wine.
Do	Victorian	4 June	560-561	do	D	625	do
Do	Adelaide	20 Aug.	965-966	do	D	625	do
Farleigh, Nettheim, & Co.....	Victorian	4 June	541	VI. Agriculture..	F	634	Sole leather.
Ffrost, Henry C.....	do	11 "	633	II. Manufactures	I	272	Printing.
Fisheries Commission.....	Victorian	21 May	192-194	VI. Agriculture..	J	664	Fish specimens.
Do	Adelaide	28 "	326	.....	.....	.....	Show-case.
Do	do	28 "	465	IV. Art.....	B	407	Drawings of fish.
Fleming, G. T.....	do	14 "	88-89	VI. Agriculture..	D	625	Wine.
Folkes, Mrs. E. E.....	Railway	15 June	345	IV. Art.....	B	406	Drawings.
Forsyth & Sons.....	Adelaide	14 May	55	VI. Agriculture..	F	634	Leather.
Francis, George.....	do	14 "	36	VI. "	D	625	Wine.
Freeman & Co.....	do	11 June	608-607	IV. Art.....	D	415	Photographs.

## APPENDIX G—continued.

Name of Exhibitor.	Ship, &c.	Date.	No. of Packages.	Department.	Section.	Class.	Nature of Exhibit.
		1887.					
Fremlin, A. R.	Adelaide	29 Oct.	1007	VI. Agriculture..	G	641	Wool.
Frère, Léonce	Victorian	4 June	592, 593	do	D	625	Champagne.
Frost, Mrs. J.	do	4 "	549	II. Manufacture.	H	259	Woolwork.
Galdes, G. W.	Adelaide	14 May	111	IV. Art	A	405	Carved Brackets.
Garven, A. H.	Victorian	21 "	184	VI. Agriculture..	C	622	Sugar-cane.
Gochan, J.	Adelaide	28 "	418	do	B	609	Maize.
Goodwin, Henry	do	23 "	475-477	do	L	675	3 vehicles.
Do	Victorian	4 June	478	do	L	675	Waggon.
Do	Adelaide	11 "	707-709	do	L	675	3 vehicles.
Do	Victorian	18 "	862	do	L	675	Barrow.
Do	do	18 "	863	do	L	675	Wheel.
Do	Adelaide	25 "	858-861	do	L	675	Wheels.
Do	do	25 "	870-870	do	L	675	do and axle.
Gorus & Son	do	14 May	150	do	D	625	Wine.
Government Printer	Railway	14 June	822-835	do			Photos, pictures, books.
Do	Victorian	12 Nov.	1025	do			Publications for Executive
Gow, Stephen H.	do	4 June	547	do	B	609	Maize. [Commissioner.
Grant, William	Adelaide	14 May	16	do	F	634	Sole leather.
Great Northern Colliery	do	3 Sept.	979	I. Mining	A	106	Coal.
Green, Thomas	do	14 May	134	VI. Agriculture..	L	674	Bonednst.
Greville, E.	do	11 June	687	III. Education..	A	357	Year-book of Australia.
Grover, E.	do	28 May	417	VI. Agriculture..	C	619	Flour.
Hall, William	do	14 "	188	do	B	68	Wheat.
Hanscombe, William	Victorian	21 "	174	do	E	631	Cheese.
Harbottle, Alsop, & Co.	Adelaide	14 "	82-87	do	D	625	Wine.
Do	do	20 Aug	964	do	D	625	do
Do	Victorian	14 Nov	1023, 1024	do	D	625	do for Executive Com- missioner.
Haydon, B.	Adelaide	29 Oct	1007	do	G	641	Wool.
Hayes, Henry	Victorian	21 May	188	do	C	619	Flour.
Hayter, James	do	4 June	536-539	do	B	609	Maize.
Hindmarsh, W. R.	do	4 "	543	do	E	631	Butter.
Hockings, H., & Co.	Adelaide	14 May	26-29	do	D	625	Wine.
Do	do	6 Aug.	955, 956	do	D	625	do
Do	do	20 "	961	do	D	625	do
Hogben, E.	Victorian	4 June	548	II. Manufactures	A	300	Balsam of aniseed.
Do	Adelaide	11 "	617	V. Machinery	H	568	Railway wheels.
Hogg, S. P., & Co.	do	14 "	92, 93	VI. Agriculture..	B	114	Condiments.
Do	do	28 "	466	do			Show stand.
Holmes, J. B.	do	14 "	80-88	VI. Agriculture..	D	425	Wine.
Hulbert, Benjamin	do	11 "	645	II. Manufactures	D	217	Floor of billiard-table.
Do	do	11 "	697-706	do	D	217	Billiard-table.
Hume, H. R. F.	do	29 Oct.	1014	VI. Agriculture..	G	641	Wool.
Hunt, Charles H.	Railway	15 June	847	IV. Art	B	406	Picture.
Hurst, William	Adelaide	14 May	139	VI. Agriculture..	B	608	Wheat.
Isaacson, Martin	Victorian	4 June	599-602	I. Mining	A	100	Mineral collection.
Jack, David	do	21 May	189	VI. Agriculture..	D	625	Wine.
Do	do	27 Aug.	974	do	D	625	do
Jackes Brothers	do	4 June	545	VII. Horticulture	A	700	Fruit.
Jacob, R.	Railway	15 "	844	do	A	700	Collection of chillies.
James, Arthur B.	Adelaide	14 May	94-96	VI. Agriculture..	D	629	Cordials.
James and Gray	do	29 Oct.	1013	do	G	641	Wool.
Do	do	29 "	1015	do	G	641	do
John, Thomas	Victorian	21 May	173	do	B	609	Beans, peas, &c.
Jones, Evan	Adelaide	14 "	...	V. Machinery	B	521	Bed of press.
Do	do	11 June	721-723	II. Manufactures	H	263	Silverware, &c.
Do	Victorian	2 July	904-906	do	II	263	do
Do	Adelaide	9 "	915	do			Show case.
Jones, Thomas	Victorian	4 June	558	II. Manufactures	D	228	Venetian blinds.
Kelman, James	Adelaide	14 May	42-45	VI. Agriculture..	D	625	Wine.
Do	do	20 Aug	962	do	D	625	do
Kelton, Arthur E.	do	11 June	630	III. Education	A	351	Mapping, &c.
Kelton, John L.	do	14 May	114	VI. Agriculture..	B	608	Wheat.
Kerry & Jones	do	11 June	646	IV. Art	D	415	Photographs.
Kindergarten Public School	do	11 "	612	III. Education	A	351	Pupils' work.
Do	Railway	15 "	845	do	A	351	do
Klemke, J. G.	Adelaide	11 June	640	VI. Agriculture..	B	608	Wheat.
Kopsch, Chas. F. G.	do	14 May	140	III. Education	B	363	Telephones.
Lassettor & Co., F.	Victorian	4 June	521-535	VI. Agriculture..	K	671-672	Refrigerators and Incu- bators.
Do	Adelaide	11 "	604, 605	do	K	671	Churns.
Laurie, Alex. T.	do	11 "	617	do	C	619	Arrowroot.
Lee, John E.	do	14 May	50-54	II. Manufactures	A	200	Baking-powder.
Do	Victorian	21 "	180	do			Show case.
Do	Adelaide	28 "	407-416	II. Manufactures	A	200	Baking-powder and show stand.
Lery, Rosa	do	11 June	634	do	II	259	Hair-work.
Liversidge, A.	do	28 May	446-449	I. Mining	A	100	Minerals, &c.
Loder, T. J.	do	11 June	617	VI. Agriculture..	F	634	Furs.
Ludovic, J. C.	Victorian	18 June	871, 872	V. Machinery	F	553	Mill belting.
Lysaght Brothers & Co.	do	21 May	320	II. Manufactures	L	296	Wire netting.
M'Callum, Argyle	do	4 June	642	VI. Agriculture	F	634	Rug.
M'Callum & Co.	Adelaide	14 May	122, 123	do	D	626	Ale and porter.
M'Carthy, Charles W.	Victorian	21 "	178, 179	IV. Art	A	400	Bust and pedestal.
M'Donnell, John	do	21 "	190	V. Machinery	B	...	Expansion roller.
M'Grath, J. & P.	do	4 June	518	VI. Agriculture..	E	631	Butter.
M'Kenney & Parker	do	21 May	195	do	D	626	Ale.

## APPENDIX G—continued.

Name of Exhibitor.	Ship, &c.	Date.	No. of Packages.	Department.	Section.	Class	Nature of Exhibit.
		1887.					
McLeod, Alex.	Adelaide	14 May	133	V. Machinery	K	592	Brasswork.
McLeod, Mrs.	Victorian	4 June	594	II. Manufactures	H	259	Counterpane, &c.
MacGregor, Harris, & Co.	Adelaide	11 "	710-716	do	L	295	Japanned goods.
Do do	do	25 "	874-877	do	L	295	Wheelbarrows, &c.
MacKenzie & Henderson	do	25 "	873	I. Mining	A	106	Boghead mineral.
Do do	Victorian	2 July	894, 895	do	A	106	do
Manchee, J. C.	do	22 Oct.	999	VI. Agriculture	G	641	Wool.
Do	Adelaide	29 "	1010	do	G	641	do
Manners, John	Victorian	21 May	183	do	K	667	Plough.
Marks, Samuel	do	4 June	493-495	do	D	626	Ale and porter.
Mathews & Son	do	21 May	163	do	C	619	Flour.
Mines Department	do	21 "	200-300	do	do	do	Private and departmental mineral exhibits.
Do	Adelaide	28 "	327-396	VI. do	A	600	Timbers.
Do	do	28 "	292, 293	I. Mining	do	do	Minerals.
Do	do	28 "	420-450	do	do	do	do
Do	Victorian	11 June	618-626	do	do	do	do
Do	do	4 "	563-588	do	do	do	do (private.)
Do	do	4 "	590	VI. Agriculture	A	600	Timbers.
Do	Adelaide	11 "	686-694	do	do	do	Minerals (private.)
Do	do	11 "	720	I. do	A	101	Gold specimens.
Do	do	9 July	913	I. Mining	A	100	Fossil bones.
Do	Victorian	27 Aug.	976	III. Education	C	370	Maps.
Monk, D. J.	Adelaide	14 May	46	do	do	do	Show Stand.
Do	do	14 "	47-49	VI. Agriculture	D	627	Vinegar.
Moore & Barnett	do	14 "	38-39	do	D	625	Wine.
Muller, Thomas	do	14 "	34, 35	do	D	625	do
Mount Kembla Coal Company	do	6 Aug	953	I. Mining	A	106	Block of coal.
Mulholland, G. J.	do	29 Oct.	1000	VI. Agriculture	G	611	Wool.
Do	do	29 "	1008	do	G	641	do
Do	do	29 "	1019	do	G	641	do
Mulholland, T. J.	do	29 "	1011	do	G	641	do
Mullins, C. S.	do	14 May	149	do	D	626	Ale.
Munro, Alexr.	do	14 "	115-119	do	D	625	Wine.
Do	do	20 Aug	963	do	D	625	do
Nagel & Co.	do	11 June	680	IV. Art	D	415	Photographs.
Newman, J. Hubert	do	28 May	398-402	do	D	415	do
Oppenheimer, A.	Victorian	4 June	562	I. Mining	A	101	Quartz.
Papini, Leopoldo	Adelaide	14 May	90	I. Manufactures	K	287	Truss.
Peacock, George	do	11 June	603	do	do	do	Show case
Do	do	11 "	658-673	VI. Agriculture	C	620	Jams
Pearse, T. & Co.	Railway	14 "	821	do	G	641	Collection of wools.
Pittman, William	Adelaide	14 May	81	II. Manufactures	N	306	Horseshoes.
Podmore, George	do	11 June	617	IV. Art	B	407	Drawings of fish.
Postmaster-General	do	11 "	628	III. Education	C	370	Postal map
Do	Victorian	18 June	851-853	do	B	363	Telegraphic instruments.
Do	do	18 "	855	do	B	363	do
Do	do	16 July	916-924	do	B	363	Telephone columns, &c.
Do	Railway	22 June	854	do	B	363	Telegraphic instruments.
Pownall, Harry	Victorian	4 "	519	II. Manufactures	C	216	Engraved glassware.
Pratt, A. G.	Adelaide	14 May	147	do	D	225	Millet brooms
Public Works, Under Secretary	S. Australian	30 July	943	IV. Art	B	407	Water-colour drawing.
Randwick Municipal Council	do	30 July	950	do	D	415	Photographs.
Raymond Brothers	Adelaide	28 May	403-406	VI. Agriculture	D	626	Stout.
Reeve, G. J.	do	11 June	617	III. Education	A	O.W.	Book in phonography.
Richardson, T. L.	do	29 Oct.	1011	VI. Agriculture	G	611	Wool.
Richardson, W. W.	do	28 May	430, 431	I. Mining	A	100	Silver and gold ores.
Ricketts, J. J.	do	11 June	643	IV. Art	C	410	Illuminated address.
Rosedale Coal Co.	Victorian	21 May	219	I. Mining	A	106	Coal.
Russell, J. B. M.	Adelaide	11 June	617	II. Manufactures	H	261	Bullion bank.
Ruttler, Samuel	Victorian	21 May	112	IV. Art	F	425	Potichomanic table.
See, John	Adelaide	28 "	483	VI. Agriculture	C	622	Sugar cane.
Do	do	9 July	914	do	C	622	do
Do	do	6 Aug.	957-959	do	C	622	do
Sim, Richard	do	14 May	124	do	C	619	Flour.
Simonetti, A.	do	28 "	457-459	IV. Art	A	400	Sculpture (busts).
Singleton Coal Co.	Victorian	21 "	253	I. Mining	A	106	Coal and coke.
Sloane, A.	Adelaide	29 Oct.	1009	VI. Agriculture	G	641	Wool.
Do	do	29 "	1016	do	G	611	do
Smith H. T.	do	14 May	98-105	V. Machinery	G	561	Soda-water machine.
Do	do	14 "	106	II. Manufactures	D	217	Table.
Do	do	14 "	107, 108	VI. Agriculture	D	629	Cordials.
Do	do	14 "	109	V. Machinery	G	561	Part of soda-water machine.
Do	do	14 "	110	II. Manufactures	D	217	Table.
Do	do	14 "	141	V. Machinery	A	509	Gas-generator.
Do	do	14 "	142-144	do	G	561	Parts of soda-water machine.
Do	do	11 "	115	II. Manufactures	D	224	Injector for lamps.
Do	Victorian	4 June	479	V. Machinery	G	561	Soda-water machine.
Do	do	4 "	551	do	G	561	do
Do	do	4 "	480	II. Manufactures	D	217	Revolving table.
Do	do	4 "	481, 482	V. Machinery	A	509	Gas-machine.
Smith, R. Burdett	Adelaide	11 "	717-719	IV. Art	A	400	Statuette of Captain Cook and stand.

## APPENDIX G—continued

Name of Exhibitor.	Ship, &c.	Date.	No. of Packages.	Department	Section.	Class.	Nature of Exhibit.
		1887.					
Smith, W. J. ....	Victorian ...	4 June	595	V. Machinery ...	J	588	Life-buoy.
Stanley & Littlewood .....	Adelaide ...	14 May	78, 79	VI. Agriculture..	D	625	Wine
Stephenson & Sons.....	do ..	14 "	80	V. Machinery ...	J	588	Oars, sculls, blocks.
Stevens & Co.....	do ..	14 "	120, 121	VI. Agriculture..	D	626	Ale and porter.
Stevenson, J. ....	do ..	11 June	681	IV. Art.....	D	415	Photographs
Stuart, Professor A. ....	do ..	11 "	674	III. Education...	A	352	Plans of Medical College.
Surveyor-General .....	Railway.....	15 "	896, 887	do ...	C	370	Maps.
Sydney Meat Preserving Co	Adelaide ..	14 May	1-15	VI. Agriculture..	E	630	Preserved meats.
Sydney Municipal Council ..	South Aus- tralian.	30 July	949	IV. Art.....	E	419	Plans of Centennial Hall.
Technical College .....	Adelaide ...	28 May	451-456	III. Education...	A	352	Students' work.
Do .....	do ..	11 June	615, 616	do ..	A	352	do
Technological Museum.....	Victorian ...	21 May	301-318	VI. Agriculture ..	A	600	Timbers, &c.
Toose, W. E. ....	Adelaide ..	14 "	148	II. Manufacture	A	200	Plate-powder.
<i>Town and Country Journal</i> Proprietors.	Victorian ...	4 June	550	III. Education..	A	357	<i>Files of Town and Country</i> <i>Journal.</i>
Trail Bros.....	do ..	22 Oct.	1003	VI. Agriculture..	G	641	Wool.
Do .....	Adelaide ..	29 "	1009	do ..	G	641	do
Tremain, William .....	Victorian ...	21 May	168	do ..	C	619	Flour.
Trevitt, George .....	do ..	4 June	544	VII. Horticulture	A	700	Apples.
Turner & Henderson.....	Adelaide ...	11 "	696	IV. Art. ....	B	407	Picture-cards.
Vercoe, Henry .....	do ..	28 May	419	VI. Agriculture..	B	609	Maize
Walker, Henry .....	do ..	29 Oct.	1005	do ..	G	641	Wool.
Wark, William .....	do ..	11 June	631	IV. Art. ....	D	415	Photographs.
Warren, Professor .....	Railway ...	14 "	724-728	VI. Agriculture ..	A	600	Tested timbers.
Waterlow, Paul L. ....	Adelaide ...	11 "	629	IV. Art.....	B	406, 407	Paintings.
Watson & Young .....	do ..	11 "	609, 610	VI. Agriculture..	D	629	Cordials.
Watson, P. Fletcher .....	do ..	11 "	632	IV. Art.....	B	407	Paintings (water colours).
Webb, F. P. ....	Victorian ...	4 "	520	II. Manufactures	C	216	Engraved glassware.
Wedderburn, Robert .....	Adelaide ...	28 May	460-462	III. Education...	B	360	Weighing machine.
Weingarth, F. J. ....	Victorian ...	21 "	181	VI. Agriculture..	K	667	Plough.
West Maitland Public School	Adelaide ..	11 June	613	III. Education...	A	351	Pupils' work.
White, H. C. ....	do ..	29 Oct.	1013	VI. Agriculture..	G	641	Wool.
White, J. F. & H.....	Victorian ...	22 "	998	do ..	G	641	do
Do .....	Adelaide ..	29 "	1014	do ..	G	641	do
Wickham Public School .....	do ..	11 June	611	III. Education...	A	351	Pupils' work.
Wilbertree Public School ..	do ..	11 "	617	do ..	A	351	do
Wilkins & Kennedy .....	do ..	9 July	908-912	II. Manufactures	N	303	Buggy harness, whips, &c.
Wilkinson, C. S. ....	do ..	23 "	942	V. Machinery ...	F	551	Self-acting pump.
Do .....	do ..	3 Sept.	980	.....	.....	.....	Publications.
Wilkinson, J. A.....	do ..	14 May	40, 41	VI. Agriculture..	D	625	Wine.
Do .....	do ..	20 Aug.	960	do ..	D	625	do
Wilson, A. S. ....	do ..	11 June	644	do ..	F	634	Tanned snake skins.
Wilson, William .....	Victorian ...	21 May	175	do ..	E	631	Cheese.
Works Department .....	Adelaide ...	11 June	617	IV. Art .....	D	415	Photographs.
Woodford Leigh Public School	do ..	11 "	617	III. Education ..	A	351	Pupils' work.
Wombah Public School.....	do ..	11 "	614	do ..	A	351	do
Woodhouse, E. B. ....	Victorian ...	2 July	896	IV. Art .....	B	406	Pictures of stock.
Do .....	Adelaide ..	29 Oct.	1006	VI. Agriculture..	G	641	Wool.
Wyndham, John .....	do ..	14 May	18-25	do ..	D	625	Wine.
Do .....	Victorian ...	4 June	557-559	do ..	D	625	do
Do .....	Adelaide ..	20 Aug.	967	do ..	D	625	do
Zig Zag Coal Co. ....	Victorian ...	21 May	283	I. Mining.....	A	106	Coal (full section).

## APPENDIX H.

TERMS of transfer of New South Wales Exhibits at Adelaide and Melbourne Commission.

Copy of Report of Finance Committee received at a meeting of Commission, held on Tuesday, 16th August, 1887, and adopted on Tuesday, 13th September, 1887.

"Your Committee took into consideration a letter from the New South Wales Commission for the Melbourne Centennial Exhibition of 1888, re the transfer of public or departmental exhibits and private exhibits now being shown at Adelaide, which letter was remitted to your Committee by the last meeting of the Commission, with a view to formulating the terms on which a transfer may be made. We decided that it was not within our province to make a definite recommendation with regard to exhibits other than those actually the property of the Commission, and purchased with funds placed at its disposal. We are of opinion that bullion and gems, with ingots of silver, tin, and copper, should be transferred, subject to the approval of the Hon. the Colonial Secretary, to the Melbourne Commission at current market prices at time of transfer. Although your Commission has expended a very considerable sum of money on the preparation for display of the timbers and other forest products shown through the Department of Mines, the timbers having been obtained on loan from the Department cannot be regarded as the Commission's property, and it is therefore suggested that the Melbourne Commission apply to the Department for the transfer of the exhibits, and that the trustees of the Technological Museum be communicated with in the same manner with regard to the Museum exhibits. We are of opinion that show-cases for exhibits may be transferred at prime cost, and that the same course may be pursued as to the mounted natural history specimens prepared at the cost of the Commission by the trustees of the Australian Museum. As to court decorations and fittings being made available for Melbourne, we would recommend that the Commission for the Exhibition to be held there apply through this Commission to Mr. Neild, the Executive Commissioner. If it be desired to show in the New South Wales Court at Melbourne the photographs donated to the Imperial Jubilee Institute, and lent to this Commission for exhibition in Adelaide, the Melbourne Commission should apply, through the Agent-General, to the authorities of the Institute for the further loan, as it is not in the power of this Commission to transfer them. As in the opinion of your Committee the Commission has no power to deal with the transference to Melbourne of private exhibits, it is suggested that the Melbourne Commission communicate directly with private exhibitors on this subject. The secretary of this Commission will prepare an interleaved catalogue giving full information as to exhibits, and suggestions as to action that may be taken by the Melbourne Commission thereupon, based upon the plan laid down in this report, if it be the pleasure of this Commission to adopt it. We may add that departmental exhibits not obtained or prepared at the cost of your Commission would form, in the opinion of your Committee, the subjects of correspondence between the Melbourne Commission and Departments, as in the case of all private exhibits."







1887-8.

## NEW SOUTH WALES.

APPLICATIONS FOR CERTIFICATES OF COMPETENCY AS  
MASTERS AND MATES.

(DESPATCH RESPECTING.)

Presented to Parliament by Command.

(Circular.)

Downing-street,  
11th February, 1888.

Sir,

I have the honor to transmit to you, for communication to your Government, the accompanying copy of a letter (B. of T., 31 Jan., 1888) from the Board of Trade, respecting the question of requiring persons applying for Certificates of competency as Masters and Mates to give up all previous certificates held by them.

Copies of the correspondence (Gov. 509, 24 Nov., 1887), in which this question was raised and to which the Board of Trade letter (C.O., 10 Jan., 1888) refers, are also enclosed for the information of your Government.

I have, &c.,  
H. T. HOLLAND.The Officer Administering  
The Government of New South Wales.

[Enclosures.]

The Board of Trade to The Colonial Office.

CERTIFICATES.

(M. 754.)

Board of Trade (Marine Department),  
London, S.W., January 31, 1888.

Sir,

I am directed by the Board of Trade to acknowledge the receipt of your letter of the 10th instant, transmitting, for their observations, a copy of a Despatch from the Governor of the Straits Settlements, on the question of requiring persons applying for certificates of competency as masters and mates, to give up all previous certificates held by them.

In reply, I am to state that the Board of Trade see many objections to the holding by an officer in the Mercantile Marine of more than one certificate. One may be lost or lent and improperly used, or may enable him to act as an officer when a court has decided that he is not fit so to act, and has cancelled his other certificate. This principle applies to the case of a man holding a local Colonial certificate, just as much as to the case of a man who holds an Imperial one, when he is an applicant for a certificate of a higher grade or superior kind. As long as the certificate he holds does not confer any power which is not also conferred by the certificate he applies for, no injustice would seem to be done by withdrawing the former before the latter is granted.

The Board are therefore of opinion that all previous certificates held by a candidate, whether granted in the United Kingdom or in a British possession, and whether issued under the Merchant Shipping Acts or for local purposes only, should be given up before a certificate of a higher grade or of a superior kind is granted to the holder.

With

With reference to Mr. Thomsett's remark that the master of a British ship holding a local certificate can lose his vessel however carelessly, and retain his certificate, I am to observe that though Wreck Courts held outside of a colony have no power to deal with certificates of officers in the Mercantile Marine granted by the authorities of such colony, unless they are brought by Order in Council under the provisions of the Imperial Merchant Shipping Acts, such certificates should be revocable by the authority which granted them, and that if the present law applicable to local certificates granted at Singapore does not provide for this, the defect should be remedied.

The enclosed form of application which has to be signed by every applicant for a certificate of competency granted by this Board, requires the particulars of all previous certificates held by him to be fully stated, and the certificates given up to the examiner before the examination is proceeded with. If the candidate passes, the certificates so given up are not returned to him, but are forwarded to the authorities by whom they were issued.

The Board of Trade would suggest, if Sir H. Holland sees no objection, that a copy of this letter and of the printed form of application Examination 2, should be sent to each of the British Possessions (Victoria, Canada, New Zealand, New South Wales, Malta, South Australia, Tasmania, Newfoundland, Queensland, Hong Kong) which issue certificates of competency under the provisions of the Merchant Shipping (Colonial) Act, 1869, for their information and future guidance in this matter.

I have, &c.,  
(Signed) THOMAS GRAY.

The Under Secretary of State,  
Colonial Office.

[Issued by the Board of Trade in pursuance of the Merchant Shipping Act, 1854.]

Port of

Rotation No.

APPLICATION TO BE EXAMINED FOR A CERTIFICATE OF COMPETENCY AS MASTER OR MATE.

NOTE.—This form can be obtained at any Mercantile Marine Office, free of charge. Divisions (A.), (B.), (C.), (D.), (E), and (G.), of this paper are to be filled up by the Applicant for Examination and handed to the Examiners, with his Testimonials, and former Certificate, if any. No remuneration or gratuity whatever must be offered to or received by any officers or servants of the Board of Trade beyond the fees mentioned in the Regulations. Any officer, messenger, or servant of the Board who accepts any present or gratuity will be immediately discharged from his office, and any Candidate so offering money will be subject to the penalty mentioned in par. 13, at the back of this form.

Before filling in the required particulars the applicant should read carefully the NOTICE on pages 4 and 5.

(A.)—Name, &c., of Applicant.

Christian Names at full length.		Surname.	Permanent Address, stating Town, Street, and No. of House, and name of Person (if any) with whom residing.		
1.		2.	3.		
Date of Birth.			Where Born.		
Day.	Month.	Year.	Town.	County.	
4.	5.	6.	7.	8.	

(B.)—Particulars of all previous Certificates (if any), whether issued in the United Kingdom, the British Possessions, or elsewhere.

Number.	"Competency," "Service" or "R.N.R." now or formerly.	Grade.	For "Fore and Aft" or "Square" Rigger Vessels or Steamships, or other class of Vessel.	Where issued.	Date of issue.	If at any time suspended or cancelled, state by what Court or Authority.	Date.	Cause.
9.	10.	11.	12.	13.	14.	15.	16.	17.

(C.)—Certificate now required.

Grade.	For "Fore and Aft," or "Square" Rigger Vessels or Steamships	Mercantile Marine Office to which it is to be sent.
18.	19.	20.

(D.)—If Applicant has failed in a previous Examination for the Certificate now required, he must here state when and where. If he has not failed he must state so in writing across this Division.

Day	Month	Year.	Port	Subjects in which he failed.
21.	22.	23.	24.	25.



## NOTICE TO BE TORN OFF AND KEPT BY THE APPLICANT.

**N.B.**—Any person who makes, procures to be made, or assists in making any false representation for the purpose of obtaining for himself or for any other person a Certificate either of Competency or Service, is for each such offence liable to be punished as for a Misdemeanour. Candidates are prohibited from taking into the Examination Room any books or papers of any kind whatever, and the slightest infringement of this regulation will subject the offender to all the penalties of a failure.

For information as to the Time, Place, and Subjects of Examination the Applicants should either apply to the Examiners at the Local Marine Board Office at which they propose to be examined, or refer to the Regulations Exn. 1.

Candidates for Examination must make their Applications on Form Exn. 2, and pay the Examination Fee before any step is taken, whether by inquiring into their services or testing their qualifications, &c. Should it be found that their service is not sufficient to entitle them to be examined *no part of the fee will be returned*, but they will be allowed to present themselves again for examination for a Certificate of the same grade without further fee when they have completed the requisite service.

Testimonials of character, and of sobriety, experience, ability, and good conduct on board ship, will be required of all applicants, for at least the Twelve Months of Service immediately preceding the date of application to be examined, and without producing them no person will be examined.

As cases have occurred of persons who suffer from what is called colour blindness, *i.e.*, an inability to distinguish certain colours, the Board of Trade have decided that all Candidates for Examination for Masters' or Mates' Certificates should be tested as to their ability to distinguish such colours. This examination is also open to any person serving, or about to serve in the Mercantile Marine.

### Qualifications for Certificates of Competency for a "Foreign-going Ship."

The qualifications required for the several ranks undermentioned are as follow:—

A Second Mate must be seventeen years of age, and must have served four years at Sea.

An Only Mate must be nineteen years of age, and have served five years at Sea.

A First Mate must be nineteen years of age, and have served five years at Sea, of which one year must have been as either Second or Only Mate, or as both.

A Master must be twenty-one years of age, and have served either six years at Sea, of which at least one year must have been as First or Only Mate, and one year as Second Mate in a Foreign-going Ship, or he must have served six and a half years at Sea, of which two and a half years must have been as Second Mate in a Foreign-going Ship, during the last twelve months of which he must have been in possession of a First Mate's Certificate.

Service in the Coasting Trade must amount to half as much again as Service in the Foreign Trade. A Candidate whose whole time has been in the Coasting Trade must have served three years as First or Only Mate, and nine months as Master, to qualify him for examination for an Ordinary Master's Certificate.

Service in the capacity of Third or Fourth Mate while in possession of a Certificate of Competency, and in charge of a Watch, is, under certain conditions, allowed to count to qualify a Candidate for examination for a Certificate of a higher grade.

**N.B.**—Certificates for Foreign-going Ships are divided into two classes, *viz.*:—Ordinary Certificates and Certificates for Fore and Aft rigged vessels.

A Candidate for an Ordinary Certificate of any grade must have served twelve months as Apprentice, Seaman, Mate, or Master of a Square-rigged Sailing Vessel.

### Qualifications for Certificates of Competency for Foreign-going Steamships.

A Second Mate must be seventeen years of age, and must have been four years at Sea.

An Only Mate must be nineteen years of age, and must have served five years at Sea.

A First Mate must be nineteen years of age, and have served five years at Sea, of which one year must have been as Second or Only Mate of a Foreign-going Steamship.

A Master must be twenty-one years of age, and have been six years at Sea, of which one year must have been as First Mate in a Foreign-going Steamship, and one year as Second or Only Mate; or he must have been six and a half years at Sea, of which two and a half years must have been as Second or Only Mate in a Foreign-going Steamship, during the last twelve Months of which he must have been in possession of a First Mate's Certificate.

These Certificates are available for Steamships only, either Fore and Aft or Square Rigged.

### Qualifications for Certificates of Competency for a "Home Trade Passenger Ship."

A Mate must be nineteen years of age, and have served four years at Sea.

A Master must be twenty years of age, and have served five years at Sea, of which one year must have been as First or Only Mate in the Foreign or Home Trade, during which service he must have been in possession of a Mate's Certificate for Home Trade Passenger Ships, or of a First or Only Mate's Certificate for Foreign-going Ships.

### Voluntary Examination for Extra Master.

An Extra Master's Examination is voluntary, and intended for such persons as wish to prove their superior qualifications, and are desirous of having certificates for the highest grade granted by the Board of Trade. The Examination may take place when the applicant goes up for Master, or afterwards.

### Masters' and Mates' Voluntary Examinations in Steam.

Arrangements have been made for giving to those Masters and First or Only Mates who are possessed of or entitled to Certificates of Competency, an opportunity of undergoing a voluntary examination as to their practical knowledge of the use and working of the steam engine. These examinations are conducted on the premises, and under the superintendence of the Local Marine Boards, at such times as they may appoint for the purpose; and the Examiners are selected by the Board of Trade from the Engineer Surveyors, appointed under the fourth part of "The Merchant Shipping Act, 1854."

### Syllabus of Masters' or Mates' Examination in Compass Deviation.

Any Master or Mate who wishes to pass a *Voluntary Examination* in the Syllabus of Examination on the Laws of the Deviation of the Compasses of an Iron Ship, &c., which Candidates for Extra Masters' Certificates are required to pass, can at any time be examined upon payment to the Superintendent of the Mercantile Marine Office of the usual fee of One Pound. If the Candidate passes the endorsement successfully an endorsement to that effect will be duly made upon the Master's or Mate's Certificate held by him.

**N.B.**—The Board of Trade trust that holders of Certificates of Competency will gladly take all steps in their power to earn the special distinctions conferred by these Examinations.

### Certificates of Competency as Masters of Pleasure Yachts.

Persons who are the sole Owners of Pleasure Yachts may be examined for Certificates of Competency as Masters, but such Certificates will only enable them to take command of their own Pleasure Yachts.

(A.)—Table of Fees.

A <sup>a</sup>	Fore and Aft, Ordinary and Steamship Certificates.*					Voluntary Examinations						
	If not in possession of a Certificate of Competency of inferior Grade †	If in possession of			For Home Trade Passenger Ships.	For Pleasure Yachts.— Having authority of Board of Trade for Examination.	Extra.		In Steam.	In Compass Deviation, including the Syllabus.	In Colours only where a Certificate of Competency is not required.	
		A Certificate of Competency of inferior Grade. ‡	A Certificate of the same Grade obtained in a British Possession abroad.	First Examination.			Each subsequent Examination.	First Examination.				Second or subsequent Examinations.
1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	
Master.....	£ s. d. 2 0 0	£ s. d. 1 0 0			£ s. d. 1 0 0	£ s. d. 2 0 0	No Fee.	£ s. d. 1 0 0	£ s. d. 1 0 0	£ s. d. 1 0 0	£ s. d. 1 0 0	For each person examined, is.
First Mate ...	1 0 0	0 10 0	No Fee.	As in Col. 2.	.....	.....	.....	.....	1 0 0	1 0 0	1 0 0	
Only Mate....	1 0 0	0 10 0			0 10 0	.....	.....	.....	1 0 0	1 0 0	1 0 0	
Second Mate..	1 0 0	0 10 0			.....	.....	.....	.....	.....	1 0 0	1 0 0	

\* Holders of Steamship Certificates can be examined for ordinary Certificates of the same grade on payment of half the usual fee.

† The words "Inferior Grade" refer to a "Fore and Aft" Certificate of the same grade, or, except in the case of Master, to a Certificate of a lower grade.

NOTICE TO CANDIDATES.

- Candidates are required to appear at the Examination Room punctually at the time appointed.
- Candidates are prohibited from bringing into the Examination Room books, paper, or memoranda of any kind whatever. The slightest infringement of this regulation will subject the offender to all the penalties of a failure, and he will not be allowed to present himself for re-examination for a period of three months.
- In the event of any candidate being detected in defacing, blotting, writing in, or otherwise injuring any book or books belonging to the Board, the papers of such candidate will be detained until the book or books so defaced be replaced by him. He will not, however, be at liberty to remove the damaged book, which will still remain the property of the Board.
- In the event of any candidate being discovered copying from another, or affording any assistance or giving any information to another, or communicating in any way with another, during the time of examination, he will subject himself to all the penalties of a failure, and he will not be allowed to be examined for a period of six months.
- No candidate will be allowed to work out his problems on a slate or on waste paper.
- No candidate will be permitted to leave the room until he has given up the paper on which he is engaged.
- Candidates will find it more convenient, both here and at sea, to correct the declination and other elements from the Nautical Almanac by the "hourly differences" which have been given in that work in order to facilitate such calculations: they will thereby render themselves independent of any proportional or logarithmic table for such purpose.
- The corrections by inspection from tables given in some of the works on navigation will not be allowed (see Tables IX., XI., and XXI., in Norrie's Eptome, &c.); every correction must appear on the papers of the candidates.
- Candidates are expected to work out their answers to all problems, except those referred to hereafter, to within, or not to exceed, a margin of one mile of position from a correct result, with the exception of the ship's position by "Sumner's method," where a margin of 2½ miles may be allowed.
- In finding the longitude by chronometer the logarithms used in finding the hour angle should be taken out for seconds of arc. Also accuracy should be observed in computing the hour angles for the projection by "Sumner's method."
- In all other problems the logarithms to the nearest minute will be sufficiently correct for all grades, except Extra Master, from whom a degree of precision will be required, both in the work and in the results, beyond what is demanded from the inferior grades.
- Any candidate who may be guilty of insolence to the Examiner or of other misconduct will render himself liable to the postponement of his examination, or, if he has passed, to the detention of his Certificate for such period as the Board of Trade may direct.
- The fee for examination must be paid to the Superintendent of the Mercantile Marine Office in the Cash Office. In any case in which a Candidate offers money to any other officer than a Superintendent, and in any place but in the Cash Office, the Candidate so offering money will be regarded as having committed an act of misconduct, and will be rejected, and not allowed to be examined for twelve months, either at the port where the offence was committed or at any other port.
- If the candidate passes he will receive the Form Exn. 16 from the Examiner, which will entitle him to receive his Certificate of Competency from the Superintendent of the Mercantile Marine Office, at the port to which he has directed it to be forwarded. If his testimonials have been sent to the Registrar to be verified, they will be returned with his Certificate.
- If, after a Candidate has passed his examination, it is discovered on further investigation, e.g., by verification on the part of the Registrar General of Seamen, that his services are insufficient to entitle him to receive a Certificate of the grade for which he has passed, it will not be granted to him; but if the Board of Trade are satisfied that the error in the calculation of his services did not occur through any fault or wilful misrepresentation on his part, he will be allowed to go up for examination without payment of further fee when he has performed the amount of service in which he was deficient.
- In all cases of failure the candidate must be examined *de novo*. If a candidate fails three times in Navigation he will not be re-examined until after a lapse of THREE MONTHS from the date of the last failure. If he fails in Seamanship he will not be re-examined until after a lapse of SIX MONTHS. Whether the whole or part of this period must be served at sea must depend upon the subjects in Seamanship in which the candidate failed, but what amount (if any) of sea service will be required will be left to the discretion of the Local Marine Board, subject, however, to revision by the Board of Trade, should they see fit.

Board of Trade, Marine Department,  
December, 1884.

THOMAS GRAY,  
Assistant Secretary.



1887--8.

LEGISLATIVE ASSEMBLY.  
NEW SOUTH WALES.

ASSOCIATION CRICKET GROUND.

(REVENUE AND EXPENDITURE FROM MARCH, 1876, TO AUGUST, 1887.)

*Ordered by the Legislative Assembly to be printed, 25 April, 1888.*

RETURN to an *Order* made by the Honorable the Legislative Assembly of New South Wales, dated 8 December, 1887, That there be laid upon the Table of this House, a Return showing,—

“(1.) The amount of money received from all sources by the Trustees of the Cricket Ground at Moore Park.

“(2.) The amount of money spent by the Trustees of the said Cricket Ground, particularly specifying the items of expenditure, and what it was spent for, and the amount received by each of the Trustees as salary for “personal expenses.”

(*Mr. McElhone.*)

The Managing Trustee of the Association Cricket Ground to The Under Secretary for Lands.

Sir, The Association Cricket Ground Secretary's Office, 99, Elizabeth-street,  
Sydney, 28 February, 1888.

In response to the request contained in your letter of 29th December last, and as an act of courtesy, I have the honor to herewith furnish a statement of receipts and disbursements in connection with the Association Cricket Ground for the period commencing from March, 1876, and ending 31st August, 1887.

Referring to the final portion of section 2 of the Order of the Legislative Assembly, I have to say that the duties of the Trustees are honorary, and that no payments of any kind have been made to these gentlemen.

I may add that the statements of receipts and disbursements and balance sheets, duly audited, have been annually published in the daily papers for the information of the public.

I have, &c.,

PHILIP SHERIDAN,  
Managing Trustee.



1887-8.

LEGISLATIVE ASSEMBLY.

NEW SOUTH WALES.

## ASSOCIATION CRICKET GROUND.

(RETURN RESPECTING TRUSTEES OF.)

*Ordered by the Legislative Assembly to be printed, 15 June, 1888.**[Laid upon the Table of this House, in answer to Question No. 2, Votes 102, of 14 June, 1888.]*

## QUESTIONS AND ANSWER.

## 2. MR. McELHONE to ask THE COLONIAL SECRETARY,—

- (1.) Is it a fact that the trustees of the Association Cricket Ground have spent large sums of money in the purchase of wines, spirits, ale, &c., for the use of themselves and friends, and that the money to pay for such wines, &c., has been taken out of the funds obtained for the use of the cricket ground?
- (2.) What money has been paid for wines, &c., used as above?
- (3.) Are not Mr. Justice M. H. Stephen and Mr. C. Oliver trustees of the cricket ground; if so, are either or both of them aware that the cricket funds have been used for the above purpose?
- (4.) Were not the trustees appointed by the Government; and, if so, have not the Government the right and power to call on and compel the trustees of public parks, cricket grounds, &c., to give an account of the expenditure of all moneys received by them?
- (5.) Did not the Government have a sum of money voted to make the said cricket ground?
- (6.) Is not the answer given to Mr. McElhone's questions, *re* trustees of cricket ground, on the 15th May, 1888, by Mr. Garrett, Secretary for Lands, stating the trustees of the cricket ground are not within the control of the Government, misleading?
- (7.) How often do the trustees meet per year?
- (8.) Is it not a fact that neither Mr. Justice Stephen nor Mr. Oliver and Mr. P. Sheridan ever meet to consult on the affairs of the cricket ground, and that Mr. Philip Sheridan has almost absolute and sole control of the affairs, management, receipts, and expenditure of the cricket ground trust funds?

The following information has been supplied by the Department of Lands:—

"It is a fact that during the many years in which the present trustees have held office sums of money have been expended in the purchase of wines, and out of the funds obtained from the ground. These sums, though they may be large in the aggregate, have been expended not extravagantly, and only in ways customary among similar institutions and for purposes directly or indirectly connected with the advancement of the interests of the ground.

Visitors, for instance, from England and the colonies, and others, have been entertained, and it may be mentioned that gifts in kind have been at times received in return for hospitality shown.

All the trustees have been aware of such expenditure. This, together with all expenses and receipts in connection with the trust, have been regularly laid before meetings held by the trustees and a ground committee, which the trustees have associated with them for the better management of the ground and the supervision of the accounts.

While the trustees hold themselves responsible for all that is done, the advice of the ground committee is always taken, and as a rule acted upon. The accounts, moreover, are regularly and duly audited by public accountants, and annually published in the daily newspapers.

The trustees, *viz.*, Mr. Justice Stephen, Mr. Oliver, and Mr. Sheridan, are appointed by the Government, and hold the ground under trust conferred by a deed of grant vesting the control of the ground in them, and, inferentially, of the moneys arising from its use.

Whether the Government has power or not to call the trustees to account, they are at all times most willing to furnish any information that may be required, although all that is necessary is from time to time published as above mentioned.

In

In the year 1878 a sum of £500 was granted by the Government for the improvement of the ground, but during the period from March, 1876, to August, 1887, no less than the sum of £41,574 8s. 10d. was (exclusive of the £500 just mentioned) expended in connection with the ground, as detailed by a statement laid upon the table of the Legislative Assembly upon the 25th April last.

Of late Mr. Justice Stephen and Mr. Oliver have not regularly attended meetings of the trust, but no matter of importance is dealt with unless special reference is made to them. Mr. Sheridan is the managing trustee of the ground, but beyond the authority usually attaching to such a position he has no more control over the affairs of the trust than other members of it. He is, however, unceasing in his efforts to promote the interest of the ground, and his zeal and untiring energy are fully appreciated by his co-trustees.

The ground committee referred to consists of Messrs. Richard Teece, John M. Gibson, W. C. Goddard, H. M. Faithful, A. H. Bray, A. R. Docker, and C. W. Beal, who meet weekly for the purposes already mentioned, and it is only proper to state that these gentlemen take a lively interest in the affairs of the ground, and that they have devoted much of their time and considerable labour to their voluntary duties, and that the trustees and the public are much indebted to them for the advanced state of the ground and the buildings and the management generally."

1887-8.

LEGISLATIVE ASSEMBLY.  
NEW SOUTH WALES.

**ATTORNEYS' BILLS OF COSTS AND PRACTICE OF  
CONVEYANCING AMENDMENT BILL.**

(PETITION—CERTIFICATED CONVEYANCERS OF THE SUPREME COURT OF NEW SOUTH WALES.)

*Received by the Legislative Assembly, 15 February, 1888.*

To the Honorable the Members of the Legislative Assembly, in Parliament assembled.

The humble Petition of the undersigned certificated conveyancers of the Supreme Court of New South Wales,—

RESPECTFULLY SHOWETH:—

That your Petitioners are all duly certificated conveyancers of the Supreme Court of New South Wales, under the 14th section of the Act 11 Victoria No. 33, intituled "An Act to regulate the taxation of Attorneys' Bills of Costs, and the practice of conveyancing."

That your Petitioners' attention have been drawn to a Bill now before Parliament, introduced by Frank Farnell, Esq., having for its object the repeal of the 14th section of the said Act, and to provide for the admission of conveyancers already certificated to practise as solicitors, upon the conditions therein set forth.

That the 1st section of the Bill referred to purposes absolutely to repeal the said 14th section.

That the 2nd section of such Bill provides a discretionary power for conveyancers to apply for admission as attorneys, solicitors, and proctors.

That should the said 1st section of the Bill be passed into law in its present shape, it might be construed so as to prevent conveyancers already admitted to continue the practice of their profession as such, and thereby seriously prejudice existing and vested interests.

That your Petitioners comprise nine in number out of twenty-six, the total number of conveyancers already certificated, and they have taken no part whatever in introducing the Bill referred to into Parliament.

That, without desiring to offer any opposition to the Bill, if amended, being passed into law, your Petitioners would respectfully point out that unless the same be amended, empowering conveyancers already admitted to continue practice as such, notwithstanding the repeal of the said 14th section, a great hardship and much injustice would be inflicted upon those who have established businesses in their profession as conveyancers, and who might not be desirous of seeking admission as solicitors.

Your Petitioners therefore humbly pray that you will take the circumstances before stated into your favourable consideration and amend the 1st clause of the said Bill, so that conveyancers already admitted may continue to practise as such, the repeal of the said 14th section notwithstanding.

And your Petitioners, as in duty bound, will ever pray, &c.

Sydney, 9 February, 1888.

[Here follow 9 signatures.]



1887.

(THIRD SESSION.)

LEGISLATIVE ASSEMBLY.

NEW SOUTH WALES.

## CASUAL LABOUR BUREAU.

(RETURN RESPECTING.)

*Ordered by the Legislative Assembly to be printed, 29 September, 1887.*

*[Laid upon the Table of the House by the Colonial Secretary, in answer to Question No. 11, on Votes No. 6, of the 29th September, 1887.]*

Questions :—

MR. O'SULLIVAN asked THE COLONIAL SECRETARY,—

- (1.) The names of the gentlemen forming the Labour Bureau ?
- (2.) The amount of remuneration they receive ?
- (3.) What clerical assistance is employed by the Bureau, and the cost of the same ?
- (4.) The amount spent in cab-hire and contingencies by members of the Bureau since the Bureau was established ?
- (5.) Has the Bureau fixed the rate of pay per day to be paid to the unemployed ?
- (6.) What is the rate fixed ?
- (7.) Did the Labour Bureau send any of the unemployed to do the work of shearing on stations where shearers were on strike for the rate of wages fixed by their union ?

Answers :—

- (1.) John Davies, C.M.G. (Chairman), Colonel F. Wells, and David Houison, Esquires.
- (2.) Nothing has been received.
- (3.) 1 Secretary and Paymaster, at £350 per annum, who provides a fidelity guarantee bond in the sum of £1,000.  
1 Assistant Paymaster and Registrar, at £250 per annum.  
2 Clerks, at 6s. per day each.
- (4.) The amount paid for cab-hire, &c., to the members of the Board, up to date, is £8 18s. 6d.
- (5.) Yes.
- (6.) Wages men, 3s. 6d. per day, less rations ; but most of the men are engaged on piece work.
- (7.) In response to applications received from employers in various portions of the Colony upwards of 200 shearers were engaged and forwarded at the highest current rates paid, viz., 20s. per 100 sheep.



1887-8.

LEGISLATIVE ASSEMBLY.  
NEW SOUTH WALES.

**CENTENARY OF THE COLONY.**

(STATEMENT OF AMOUNTS PAID ON ACCOUNT OF CELEBRATION TO 30 APRIL, 1888.)

*Ordered by the Legislative Assembly to be printed, 9 May, 1888.*

STATEMENT of Amounts Paid or passed for Payment on account of the Celebration of the Centenary up to 30th April, 1888.

Head of Services.	Amount.		
	£	s.	d.
Designs for Postage Stamps .. .. .	109	4	0
Towards erection of Monument to Lady Mary Fitzroy .. .. .	60	0	0
Entertainment of the Inmates of the Government Asylums, Parramatta, and Industrial School for Girls .. .. .	250	0	0
Agricultural Society of New South Wales. to enable the Society to hold an International Exhibition of Products and Manufactures .. .. .	7,350	0	0
Entertainment of Inmates of Newington Asylum .. .. .	56	0	0
Celebration of the Centenary by the industrial classes .. .. .	250	0	0
Expense in connection with the Centenary Regatta .. .. .	500	0	0
Expense of production of the Children's Cantata at the Exhibition Building .. .. .	205	5	0
Expense in connection with the band contest .. .. .	400	0	0
Entertainment of Inmates of Randwick Asylum .. .. .	50	0	0
Centennial Medals .. .. .	197	10	0
Expense connected with the Centennial Banquet .. .. .	2,854	18	1
Centennial gifts of provisions .. .. .	2,767	14	6
For the purchase of 3,000 copies of the centennial number of the illustrated papers for distribution abroad .. .. .	113	10	0
Expense of opening ceremony of the Centennial Park .. .. .	373	16	0
Grant in aid of Juvenile Centennial Celebrations at Armidale .. .. .	50	0	0
Illuminations and also decoration of Public Buildings .. .. .	5,084	3	0
Expense connected with the unveiling of the Statue of Her Majesty the Queen .. .. .	698	8	0
Excursion of Newsboys, &c, to National Park .. .. .	218	5	10
Expense connected with laying the foundation-stone of new Houses of Parliament .. .. .	752	7	0
Premium for design for State House .. .. .	501	4	4
Decorations, Oxford-street, &c. .. .. .	323	14	0
Celebrations in connection with the Inmates of the Benevolent Asylum, at Liverpool..	156	0	0
Girls' Festival, Inner Domain .. .. .	170	0	7
Centennial Celebrations generally, including entertainments, advertising, stationery, hire of furniture, clerical assistance, and petty expenses .. .. .	2,352	5	11
Total... .. .	25,839	6	3

The Treasury, New South Wales,  
7th May, 1888.

J. PEARSON,  
Accountant.



1887-8.

LEGISLATIVE ASSEMBLY.  
NEW SOUTH WALES.

RELIEF OF THE POOR OF SYDNEY DURING  
CENTENNIAL WEEK.

(INFORMATION RESPECTING.)

*Ordered by the Legislative Assembly to be printed, 28 February, 1888.*

[Laid upon the Table of this House in answer to Question No. 15, Votes No. 57, of 23rd February, 1888.]

MR. CHANTER to ask THE COLONIAL SECRETARY,—

- (1.) What number of tickets were issued for the relief of the poor of Sydney during the Centennial week?
- (2.) What was the number of tickets presented to Mr. Kidman, grocer, of Sydney, and relief obtained?
- (3.) What was the nature of the contract between the Government and the contractor, Mr. Kidman?
- (4.) What amount has the Government paid Mr. Kidman for this relief?
- (5.) If no amount has yet been paid, what is the amount due to Mr. Kidman?

The following information has been furnished by the Chairman of the Casual Labour Board:—

- (1.) 11,395, viz., 10,962 full tickets (5s.) and 433 half tickets (2s. 6d.)
- (2.) 11,154, viz., 10,784 full tickets and 370 half tickets.
- (3.) Mr. Kidman to supply the following provisions of the best quality, viz.:—2 loaves of bread (4 lb.), 1 joint of beef or mutton (6 lb.), 2 lb. white sugar,  $\frac{1}{4}$  lb. tea,  $\frac{1}{2}$  lb. butter, 1 lb. cheese, 1 lb. currants, 1 lb. raisins, 4 lb. flour, 1 cake of tobacco and pipe, 1 tin of fish or jam, 1 quart of milk, 7 lb. assorted vegetables.

Such parcels were supplied to holders of full tickets, and half the quantities to holders of half tickets.  
(4 and 5.) The amount due to Mr. Kidman is £2,742 5s.



1887-8.

LEGISLATIVE ASSEMBLY.  
NEW SOUTH WALES.

CLAIM OF JAMES H. HUSBAND.

(CORRESPONDENCE RESPECTING—IN CONNECTION WITH CAPTURE OF BUSHRANGERS.)

*Ordered by the Legislative Assembly to be printed, 8 February, 1888.*

RETURN to an *Order* made by the Honorable the Legislative Assembly of New South Wales, dated 29th June, 1887, That there be laid upon the Table of this House,—

“Copies of all letters, papers, and correspondence relative to a claim by  
“James H. Husband, relating to his capture of some notorious bushrangers  
“in the year 1864.”

(*Mr. Barbour.*)

The Agent-General to The Colonial Secretary.

3, Westminster Chambers, Victoria Street, S.W.,

Sir,

London, 1 June, 1876.

I have the honor to enclose herewith a letter dated 24th ultimo, from Mr. Robert Nixon, submitting his claims for a medal in consideration of services rendered by him in the capture of bushrangers in New South Wales.

I have, &c.,

WILLIAM FORSTER.

[*Enclosure.*]

Corby, near Thrapstone, Northamptonshire, 24 May, 1876.

The Hon. John Robertson, Colonial Secretary, Sydney, New South Wales,—

Sir,

Having seen an announcement that the New South Wales Government has issued a number of gold and silver medals for services rendered in the capture of bushrangers in the Colony, I trust that under the following circumstances you will have the kindness to recommend that one of the gold medals shall be awarded to me as having been the means of arresting, and subsequently bringing to punishment, in the year 1862, the notorious criminals Alexander McGregor and Hugh Vaughan.

These culprits were tried by His Honor the Chief Justice (Sir Alfred Stephen) at the Bathurst Assizes, on the 11th September, 1862, when McGregor, who was known as one of the worst characters at Norfolk Island, was sentenced to 15 years hard labour (two in irons) and Vaughan to 10 years hard labour, the first two in irons.

A report of the trial appeared in the *Bathurst Free Press* of the 17th September, 1862, and the depositions in the case are of course registered in the proper office and can be now referred to. I may, however, shortly state the circumstances under which I was attacked and robbed, and of my subsequent pursuit and arrest of the robbers.

In April, 1862, I was on my way from the Lachlan to open a store at Fort Bourke. When on my way down the Bogan, midway between two stations, 8 miles apart, three men came from behind some trees by the road-side, stopped me, and tied my hands behind my back. They then took me nearly a mile into the bush, and there bound me hand and foot with ropes to a tree, one of the men standing in front of me with a loaded gun, threatening to shoot me if I attempted to move or speak. Finally I released myself, and removed the portion of goods they had left me to the nearest station. There I engaged a young man to assist me in following their tracks through the bush and to help in arresting them, as no police were stationed near. On the third day I captured one of them in a shepherd's hut, and, after binding him, I travelled all night, and having obtained more assistance from a station, I captured the other two. The next day, when taking them to Fort Bourke to have them committed for trial, two of them escaped, but, after following them for 30 miles, I retook them, and brought them back. I may state that my losses, between money and goods stolen from me by the bushrangers and whilst in pursuit of them, amounted to nearly £500. I do not, however, make any claim on this account, but I trust you will be able to recommend in the proper quarter that one of the gold medals should be awarded to me.

I have, &c.,

ROBERT NIXON,

Late of 56, Bathurst-street, Sydney.

It is scarcely my province to make any direct recommendation upon this application, which, however, upon the assumption that the facts are correctly stated, requires very little recommendation from anyone, as it speaks sufficiently for itself. The facts can be better ascertained in the Colony than in London; and in order that they may be ascertained, and justice done to the application, I have much pleasure in submitting it for consideration by the Government.—W.F., 30/5/76.

The Inspector-General of Police.—H.H., B.C., 20/7/76. Referred to Supt. Lydiard for full inquiry into the facts and for report.—EDMUND FOSBERY, I.G.P., Police Department, Inspector-General's Office, Sydney, 22 July, 1876. Supt. Lydiard, Bathurst.

### The Inspector-General of Police to The Principal Under Secretary.

Police Department, Inspector-General's Office, Sydney, 4 November, 1876.

MORE than fourteen years having elapsed since the occurrences referred to by Mr. Nixon took place, it is very difficult to obtain information on the subject.

Mr. Husband cannot be found at present, but I am informed that he was placed on the commission of the peace by the Government for his conduct on the occasion referred to.

Herewith I submit a newspaper report of the trial of the offenders alluded to.

Probably Sir Alfred Stephen, who tried the case, might be able to afford some information.

Mr. Nixon apparently behaved in a most praiseworthy manner, but it is doubtful whether the circumstances were such as would justify the Government in awarding him one of the gold medals presented for conspicuously brave and gallant conduct.

EDMUND FOSBERY,  
Inspector-General of Police.

Submitted, 7/11/76. It can hardly be allowed.—8/11/76. The Honorable Sir A. Stephen may be asked for any information on the matter that he may possess.—JOHN R., 10/11/76.

[Enclosure.]

BATHURST ASSIZES.

Thursday, September 11.—Before His Honor the Chief Justice.

BARRISTERS present: Mr. Butler, Acting Attorney-General; and Messrs. Holroyd, Dalley, Stephen, and Lee.

ASSAULT AND ROBBERY WITH FIREARMS.

*Alexander McGregor* and *Hugh Vaughan* were indicted for that they, on the 26th day of April, 1862, at the Bogan River, with firearms in their possession, did feloniously assault one Robert Nixon and put him in bodily fear of his life, and stole from him a certain sum of money and various other articles, the property of the said Robert Nixon.

The prisoner McGregor had applied to have his trial postponed for the production of two witnesses; but his Honor said, after the prisoner's statement and from the depositions, he was convinced that the Crown Prosecutor might safely admit as facts the statement made by the prisoner, and still the case was one that ought to go to a jury; he therefore should not postpone the trial, as he believed by doing so the ends of justice would be defeated.

*McGregor* said he might as well submit to be crucified as to go to trial under such circumstances, but he must bow to the decision of the Court.

The prisoners pleaded Not Guilty.

The Public Prosecutor stated the facts of the case to the Jury, and called

*Henry Williams*, who being sworn, said: I am a constable, stationed at Fort Bourke; I arrested the prisoners on the 5th of June; they were in the township of Fort Bourke; the two prisoners were in the company of a third person; I found a pair of cord trousers in a swag which McGregor claimed as his property; they were afterwards proved to be the property of Robert Nixon; there was another swag belonging to the third man, who has made his escape; in that swag I found a Crimean shirt, a blue shirt, and a lamb's wool undershirt; these articles were claimed by Nixon; Nixon was present and saw what I found in the swags; the articles were sent to Bathurst by the police conveyance; they are here now and I can identify them if produced.

[His Honor said the witness ought to have the articles in Court.]

*Mr. Butler* said this was one of the singular cases sent from Fort Bourke; he always found in cases from Fort Bourke there was considerable deficiency and something wrong.

*By McGregor*: I apprehended you upon a warrant; the cord trousers were in a blanket belonging to you; I had possession of a swag which you claimed as your property; you were brought into Fort Bourke and discharged; a new information was laid and a warrant granted, upon which I apprehended you within half-an-hour of your discharge; you had not an opportunity of escape at the time Henderson escaped; you were secured in handcuffs and handcuffed to another constable.

*By Vaughan*: I don't know how long you were in custody before I apprehended you; you had been sick when I apprehended you, but you were sensible; you had no opportunity of escaping at the time Henderson escaped; I was watching at the time Henderson went away but did not see him go; I was not asleep at the time; you were handcuffed to one of the prisoners.

Two bundles of goods were here produced one of which had been sent from Fort Bourke and the other from Dubbo.

*Robert Nixon* being sworn said: I am a dealer; at the time I was robbed I had not a license; but was on my way from the Lachlan to open a store at Fort Bourke; I had three horses and a dray with me and a spring cart with one horse, the conveyances were both loaded with store goods, consisting of drapery, boots and shoes, wearing apparel, and groceries; I had about £850 worth of property; before I got to Fort Bourke about 250 miles on this side I was stopped on the road by three men; I think it was on the 25th April; it was about 10 or 11 in the morning; I saw the same men after that, I have no doubt but what the prisoners in the dock are the men; one of the prisoners came out from behind a tree; he asked me for a little castor oil to put in his eye; I told him I had none that I could get to, and I did not think it was good for him; the same men had passed me on the river two days before; they had three horses; one of the men, Vaughan, was walking; it was near a station on the Bogan; Vaughan seized me and kept my arms down; other two men then came up; Vaughan then tied my hands behind my back; he then tied my legs; I asked what they wanted; they said your money; they put me into the cart; Vaughan drove the cart; McGregor and Anderson were in the dray; I asked Vaughan why they would not let me go on, and I would give them my money; Vaughan said, the old devil, meaning McGregor, begun it, and he would finish it; about three-quarters of a mile from the place I saw three horses, they were hobbled and the saddles were on the ground; the prisoners then asked me where my money was; I told them I had not much; McGregor searched my pockets and took out my keys, knife, and comb; they then asked me where my firearms were; they took my revolver and my gun, also my purse out of a trunk that was in the cart; they counted my money; I think it was £21 or £22, and then said this is only £7 odd each; McGregor said he had heard I had £300, and would have it; I told him I had not, I had parted with it on the Lachlan; they then said they would shoot me dead if they found any more; Anderson had the gun; McGregor sent Anderson down to get some water for dinner; they made a fire and got some dinner; they untied my hands and I took some dinner with them; Anderson gave me my knife and keys; they did not untie my legs; when I had taken dinner

McGregor

McGregor told Anderson to take a rope from the dray; they untied my legs; I was placed on a tree they said they would tie me; before they tied me, I told them I would make them a present of the money if they would let me go; I told them they could have a suit of clothes also; they said they would not be dictated to by me; I then said if they would not agree to those terms I would hunt them until I had them taken; they bound my hands again, and tied me to a tree with the rope; they said if I tried to escape they would shoot me; one man stood over me with a gun; they then began to pick the goods; Anderson went to light his pipe, and I thought I would try to get away; they were men's goods they took chiefly; I twisted the rope and released my hands, took my knife from my pocket, and cut the rope which bound me across the breast; I ran to the next station, about 4 miles off; two men returned with me; as we rode we found tracks of a cart; on arriving at the spot I found that my horses were gone, and the spring cart; the dray was left; I missed some boots, trousers, a gun, a revolver, jumpers, four pair blankets, eight vests, a dozen hats; they took four plush hats, and a great many other articles; the men who were with me put the goods on the cart and I went to another station to get assistance; the next day we got a horse each, and went to Mr. Strahorn's station; we then met the two men and followed on the track till we came to the cart; there were a few things left in the cart; and very near the cart we found three suits of clothes, similar to those which the prisoner wore; I then obtained more assistance and we followed on the tracks; we afterwards returned to Mr. Strahorn's station; the other men returned bringing some goods with them; I then went with another person to Mr. King's station, and stopped there that night; in the meantime I had recovered three of the horses; I then went to Mr. Brown's station and heard that they had been there; I then started with one person to see the place where the prisoner's had camped; we then came in sight of a hut, and I got the other man to go towards it, and we found the prisoner Vaughan in the bed there; this was about 11 o'clock at night; we tied the prisoner's hands and legs together and secured him; he handed me £7 odd, which he said was his share of the money stolen from me; we took from him some of the articles he had stolen from me; everything prisoner had at the time belonged to me; we left the prisoner confined and rode on to one of Mr. Thomas' outer stations; while talking to the overseer, McGregor, and Anderson came up; the overseer went in for a revolver and a gun, but when he came out the prisoner had made away into the bush; Mr. Husband was overseer at the station; I and four others then followed and overtook and arrested McGregor and Anderson; McGregor had a revolver which we took from him; Anderson was leading a horse over which a gun was slung, together with a quantity of my property; when we were taking the prisoners to Cannonbee they made their escape; they were retaken on the Marra Creek; they were then taken on to Fort Bourke.

*By McGregor:* I believe the trousers produced are those referred to as the trousers found upon you.

*James Husband,* being sworn, said: I remember the morning when Nixon came to the station; we followed two men, overtook them and brought them back to the station; McGregor was one of the men; they had a quantity of wearing apparel and other goods with them at the time; the prisoners asked why I took them; they admitted that they had stuck the man up; Anderson said that McGregor had put up the robbery; and McGregor said he had done it out of revenge.

*By McGregor:* You admitted to me that you had stuck the man up out of revenge.

*By Vaughan:* I never saw you before.

*John Reardon* being sworn said: I was with Mr. Nixon when Vaughan was arrested; Nixon asked him to pull his shirt off, but Vaughan said no it's not yours; he said the seven pounds in his purse was his share of the money from the dealer; he said that he and two other men did it.

*McGregor* said that he had no opportunity of producing his witnesses, or they would have proved an *alibi*; he denied the statements made by the witnesses as to his admissions.

*Vaughan* said he had nothing to say to the Jury, as he had not been able to procure the attendance of his witnesses.

His Honor summed up; the Jury retired, and returned a verdict against both the prisoners of guilty of robbery with firearms.

His Honor said that McGregor was an abominably bad character, who was known as one of the worst characters at Norfolk Island, where he was known by the name of Robert Knox. His Honor said he knew his character well.

Sentence:—McGregor hard labour on the roads or other public works of the Colony for fifteen years, the first two years in irons.

Vaughan was sentenced to ten years hard labour on the roads or other public works of the Colony, the first two years in irons.

His Honor said that he took the opportunity of publicly thanking Mr. Husband and the prosecutor for the part they had taken in apprehending the prisoners, their conduct was most praiseworthy, and deserved the thanks of the Colony.

## The Principal Under Secretary to The Honorable Sir Alfred Stephen, C.B., K.C.M.G.

Sir,

Colonial Secretary's Office, Sydney, 11 November, 1876.

I am directed by the Colonial Secretary to enclose for your perusal papers having to do with an application made by Mr. Robert Nixon, through the Agent-General in London, for a gold medal, in recognition of the services rendered by him in the year 1862, in the capture of the two criminals named in the margin, who were convicted before yourself sitting as Chief Justice, at Bathurst, on the 11th of September, 1862. (To be returned.)  
Alexander  
McGregor and  
Hugh Vaughan.

2. I am desired to request that you will have the goodness to furnish Mr. Robertson with any information that you may possess regarding this matter.

I have, &c.,

HENRY HALLORAN,  
Principal Under Secretary.

## The Honorable Sir Alfred Stephen, C.B., K.C.M.G., to The Colonial Secretary.

Sir,

Hyde Park, 16 November, 1876.

In compliance with the request conveyed in your letter of the 11th instant, I have, after referring to my notes of Vaughan's and McGregor's trial in 1862, and to my report on the case to the Government in 1869, to report to you, that Mr. Nixon's statement of the particulars of the robbery by those men, and a third who escaped, is substantially correct. After the outrage, terminating in their tying him to a tree in the unfrequented bush, Mr. Nixon contrived to extricate himself; and then, proceeding to the nearest cattle station, he procured the assistance of two stockmen whom he paid for their services, and for several days followed the tracks of the robbers through a wild country (although knowing that they were armed), until at length he, and the people with him, succeeded in recovering the greater part of his property, and in arresting the three bushrangers themselves, two of them being in the sequel convicted on his testimony. In accomplishing the arrest, Mr. Nixon incurred no personal risk, for the men (first one of them alone, and the others a day or two afterwards) were not at the time in a position to resist. It was nevertheless a plucky, I might say a gallant thing on the whole to do; but whether Mr. Nixon is within the conditions specified, entitling a man to one of the medals awarded for "conspicuous bravery and gallant conduct," it is not within my province to determine.

I am, &c.,

ALFRED STEPHEN.

The

## The Inspector-General of Police to The Principal Under Secretary.

Police Department, Inspector-General's Office,  
Sydney, 17 November, 1876.

Sir,

Referring to my B.C. report of the 4th instant, on Mr. Nixon's application for a gold medal (C.S. papers, No. 76, 5207), I have now the honor to submit for the consideration of the Honorable the Colonial Secretary a letter I have received from Mr. James H. Husband, and to draw attention to the fact that it materially affects the statement of facts as put forward by Mr. Nixon, who appears to have no claim to the distinction he seeks.

I have, &amp;c.,

EDMUND FOSBERY,  
Inspector-General of Police.

[Enclosure.]

To The Inspector-General of Police, Sydney.

Sir,

Post Office, Balranald, N.S.W., 4 November, 1876.

Yesterday I received a communication from Mr. J. Dowling Brown, Superintendent of Police, Deniliquin, to the effect that inquiries had been made from headquarters in reference to a claim for compensation made by a man named "Nixon," now at Home, and who demands some recognition of his services in apprehending some bushrangers as far back as the year '62; and although it has been my intention for some years to make similar application, I have refrained from doing so until I could visit town, as in the affray above alluded to I am myself the party entitled to recognition; and from Mr. Charles Cowper, who was at that time Colonial Secretary, I was promised ample return for the part I took in the apprehension. The facts are these—Some time in the month of May, 1862, "Nixon" came to my station, where I was manning, and told me that he had been stuck up, robbed, &c., &c., and asked my assistance in taking the men and recover his property. Not having but one man on the head station at the time, I told him that it would be impossible, but strongly advised him—he at the time being in company with another man, and both armed—to meet the men face to face and have satisfaction. He then told me that they had captured one Vaughn, by name, who was stone blind from blight, and having been left behind by his mates was easily secured. That it would take ten men to take the other two who were armed to the teeth and very desperate. Just at this time the men appeared in sight, and I immediately saddled a horse and certainly with a revolver, single handed, met the men, forced them off their horses, took them back to the house where "Nixon" had remained all the time, recovered all the property in goods and money to a large amount, and then forwarded them to Cannonbar on the Duck Creek, as the nearest point where I could obtain assistance to send for police, the nearest in those days being at Dubbo, 140 miles away. Mr. Herriott, who happened to be at the time going to Bourke with his troopers, took charge of the two, viz., McGregor and Henderson, and I was in due course summoned to Bourke for trial. I was ill at the time and found it impossible to go, so sent the only man I had, named Andrews, with letter to the Bench &c. Andrews met a trooper on the road and they travelled together, when meeting a sly grog cart they got drunk, and as perhaps it may be in your recollection, Andrews was shot by the constable and died. The case proceeded, and I was then summoned to Bathurst, at which Court I attended, and the case was tried before his Honor the ex-Chief Justice Sir Alfred Stephen, the prisoners receiving 15 and 10 years respectively, the first three years in irons. I must tell you that I was most highly complimented by his Honor. And I will now quote, verbatim, an extract of a letter that I have since received from him

\* \* \* "If it can be of any service to you, I have pleasure in saying, that several years ago I know of your doing the Colony a great service, by tracking and following, and finally, in a gallant manner, apprehending a gang of robbers. I write this purposely on the fly-leaf of your own note which is evidently that of an educated gentleman, and if eventually you succeed in your object I shall be glad of the result.—ALFRED STEPHEN."

Surely from this it will be seen to whom recognition or award (if any) should be made, and although on my meeting Mr. Cowper in Sydney, and his promise that at some future time something should be done in the matter, to the present moment I have never even received as much as "thank you" from the Government for the risking my own life when bush-rangung was at its height, for the loss of my man through him being shot by a trooper, irrespective of the time and heavy expenses incurred over a matter which I undertook purely and solely as an example to others and for the benefit of society.

Certainly in those days I was in prosperous circumstances, or should, I have no doubt, have made some application. Now times have changed, and as Mr. Brown, with whom I am personally acquainted, informed me of an application being made by one whose share in the transaction consisted in his being stuck up, I consider it right I should ask if I am to be totally ignored in the transaction, and why, if records are correctly kept, I should not have been one of the recipients of those medals which not so long ago were distributed to those who assisted the Colony in suppressing lawlessness.

I trust if anything can be done in the matter you will lend me your aid. I should much like to obtain some appointment under Government, to which I consider I am justly entitled, and as I see that now there are plenty of appointments being made I do not think I could choose a more fitting time to forward this request.

I am, &amp;c.,

JAS. H. HUSBAND.

It is quite clear from this, not less than from Sir Alfred Stephen's report herewith, that Mr. Nixon's application cannot be entertained;—moreover, had his claim been of a conspicuous character, his name would hardly have been omitted from the list approved of by the late Sir Charles Cowper.—24/11/76.

## The Colonial Secretary to The Agent-General.

Sir,

Colonial Secretary's Office, Sydney, 27 November, 1876.

With reference to your letter of the 1st June last, enclosing an application from Mr. Robert Nixon, of Corby, near Thrapstone in Northamptonshire, for a gold medal in recognition of the services rendered by him in the year 1862, in connection with the capture of two criminals, named Alexander McGregor and Hugh Vaughan, I have the honor to request that you will inform Mr. Nixon that his application cannot be entertained.

I have, &amp;c.,

JOHN ROBERTSON.

## The Principal Under Secretary to The Inspector-General of Police.

Sir,

Colonial Secretary's Office, Sydney, 27 November, 1876.

With reference to your letter of the 17th instant, reporting on the application of Mr. Robert Nixon for a gold medal in recognition of the services rendered by him in 1862, in connection with the capture of the criminals, Alexander McGregor and Hugh Vaughan, I am directed by the Colonial Secretary to inform you that Mr. Nixon has been apprised through the Agent-General in London, that his application cannot be entertained.

I have, &amp;c.,

HENRY HALLORAN,  
Principal Under Secretary.

Mr.

## Mr. J. H. Husband to The Colonial Secretary.

Sir,

Balranald, N.S.W., 4 January, 1877.

I have received a communication from the Inspector-General of Police which informs me that my explanation to him in reference to a bushranging affair in which I was engaged some few years ago had been forwarded to you for your perusal.

As I am now desirous of an appointment under Government, for which promise has been held out to me for some time, I have the honor to request if you will kindly now inform me whether it will be necessary for me to make further application, or will the communication already forwarded be sufficient to meet your view of my reasons for making such request.

I have, &amp;c.,

JAS. H. HUSBAND.

Submitted, 12/1/77.

Mr. Husband, 16 Jan., 1877.

## The Principal Under Secretary to Mr. J. H. Husband.

Sir,

Colonial Secretary's Office, Sydney, 16 January, 1877.

In acknowledging the receipt of your letter of the 4th instant, in which you state that a promise of an appointment under the Government has been held out to you for some time, I am directed by the Colonial Secretary to inquire by whom such a promise has been held out to you.

I have, &amp;c.,

HENRY HALLORAN,  
Principal Under Secretary.

## Mr. J. H. Husband to The Colonial Secretary.

Sir,

Balranald, 26 January, 1877.

I have the honor to acknowledge receipt of your letter of the 16th instant, and in reply beg to inform you that it was the late Sir Charles Cowper who, upon my having occasion to see him on business during a visit to Sydney, told me that should circumstances ever occur in which the Government could assist me in return for the part I had taken in apprehending the bushrangers McGregor and Vaughan, that I was to make application, and he felt sure such application would be entertained. This occurred sometime in the end of the year 1862, when then Mr. Chas. Cowper was Colonial Secretary.

I have, &amp;c.,

JAS. H. HUSBAND.

The Inspector-General of Police.—H.H., B.C., 6/2/77. I am not aware of any such promise having been made, but if Mr. Husband can produce suitable testimonials I think his application for employment might be considered by the Government. I do not know what employment he seeks.—EDMUND FOSBERY, L.-G.-P., B.C., 7 Feb., 1887. The Principal Under Secretary.

Without admitting that any such promise was made by the late Sir Charles Cowper, Mr. Husband may be asked what employment he seeks.—JOHN R., 9/2/77.

## The Principal Under Secretary to Mr. J. Husband.

Sir,

Colonial Secretary's Office, Sydney, 13 February, 1877.

In acknowledging the receipt of your letter of the 26th of last month, relative to your application for employment in the Public Service, and to a promise of employment alleged to have been made to you by the late Sir Charles Cowper in consideration of the part which you had taken in the apprehension of bushrangers, I am directed to request that you will state the kind of employment that you wish to obtain.

I have, &amp;c.,

HENRY HALLORAN,  
Principal Under Secretary.

## Mr. J. H. Husband to The Colonial Secretary.

Sir,

Balranald, 4 March, 1877.

In acknowledging the receipt of your letter of the 13th ult., and which only reached me to-day, I have the honor to inform you that from my long residence in the bush, and my thorough knowledge of squatters and selectors, that I would be happy to accept the appointment as Inspector of Selections or Conditional Purchases if any opening, or should you feel disposed to entrust me with an appointment as Police Magistrate, where the duties at first not being too heavy I might by degrees qualify myself to be promoted to a larger sphere, I would willingly undertake the duties.

I may add that, no matter to what position you may do me the honor to appoint me, that I will faithfully and honorably perform all as required, and that you will never have cause to regret the trust imposed in me.

I have, &amp;c.,

JAS. H. HUSBAND.

The Secretary for Lands.—JOHN R., 10/3/77.

The Under Secretary for Lands.—H.H., B.C.,

10/3/77.

Mr.

Mr. J. H. Husband to The Colonial Secretary.

Sir, Balranald, 8 April, 1877.  
 I have the honor to draw your attention to a letter addressed me by the late Colonial Secretary, dated 13th February, and to my reply of 4th March last, and trust that you will kindly take into consideration the circumstances of my application; and also, I may add, to the fact of my not having brought the slightest political influence to bear upon my case, which prevents the possibility of any one demurring to an appointment made purely as a reward of merit.

I have, &c.,  
 JAS. H. HUSBAND.

The Secretary for Lands.—H.P., 21/4/77. The Under Secretary for Lands.—H.H., B.C., 21/4/77. To be noted with other applications.—W.W.S., 16 May.

Mr. J. H. Husband to The Colonial Secretary.

Sir, Balranald, Murrumbidgee River, 1 July, 1877.  
 I have the honor to inform you that up to the present date I have not received any reply to my communication written in answer to a letter from the late Colonial Secretary, dated 13th February, 1877, and to which I replied on the 4th March, as also to a letter addressed you on the same subject, dated April last, which still remains unanswered.

I have the honor to request that my letters may receive some attention at your hands, and

Have the honor, &c.,  
 JAS. H. HUSBAND.

The Under Secretary for Lands, who will perhaps be so good as to say whether his Department affords means of employment to Mr. Husband.—H.H., B.C., 6/8/77. To be returned.

The Principal Under Secretary to Mr. J. H. Husband.

Sir, Colonial Secretary's Office, Sydney, 6 August, 1877.  
 I am directed by the Colonial Secretary to acknowledge the receipt of your letter of the 1st ultimo, urging reply to your former letter respecting employment in the public service, and to inform you that your communication has been brought under the notice of the Secretary for Lands.

I have, &c.,  
 HENRY HALLORAN,  
 Principal Under Secretary.

I am not aware of any employment which can be offered to Mr. Husband in this Department.—W.W.S., 15 August, 1877. Returned to the Principal Under Secretary as requested.—W.W.S., B.C., 17 August, 1877. Inform that gentleman of the reference and the report.—H.H., 20/8/77.

The Principal Under Secretary to Mr. J. H. Husband.

Sir, Colonial Secretary's Office, Sydney, 21 August, 1877.  
 With reference to my letter of the 6th instant, stating that your application for employment in the public service had been brought under the notice of the Secretary for Lands, I am directed by the Colonial Secretary to inform you that a reply has now been received from the Under Secretary for Lands to the effect, that he is not aware of any employment, that could be offered to you in the Lands Department.

I have, &c.,  
 HENRY HALLORAN,  
 Principal Under Secretary.

Mr. J. H. Husband to The Colonial Secretary.

Sir, Balranald, 1 September, 1877.  
 I have the honor to acknowledge receipt of your letter of 21st August, and in reply beg to state that I can hardly reconcile your communication of that date with your previous one of February 13th last, in which you desired me to state the sort of employment I wished to obtain.

My reply to the letter was dated March 4th, and as numerous appointments have been made since that time, I have the honor to request that you will kindly inform me whether it is the intention of your Government that I shall receive any appointment or not.

I have, &c.,  
 JAS. H. HUSBAND.

Will the Under Secretary for Lands kindly let me have the other papers in this case.—H.H., B.C., 11 Sept., 77. Papers 77-1,672, Misl., now herewith, 12. The Principal Under Secretary.—W.W.S., B.C., 20 Sept., 77. May be informed that the intention was, and is, if any suitable situation for which Mr. Husband is qualified to consider his application as circumstances may warrant, 21/9/77.—JOHN R., 24/9/77.

The Principal Under Secretary to Mr. J. H. Husband.

Sir, Colonial Secretary's Office, Sydney, 25 September, 1887.  
 In acknowledging the receipt of your letter of the 1st instant regarding the communication which I was instructed to make to you on the 21st of last month, in the matter of your application for employment in the public service, I am directed by the Colonial Secretary to inform you that the intention of the Government was and is to consider your application as circumstances may warrant the doing so, when any suitable situation for which you are qualified, is to be filled.

I have, &c.,  
 HENRY HALLORAN,  
 Principal Under Secretary.

The

Mr. J. H. Husband to The Colonial Secretary.

Sir, St. Leonards, North Shore, Sydney, 2 September, 1878.

I have the honor to request that I may become the recipient of a medal for the apprehension of the bushrangers, McGregor, Vaughan, and Henderson, in the year 1862.

I beg to quote a paragraph of a letter from Sir Alfred Stephen, then Chief Justice, who states, "If it can be of any service to you I have much pleasure in saying that several years ago I knew of your doing the Colony a great service by tracking, following, and in a gallant manner apprehending a gang of robbers."

I can also with pleasure refer you to Mr. Fosbery, the Inspector-General of Police, who is aware of the circumstances, and who the year before last placed all the papers before John Robertson Esq., then Colonial Secretary, but from whom I received no reply.

I have, &c.,  
JAS. H. HUSBAND.

The Inspector-General of Police.—M.F., 4/9/78. B.C., 4/9/78.—M.R.A.

The Inspector-General of Police to The Principal Under Secretary.

Police Department, Inspector-General's Office, Sydney, 6 September, 1878.

OBSERVING that Mr. Harriott's name was mentioned in the attached papers as having taken charge of the offenders, I wrote to him to obtain any information he could afford relative to the circumstances; his reply is submitted herewith for the Hon. The Colonial Secretary's information.

Mr. Husband's conduct on the occasion referred to was most praiseworthy and certainly deserving of recognition in some form by the Government. It may be open to question whether Mr. Husband has earned the distinction of a gold medal awarded for conspicuous courage and gallantry; upon this point the Colonial Secretary will decide, but I strongly recommend for favourable consideration his application for public employment, for which, as far as I can judge, he appears eligible.

EDMUND FOSBERY, I.-G.P.

[Enclosure.]

My dear Sir,

Office, Thursday, 5/9/78.

I recollect the circumstance you refer to me very well. Neither Mr. Husband's or Mr. Nixon's statements quite agree with evidence at the trial as recorded, or with the facts.

The account of the capture of the two men and recovery of the hawkker Nixon's property by Mr. Husband is no doubt correct, but these men almost immediately escaped, a fact which has escaped the memories of the two claimants of metallic honors.

On my way down the Bogan I met Nixon the day after their escape, as I think, who told me of the case, and also that Vaughan, one of his assailants, was ill and lying in an old hut near. I found him prostrate with some low fever, and so ill that I think he would have died had I not taken him on with me. When at Messrs. Richardson's station, Duck Creek, two days afterwards, I think, we heard of a cheque being changed at their store by two men, and suspecting who they were, my troopers (as my men were then called) arrested Anderson and McGregor at their camp fire, some 7 miles away, the next morning. I took all three men with me to the Darling, where I kept them at the camp I formed until P.M. and Police arrived at the river. I recollect that an application was made by my trooper, John Mahoney, to your Department for cost of rations for the three men, which was referred to me some years ago. The Court discharged the men as illegally in custody, and they were then apprehended under warrant and committed for trial at Bathurst. Anderson escaped from the police whilst being conveyed to trial. There can be no doubt that Mr. Husband's behaviour in taking these men into custody and recovering the stolen property merited public recognition, occurring as it did at a time when Gardiner's gang were commencing their career. The bushranging interest no doubt were deprived of very effective recruits, but I do not feel competent to class his merit as you appear to wish me to. I find that I have been led into a much longer narrative than I intended, for which I must apologize.

Yours, &c.,  
T. WARRE HARRIOTT.

At this distance of time I hardly feel called upon to authorize the issue of a medal to Mr. Husband but I have pleasure in repeating the offer of employment made by my predecessor.—M.F., 7/9/78.

The Principal Under Secretary to Mr. J. H. Husband.

Sir, Colonial Secretary's Office, Sydney, 9 September, 1878.

In acknowledging the receipt of your letter of the 2nd instant, requesting that you may be awarded a medal for the apprehension of the bushrangers named McGregor, Vaughan, and Henderson, in 1862, I am directed to inform you that at this distance of time the Colonial Secretary hardly feels called upon to authorize the issue of a medal to you, but that Mr. Fitzpatrick has great pleasure in repeating the offer of employment made to you by his predecessor.

I have, &c.,  
M. R. ALLAN,  
Principal Under Secretary.

Mr. J. H. Husband to The Colonial Secretary.

Sir, St. Leonards, North Shore, 13 September, 1878.

I have the honor to acknowledge receipt of your communication of the 9th instant, and have to thank you for your offer of employment in the public service. I therefore hold myself in readiness to accept any appointment for which you might deem me fitted, and assuring you that your confidence will not be misplaced.

I have, &c.,  
JAS. H. HUSBAND.

Cabinet.—Inform Department of Works, Post Office, and Treasury of the promise made to this gentleman, and beg that advantage may be taken of any favourable opportunity for his employment.—M.F., 17/9/78.

The

The Principal Under Secretary to The Secretary to the Post Office.

Sir, Colonial Secretary's Office, Sydney, 18 September, 1878.  
Mr. James H. Husband, of St. Leonards, who in the year 1862, effected the apprehension of three bushrangers, named McGregor, Vaughan, and Henderson, having been promised by the late Colonial Secretary employment in the Government service, in recognition of his conduct, and Mr. Fitzpatrick having repeated such promise, I am directed to request that you will invite the Postmaster-General to have the goodness to cause advantage to be taken of any favourable opportunity for Mr. Husband's employment in the Department under his Ministerial control.

I have, &c.,  
M. R. ALLAN,  
Principal Under Secretary.

The Principal Under Secretary to The Under Secretary for Public Works.

Sir, Colonial Secretary's Office, Sydney, 18 September, 1878.  
Mr. James H. Husband, of St. Leonards, who, in the year 1862, effected the apprehension of three bushrangers named McGregor, Vaughan, and Henderson, having been promised by the late Colonial Secretary, employment in the Government service in recognition of his conduct, and Mr. Fitzpatrick having repeated such promise, I am directed to request that you will invite the Secretary for Public Works to have the goodness to cause advantage to be taken of any favourable opportunity for Mr. Husband's employment in the Departments under his Ministerial control.

2. A similar communication has been addressed to the Under Secretary for Finance and Trade, and the Secretary to the Post Office.

I have, &c.,  
M. R. ALLAN,  
Principal Under Secretary.

Sent to heads of Branches. Commissioner for Roads.—J.R., B.C., 20/9/78. Seen.—W.B., 21/9/87. The Under Secretary, B.C. Harbours and Rivers.—J.R., B.C., 24-25/9/78. Seen.—S.S., 27/9/78. The Under Secretary, Public Works. Commissioner for Railways.—J.R., B.C., 30-1/9-10/78. What position would Husband take? What age is he? Employment as a porter could be found for him if he is willing to accept such a position, and he is able to pass examination. Mr. Husband's status, however, may be above a position of the kind; if so, there is no vacancy at present.—CH.A.G., 7/10/78. Under Secretary, B.C. Principal Under Secretary.—J.R., B.C., 11/10/78. I think Mr. Husband's status much above that of a porter. The Under Secretary for Public Works.—M.R.A., B.C., 12/10/78. Commissioner for Railways.—J.R., B.C., 15/10/78. Noted.—D.V. (*pro* Commissioner), 28/10/78.

The Principal Under Secretary to The Under Secretary for Finance and Trade.

Sir, Colonial Secretary's Office, Sydney, 18 September, 1870.  
Mr. James H. Husband, of St. Leonards, who, in the year 1862, effected the apprehension of three bushrangers named M'Gregor, Vaughan, and Henderson, having been promised by the late Colonial Secretary employment in the Government service in recognition of his conduct, and Mr. Fitzpatrick having repeated such promise, I am directed to request that you will invite the Colonial Treasurer to have the goodness to cause advantage to be taken of any favourable opportunity for Mr. Husband's employment in the Departments under his Ministerial control.

2. A similar communication has been addressed to the Under Secretary for Public Works and the Secretary to the Post Office.

I have, &c.,  
M. R. ALLAN,  
Principal Under Secretary.

I shall be happy to give Mr. Husband employment upon the first opportunity.—H.E.C., 24/9/78.

The Principal Under Secretary to Mr. J. H. Husband.

Sir, Colonial Secretary's Office, Sydney, 18 September, 1878.  
In acknowledging the receipt of your letter of the 13th instant, I am directed by the Colonial Secretary to inform you that the Colonial Treasurer, the Secretary for Public Works, and the Postmaster-General respectively have been invited to have the goodness to cause advantage to be taken of any favourable opportunity for your employment in the Department under their Ministerial control.

I have, &c.,  
M. R. ALLAN,  
Principal Under Secretary.

Mr. J. H. Husband to The Colonial Secretary.

Sir, "Wambiana," Dubbo, 14 February, 1879.  
I have the honor to refer you to two communications dated 9th and 18th September, 1878, that I received from the late Colonial Secretary in reference to an appointment, the promise of which has now for years been held out to me, and up to the present time I seem as far off as ever. On my visiting Sydney last September I had interviews with Mr. Fitzpatrick and Mr. Sutherland, and after their inquiries as to my claim on the Government (and a claim they considered that I had), and also as to my fitness, they both informed me that, on the first favourable opportunity, the Government would remember the services I rendered to the Colony and the promise given me, and hoped they would be able to place me in such a position where, with credit to the Government and also to myself, my services could be utilized. At the same time a circular dated 18th September, 1878, was addressed by the Colonial Secretary to the Heads of certain Departments calling attention to my application, and Mr. Driver also interested himself on my behalf. Mr. Sutherland intimated to me his intention of procuring for me an appointment as  
Inspector

Inspector of Selections, should a vacancy occur or for some equally remunerative post, and on the strength of this I left town naturally expecting, as appointments are continually being made, I should not be forgotten.

I must apologize for writing to you at such length, but trust that at your hands my application may not be in vain, and that advantage may be taken of the first opportunity, considering as I do that I have not been fairly dealt with, and that up to the present the Government have broken faith with me.

I have, &c.,

JAS. H. HUSBAND.

Submitted, 17/2/79. I know nothing of Mr. Husband's claims. What are they alleged to be, and is there any circular such as is mentioned in this letter?—H.P., 20/2/79. Short *précis*.—21st. *Précis* herewith.—22 Feb., 1879.

*Précis.*

Mr. James H. Husband's application for employment.

22 February, 1879.

MR. HUSBAND having furnished a written statement touching a claim put forward in connection with the capture of the bushrangers McGregor and Vaughn in 1862, took occasion to apply for employment on account of his own services in that affair. He referred to "promises held out to him," which, on inquiry, he explained by mentioning a promise made to him by Sir C. Cowper when in office in 1862. In answer to an inquiry, he stated that the appointment of Inspector of Conditional Purchases or that of Police Magistrate would suit him. After some further correspondence, he was informed by order of Sir John Robertson (25 Sept., 1877) that it was intended to consider his application as circumstances might warrant, if any suitable situation should be vacant.

In September, 1878, Mr. Husband, having come to Sydney, made application for a medal on account of his services, citing a high testimony from Sir Alfred Stephen. The Inspector-General, being consulted, refrained from recommending anything as to the medal, but considered that Mr. Husband's conduct had been most praiseworthy, and strongly recommended his application for employment. Hereupon Mr. Fitzpatrick, made it known to Mr. Husband that, while he did not feel called upon to grant a medal, he "had pleasure in repeating the offer of employment made by his predecessor."

Mr. Husband reported that he "held himself in readiness to accept any appointment for which he might be deemed fitted." Mr. Fitzpatrick, after laying the papers before the Cabinet, caused identical letter to be sent to the Treasury, Works, and Post Office Departments, informing them of the "promise made," and asking that "advantage might be taken of any favourable opportunity for his (Mr. Husband's) employment." Mr. Husband was informed of this, and this is the "circular" of which he makes mention in his letter of the 14th inst.

Submitted, 22/2/79. This does not seem to me to be very satisfactory. Mr. Husband does not appear to have done anything which proves his fitness for a public office. Reminders might be sent to those Departments which were formerly communicated with.—H.P., 26/2/79.

The Principal Under Secretary to Mr. J. H. Husband.

Sir,

Colonial Secretary's Office, Sydney, 27 February, 1879.

In acknowledging the receipt of your letter of the 14th instant, concerning your application for employment in the public service, I am directed by the Colonial Secretary to inform you that you do not appear to him to have done anything that proves your fitness for a public office, but that he has, nevertheless, caused reminders to be sent to those Departments, to which on the 18th of September last, communications were addressed asking that advantage might be taken of any favourable opportunity that might present itself for giving you employment.

I have, &c.,

MAXWELL ALLAN,

Principal Under Secretary.

The Principal Under Secretary to The Secretary to the Post Office.

Sir,

Colonial Secretary's Office, Sydney, 27 February, 1879.

I am directed by the Colonial Secretary to request that you will invite the attention of the Postmaster-General to my letter of the 18th of September last, asking that advantage might be taken of any favourable opportunity that might present itself for giving employment to Mr. James H. Husband.

I have, &c.,

MAXWELL ALLAN,

Principal Under Secretary.

The Principal Under Secretary to The Under Secretary for Public Works.

Sir,

Colonial Secretary's Office, Sydney, 27th December, 1879.

I am directed by the Colonial Secretary to request that you will invite the attention of the Secretary for Public Works to my letter of the 18th of September last, asking that advantage might be taken of any favourable opportunity that might present itself for giving employment to Mr. James H. Husband.

I have, &c.,

MAXWELL ALLAN,

Principal Under Secretary.

Railways.—J.R., B.C., 3 March, 1879. There is no vacancy in the Railway Department suitable to Mr. Husband at present.—C.R.A.G. Under Secretary, B.C., 8/3/79. Ascertain in other Departments.—J.R., 11/3/79. Roads.—J.R., B.C., 12/3/79. No vacancy in this office.—W.B., 14/3/79. Harbours and Rivers, B.C., 17/3/77. Colonial Architect.—W.F. (for U.S.), B.C., 17/3/79. I have no vacancy.—J.B., 19/3/79. The Principal Under Secretary.—J.R., B.C., 22/3/79.

## The Principal Under Secretary to The Under Secretary for Finance and Trade.

Sir, Colonial Secretary's Office, Sydney, 27 February, 1879.  
I am directed by the Colonial Secretary to request that you will invite the attention of the Colonial Treasurer to my letter of the 18th of September last, asking that advantage might be taken of any favourable opportunity that might present itself for giving employment to Mr. James H. Husband.

I have, &amp;c.,

MAXWELL ALLEN,

Principal Under Secretary.

I should like to see the letter of 18 September.—J.W., 4/3/79. Mr. Monday. Previous letter.—G.E., 6/3/79.

I am not aware what duties Mr. Husband can perform, or in what capacity he can be employed. If I am furnished with this information, I shall offer Mr. Husband the first suitable vacancy, in recognition of the services alluded to in separate letter.—J.W., 8/3/79.

The Under Secretary, Colonial Secretary's Department.—G.E., B.C., 10/3/79. Submitted, 11/3/79. Such information as can be obtained from papers in this office may be furnished, but I have no means of forming an opinion.—H.P., 10/4/79.

## The Principal Under Secretary to The Under Secretary for Finance and Trade.

Sir, Colonial Secretary's Office, Sydney, 22 April, 1879.  
In reply to your communication of the 10th of last month, forwarding a minute of the Colonial Treasurer, asking for information as to the duties that Mr. James H. Husband can undertake, if his application for employment be granted, I am directed to state that the Colonial Secretary has no means of forming an opinion on the subject, but that Mr. Husband has intimated, in the course of his correspondence with this Department, that a country appointment would be most acceptable to him.

I have, &amp;c.,

CRITCHETT WALKER,

Principal Under Secretary.

## Mr. J. H. Husband to The Colonial Secretary.

Sir, Thargomindah, *via* Bourke, 26 September, 1883.  
I have the honor to request that you will cause an inspection of the correspondence that has taken place between myself and former Colonial Secretaries in reference to my appointment in the Government service. You cannot fail to see that faith has been broken, and I now place my case in your hands, feeling assured that justice will be accorded.

I have, &amp;c.,

JAS. H. HUSBAND.

Submitted, 21/8/84. This is rather a curious case. It seems to me that if a Forest Rangership, or such like be vacant, it might be offered to Mr. Husband.—A.S., 23/8/84. The Under Secretary for Mines.—C.W., B.C., 25/8/84. Submitted.—H.W., 25/8/84. There is no vacancy.—J. P. ABBOTT, 1/9/84. The Principal Under Secretary.—H.W., B.C., 1/9/84. Submitted, 3/9/84. Cabinet.—A.S. Put by.

## Mr. J. H. Husband to The Colonial Secretary.

Sir, "Woodstock," Armidale, 14 April, 1885.  
I have the honor respectfully to request that I may receive appointment as Inspector of Selections under the Act now in force, and I base this application on the following grounds:—  
That the Government have for many years promised me a remunerative appointment.  
That during lengthy correspondence with the Government I have been asked what appointment I desired, and I replied mentioning "Inspector of Selections."  
That when in Sydney six months ago I had personal interviews with Mr. Stuart, who not only expressed surprise that I had not years ago been appointed to the Service, but promised me faithfully that on the very first opportunity I should be appointed.

My papers are all in your office, and if you would kindly glance over the same I feel sure you will at once see the justice of my demand and take the necessary steps for my receiving an appointment as above (for after many years bush experience I am thoroughly well up in all selection matters), or in any other capacity where a faithful and prompt discharge of duties required would be my sole aim.

I have, &amp;c.,

JAS. H. HUSBAND.

The Under Secretary for Lands.—C.W., B.C., 17/4/85. Place with similar applications.—C.O. The Chief Inspector, B.C., 6/5/85.

## Mr. J. H. Husband to The Colonial Secretary.

Sir, "Woodstock," Armidale, 27 April, 1885.  
I have the honor to draw your attention to a communication of mine dated the 14th instant, to which, up to the present, I have not received any reply.

I shall esteem it as a favour if you will, at your earliest convenience, let me hear from you on the subject of my last.

I have, &amp;c.,

JAS. H. HUSBAND.

Inform and refer to Lands.—C.W., 5/5/85. The Under Secretary for Lands.—C.W., B.C., 5/5/85.

## The Principal Under Secretary to Mr. J. H. Husband.

Sir, Colonial Secretary's Office, Sydney, 5 May, 1885.  
I am directed by the Colonial Secretary to acknowledge the receipt of your further letter of the 27th ultimo respecting your application for appointment as Inspector of Selections, and to inform you that your communication has been brought under the notice of the Secretary for Lands, to whose Department the business belongs.  
I have, &c.,  
CRITCHETT WALKER,  
Principal Under Secretary.

## Mr. J. H. Husband to The Secretary for Lands.

Sir, "Woodstock," Armidale, 9 May, 1885.  
I have received a communication from the Colonial Secretary, dated 5th May, by which I am informed that my application for appointment as an Inspector of Selections has been referred to you.  
I have now the honor to request that such application may receive your immediate attention, as I have now been waiting for some months. Mr Stuart having promised me last September that I should receive an appointment in acknowledgment for disinterested services rendered to the Government some years since.  
I may inform you that I have had now nearly thirty years' bush life, during which time I have become thoroughly acquainted with the working of the land laws, and I feel sure, should you honor me with an appointment, you would not find your confidence misplaced.

I have, &c.,  
JAS. H. HUSBAND.

## Mr. J. H. Husband to The Colonial Secretary.

Sir, "Woodstock," Armidale, 15 May, 1885.  
I have the honor to draw your attention to a promise made by you to me, now eight months ago, of an appointment under Government, and of which up to the present moment I have heard nothing.  
During your absence from Sydney I wrote twice to Mr. Dalley asking to be appointed an Inspector of Selections, and about a fortnight ago I received a letter from your office stating that my communications had been forwarded to the Secretary for Lands. I then wrote to the Secretary for Lands but as yet have received no reply. I have the honor therefore to request that you will cause some notice to be taken in this matter, and that justice which I humbly seek may be accorded me.

I have, &c.,  
JAS. H. HUSBAND.

The Under Secretary for Lands.—J.B. (for P.U.S.), B.C., 9/6/85. Inform there is no vacancy.—  
E.A.W., 15/6/85.

## Mr. J. H. Husband to The Under Secretary for Lands.

Sir, "Woodstock," Armidale, 4 June, 1885.  
I beg to call your attention to the fact that I have been waiting now for a considerable time for the fulfilment of promises made to me by Messrs. Farnell and Stuart that they would find me an appointment under the Government. Mr. Stuart, just previous to his leaving for New Zealand, told me that he would strain a point to procure me a good billet, and this he said in the presence of Mr. R. H. D. White, M.L.A. I am thoroughly competent for any appointment, such as Inspector of Conditional Purchases, Forest Ranger, or Inspector of Stock, for which I am prepared to pass the necessary examination, besides having had several years practical experience in the same. I received a letter from the Colonial Secretary's Office dated the 5th May, and numbered 85-4968, stating that my application had been forwarded to you. I immediately wrote you on the subject, but fear my letter must have gone astray, as I have, up to the present, received no reply. I shall be exceedingly obliged if you will do all in your power to obtain me an appointment. Awaiting your reply.

I am, &c.,  
JAS. H. HUSBAND.

P.S.—I can produce the highest testimonials as to my qualifications for either of the appointments I apply for.—J.H.H.

## The Principal Under Secretary to Mr. J. H. Husband.

Sir, Colonial Secretary's Office, Sydney 9 June, 1885.  
I am directed by the Colonial Secretary to acknowledge the receipt of your letter of the 15th ultimo applying for an appointment as Inspector of Selections, and to inform you that your communication has been brought under the notice of the Secretary for Lands.  
I have, &c.,  
CRITCHETT WALKER,  
Principal Under Secretary.

## The Under Secretary for Lands to Mr. J. H. Husband.

Sir, Department of Lands, Sydney, 25 June, 1885.  
In reply to your communication of the 15th ultimo, I have the honor to inform you, by direction of the Acting Secretary for Lands, that there is no vacancy for the position of Inspector of Selections.  
I have, &c.,  
T. H. WILSON,  
(For the Under Secretary.)

Mr.

## Mr. J. H. Husband to The Colonial Secretary.

Sir,

"Woodstock," Armidale, 30 June, 1885.

I have the honor to inform you that yesterday I received a communication from the Lands Office, stating that there were no vacancies for appointments in their Department.

The length of time that has elapsed since you yourself promised me a billet, and the numerous appointments that have been made during these last ten months, causes me to think that I have not been dealt very fairly with, for there are men lately appointed to positions that I myself am perfectly competent of occupying, that I am aware have not any call upon the Government, and I believe that I am about the only one that, acting as I did disinterestedly and as Sir Alfred Stephen told me "setting a good example in the Colony," by risking my life for no benefit that has not received any recognition whatever, although, from year to year I have been kept in suspense by repeated promises.

I beg, therefore, now to ask you that something may at once be done, or that I may be informed what steps (if any) the Government may think of taking in this matter.

I have, &amp;c.,

JAS. H. HUSBAND.

The Under Secretary for Lands.—J.B. (for P.U.S.), B.C., 7/7/85. Letters from the writer have been frequently referred to this Department from the Colonial Secretary's Department, but nothing is known of the circumstances under which the claim to employment is urged or of the promises alleged to have been made, C.O., 9/7/85.

Refer to my hon. colleague the Colonial Secretary.—J.S.F., 14/7/85. The Principal Under Secretary.—C.O., B.C., 15/7/85. Submitted, 17/7/85.

I send these papers on in order that the Department might inform itself as to the circumstances which are fully described here. It seems to me that the applicant has strong claims upon the Government, and where so many appointments in connection with the Lands Department, some of which he is no doubt capable of filling, have been made during the years he has been waiting, I thought that my hon. colleague the Minister of Lands might have taken his case into consideration. I know nothing of the applicant except what his case discloses.—A.S., 23/7/85.

The Under Secretary for Lands.—J.B. (for P.U.S.), B.C., 22 July, 1885.

## Petition for Employment.

J. H. Husband.

To His Excellency the Right Honorable Lord Augustus William Frederick Spencer Loftus, Knight Grand Cross of the most Honorable Order of the Bath, a member of Her Majesty's Most Honorable Privy Council, Governor and Commander-in-Chief of the Colony of New South Wales and its Dependencies.

The Petition of James Home Husband, of Ollera, in the Colony of New South Wales,—

HUMBLY SHOWETH:—

1. That your Petitioner, in the year 1862, assisted in the arrest of certain highway robbers, named McGregor, Henderson, and Vaughan, who were subsequently tried and convicted at the Bathurst Assizes in September, 1862, before His Honor Sir Alfred Stephen, the late Chief Justice, who highly commended the conduct of your Petitioner for the part he had taken in the arrest of the said prisoners.

2. That the Honorable the late Sir Charles Cowper, who was at that time Premier of this Colony, promised your Petitioner that he would confer a Government appointment upon your Petitioner in the Government Service of this Colony.

3. That your Petitioner at one time occupied the position of Scab Inspector for the New England District, which was not a Government appointment, but one made by the Board of Directors under the Scab Act of this Colony at that time, and your Petitioner has pleasure in stating that his services in that employment gave universal satisfaction.

4. That your Petitioner has been in communication with the present Premier of this Colony, Sir Alexander Stuart, relative to the Government's promised grants, and your Petitioner expected employment of hire in the Government Service, and though your Petitioner received an assurance that he should be, he has not been so employed up to the present time. Your Petitioner respectfully refers your Excellency to the correspondence on the subject, which is to be found in the Honorable the Colonial Secretary's Department.

Your Petitioner, therefore, humbly prays that in view of the public service which he rendered to the Colony in assisting in the arrest of the prisoners mentioned without fee or reward, and of the promises made to your Petitioner by successive Governments, that he should be employed in the Government Service of this Colony, that your Excellency would be pleased to lay the matter of this Petition before the Honorable the Executive Council, and after due enquiry that your Excellency would be further pleased to recommend your Petitioner employment by the Government of this Colony in such capacity as his abilities would best fit him.

And your Petitioner, as in duty bound, will ever pray.

Dated this 1st day of September, 1885.

JAS. H. HUSBAND.

"Ollera," Guyrale, W.L.W.

The Colonial Secretary, A.L., 5/9/85. Submitted, 17/9/85. The Cabinet.—A.S. Put by for the present.—C.W., 21/12/85.

## Minute by The Colonial Secretary.

GIVE Mr. Husband a note to Mr. Davies asking if he can employ him as overseer.

H.P.

Done, 10/6/87.

Mr.

Mr. J. H. Husband to The Principal Under Secretary.

Dear Sir,

Sydney, 11 June, 1887.

I have to thank you for your note to Mr. Davies, but I am sorry to say that at present there is not any opening. Should you know of anything else you would do me a great kindness by letting Mr. Barbour know; at any rate I feel sure you will bear me in mind, as what to do at present I really do not know.

With kind regards.

Yours, &c.,

JAS. H. HUSBAND.

Mr. J. H. Husband to The Principal Under Secretary.

Dear Sir,

24 June, 1887.

It was Sir Henry that told me to come to you, and what I want is this—a letter to Mr. Abigail, as I fancy that as they are going to do more fencing (*re* rabbits), there might be a chance of my getting a billet on the line. I hate troubling you, but it is really imperative that I should get something, and backed by a letter from you I might be successful.

I will call in to-morrow morning.

Yours, &c.,

JAS. H. HUSBAND.

Refer to Board.—C.W., 30/6/87. The Chairman of the Casual Labour Board.—C.W., B.C., 30/6/87. Noted and returned.—J.D., Chairman. The Principal Under Secretary, B.C., 13/7/87



1887.

(THIRD SESSION.)

LEGISLATIVE ASSEMBLY.

NEW SOUTH WALES.

## COPYRIGHT.

(CORRESPONDENCE RESPECTING INFRINGEMENT OF LAWS OF GREAT BRITAIN.)

*Ordered by the Legislative Assembly to be printed, 24 November, 1887.*Department of Trade and Customs,  
Melbourne, 10 May, 1887.

Sir,

I am directed by the Commissioner of Trade and Customs to inform you that several instances have recently occurred in which attempts have been made to introduce into this Colony pirated editions of copyright works.

As some of these works were brought overland, the Minister desires me to state that he is of opinion that the adoption of an uniform system of dealing with importations of this kind is very desirable, and with a view to such being established (if practicable) wishes me to ask if you would be so good as to state the practice prevailing in New South Wales of dealing with such importations.

I beg to forward you herewith a copy of a notice bearing upon the subject published by this Department.

I have, &amp;c.,

A. W. MUSGROVE,

Secretary.

The Collector of Customs, Sydney.

[Enclosure.]

From the *Victoria Government Gazette* of 10th December, 1886. No. 132.

## COPYRIGHT.

SEVERAL instances having recently occurred where the copyright laws of Great Britain have been infringed by the importation of pirated works, the attention of the public and of the officers of the Department is called to the sections of Acts quoted below. Importers and others are warned that it is the intention to enforce the law strictly, and the officers of the Department are hereby directed to exercise the utmost vigilance in this respect. In any case of doubt the books must be detained and the matter reported.

Department of Trade and Customs,  
Melbourne, 2nd December, 1886.W. F. WALKER,  
Commissioner of Trade and Customs.

47 Vict. No. 768, sect. 50.

## GOODS PROHIBITED TO BE IMPORTED.

50. Books wherein the copyright shall be first subsisting, first composed or written or printed in the United Kingdom, or in Victoria, and printed or reprinted in any other part of the world as to which the proprietor of such copyright, or his agent, shall have given to the Commissioner a notice in writing that such copyright subsists, such notice also stating when such copyright will expire.

5 &amp; 6 Vict., cap. 46, sect. 17.

That after the passing of this Act it shall not be lawful for any person not being the proprietor of the copyright or some person authorized by him to import into any part of the United Kingdom, or into any other part of the British dominions, for sale or hire any printed book first composed or written or printed and published in any part of the said United Kingdom wherein there shall be copyright, and reprinted in any country or place whatsoever out of the British dominions; and if any person, not being such proprietor or person authorized as aforesaid, shall import, or bring or cause to be imported, or brought for sale or hire, any such printed book into any part of the British dominions contrary to the true intent and meaning of this Act, or shall knowingly sell publish or expose to sale or let to hire or have in his possession for sale or hire any such book, then every such book shall be forfeited and shall be seized by any officer of Customs or Excise, and the same shall be destroyed by such officer; and every person so offending being duly convicted thereof before two justices of the peace for the country or place in which such book shall be found shall also for every such offence forfeit the sum of Ten pounds and double the value of every copy of such book which he shall so import, or cause to be imported, into any part of the British dominions, or shall knowingly sell publish or expose to sale or let to hire, or shall cause to be sold published or exposed to sale or let to hire, or shall have in his possession for sale or hire, contrary to the true intent and meaning of this Act, Five pounds to the use of such officer of Customs or Excise, and the remainder of the penalty to the use of the proprietor of the copyright in such book.

39 &amp; 40 Vict., ch. 36.

## CUSTOMS LAW CONSOLIDATION.

152. Any books wherein the copyright shall be subsisting, first composed or written or printed in the United Kingdom, and printed or reprinted in any other country, shall be and are hereby absolutely prohibited to be imported in the British possessions abroad: Provided always that no such books shall be prohibited to be imported as aforesaid unless the proprietor of such copyright or his agent shall have given notice, in writing, to the Commissioner of Customs that such copyright subsists, and in such notice shall have stated when the copyright will expire; and the said Commissioners shall cause to be made and transmitted to the several ports in the British possessions abroad, from time to time to be publicly exposed there, list of books respecting which such notice shall have been duly given, and all books imported contrary thereto shall be forfeited; but nothing herein contained shall be taken to prevent Her Majesty from exercising the powers vested in her by the tenth and eleventh Victoria, chapter ninety-five, intituled "*An Act to amend the law relating to the Protection in the Colonies of Works entitled to Copyright in the United Kingdom*," to suspend in certain cases such prohibition.

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The Collector of Customs to The Secretary, Trade and Customs, Melbourne.

Sir,

Custom House, Sydney, 12 May, 1887.

In reply to your letter of the 10th instant, calling my attention to the introduction into this Colony of pirated editions of copyright books written or printed in the United Kingdom, I have the honor to inform you that it has not been the practice in this Colony to enforce the Acts you refer to, the law officers of the Colony holding that persons aggrieved by infringement of copyright, have their remedy by appeal to the Courts.

I have, &amp;c.,

JAMES POWELL,  
Collector of Customs.

[3d.]

1887-8.

LEGISLATIVE ASSEMBLY.

NEW SOUTH WALES.

**CREMATION BILL.**

(PETITION IN FAVOUR OF—DAVID BUCHANAN.)

*Received by the Legislative Assembly, 14 February, 1888.*

To the Honorable the Speaker and Members of the Legislative Assembly, in Parliament assembled.

The Petition of David Buchanan, Barrister-at-law, praying that the Cremation Bill now before your Honorable House may be passed,—

HUMBLY SHOWETH:—

That the Cremation Bill now before your Honorable House should be passed in the interests of the public health.

That the present practice of disposing of the dead by burial poisons the air, the water, and the land, and is prejudicial to the health and wellbeing of the community, disseminating disease and death silently and unperceived, and is consequently a source of constant and continually increasing danger to the living.

That the process of cremation, as it may be seen at the present time in operation in England and other countries, brings about the same result as burial, namely, consumption of the body to ashes, with this difference, that while cremation consumes the body to ashes in about half-an-hour, thereby destroying every germ of disease and every possibility of infection, the process of burial leaves the body to go slowly through all the stages of loathsome corruption, sending up poisonous gases from the earth, vitiating all water for a considerable distance around, and thus endangering, in a serious degree, the health of the people.

That the possibility of crime escaping detection through the operation of cremation is most stringently and carefully prevented by the wholesome clauses, for that purpose embodied in the Bill now before your Honorable House, which clauses preclude the possibility of such a thing; while under the process of burial there is the far more terrible and appalling danger of burial alive, which has not unfrequently happened, proved by the fact that, on disinterring bodies, many of them have been found turned right round in their coffins, and lying on their faces, with distinct evidences of a struggle, the bare thought of which out-horrors horror.

That under the Bill before your Honorable House cremation is not compulsory but optional, so that those who approve of burial may still practise that process without let or hinderance; while the thousands who would take advantage of the crematory process would relieve our burial-grounds of a frightful and dangerous overcrowding, that could not but have a beneficial effect on the general health of the people.

That although the evils of those crowded burial-grounds may not be at once seen as directly traceable to that source, still we have the testimony of high medical authority that many virulent epidemic diseases have had their origin in the poisoned air from burial-grounds, and hence the unanimity amongst medical and scientific men in recommending cremation as preferable from its cleanness, speediness, and safety to the dangerous process of allowing an innumerable crowd of dead bodies to lie in the earth, going through the slow process of corruption and decay, and unquestionably endangering the health and lives of the living.

That, on the grounds stated, your Petitioner humbly prays that your Honorable House will pass the Cremation Bill as a large contribution to the health, safety, and wellbeing of the community.

And your Petitioner, as in duty bound, will ever pray.

DAVID BUCHANAN.



1887-S.

LEGISLATIVE ASSEMBLY.  
NEW SOUTH WALES.

## DEATHS UNDER CHLOROFORM.

(RETURNS RESPECTING.)

*Ordered by the Legislative Assembly to be printed, 10 July, 1888.*

RETURN to an *Order* made by the Honorable the Legislative Assembly of New South Wales, dated 24th April, 1888, That there be laid upon the Table of this House, a Return showing,—

- “ (1.) The number of deaths that have taken place when the person has been under the influence of chloroform, during the years 1885, 1886, and 1887.  
 “ (2.) The date and number of inquests on persons who died while under chloroform during the same years.  
 “ (3.) The name of Coroner or Magistrate who held the inquests.  
 “ (4.) Nature of verdict in each case.  
 “ (5.) Locality of deaths.  
 “ (6.) Name of places where inquests were held.  
 “ (7.) Name of each deceased.  
 “ (8.) Name of the doctor or doctors when the chloroform was administered.”

*(Mr. Garrard, for Mr. Withers.)*

RETURN showing the number of deaths registered as occurring from chloroform during the years 1885, 1886, 1887.

District.	1885.	1886.	1887.
Sydney ... ..	1 Suicide—Chloroform and Belladonna	.....	3 1 Chloroform for operation. 1 Accidental inhaling to stop suffering. 1 Syncope whilst under the influence of chloroform.
Newcastle ... ..	.....	.....	1
Goulburn ... ..	.....	.....	1
Albury ... ..	.....	1	.....
Wagga ... ..	.....	.....	1
Petersham ... ..	.....	1	1

Returns from the other Registry Districts given as nil.

Registrar-General's Department, 4 July, 1888.

E. G. WARD,  
Registrar-General.

[830 copies—Approximate Cost of Printing (labour and material), £3 2s. 6d.]

[34]

Number of Inquest.	Date of Inquest.	Name of Magistrate or Coroner.	Verdict or Finding.	Locality of Death.	Name of place where Inquest or Inquiry was held.	Name of Deceased.	Names of Doctors present when Chloroform was administered.
<b>I.</b> 656	1885. 18 June	Philip Snape .....	<b>1885.</b> We find that the deceased, James Kelly, died from exhaustion immediately after an operation, consisting of the amputation of his left leg, which had been rendered imperative by the nature of a wound accidentally inflicted with a knife by himself. (Chloroform was administered.)	Gulgong Hospital ...	Gulgong ...	James Kelly .....	Joseph Ptk. Kealey & Chas. Swanston.
<b>II.</b> 784	1 & 4 August.	Henry Shiell .....	Died from the effects of chloroform administered to her by Dr. Lowes. The jury are of opinion that chloroform should never be administered in the hospital, unless in the presence of a second medical man, and that the practice hitherto existing, of one medical man only giving chloroform in that institution should be at once discontinued.	Sydney Hospital.....	Sydney .....	Olivia Green .....	Septimus Lowes.
<b>III.</b> 230	1886. 17 Feb.	M. Dulhunty, J.P. ....	<b>1886.</b> My opinion is the deceased came by his death from failing of the heart caused by the administration of chloroform which, by the evidence had been properly administered by Dr. Kennedy in his medical capacity, and after all necessary precautions had been taken.	Albury Hospital .....	Albury .....	Philip Norris .....	William Cleaver Woods & Patrick Kennedy.
<b>IV.</b> 706	15 July	Henry Shiell .....	Died from the effects of chloroform administered to him for the purpose of undergoing an operation. We further find that the chloroform was administered with due care and caution, and that every possible effort was adopted by the medical men present to save deceased's life when unfavorable symptoms manifested themselves.	St. Vincent's Hospital.	Sydney .....	William Lancaster	Alfred Keenan, Charles H. Maher, and E. Fairfax Ross.
<b>V.</b> 258	1887. 7 Mar.	Henry Shiell .....	<b>1887.</b> Died from the effects of chloroform, which was being administered to him for the purpose of an operation. We further find that the said chloroform was administered to him with due care and caution, and that when unfavorable symptoms manifested themselves everything was done by the medical men in charge of the case that could be done, with a view of preventing if possible a fatal termination.	Sydney Hospital....	Sydney.....	Walter Charles Wagstaff.	William R. Clay and Thomas C. Fisher.
<b>VI.</b> 497	11 May	George Cannon Martin	We find that the said George Merritt died in the Newcastle Hospital on the 11th May, 1887. We further find that he died in accordance with the medical testimony, whilst under the influence of chloroform; we also find that all due care and skill were used in administering the chloroform.	Newcastle Hospital..	Newcastle..	George Merritt ...	John Kerr, Joseph L. Bernstein, and Cosby W. Morgan.
<b>VII.</b> 859	23 Aug.	Henry Shiell .....	Died whilst under the effects of chloroform. We further find that the said chloroform was administered with due care and caution, and that when unfavorable symptoms manifested themselves, everything was done by the medical men present with a view of averting a fatal result. The jury are of opinion that in every case in every public hospital in which it is necessary to administer chloroform, the patient should be carefully examined by not less than two medical men before the exhibition of such chloroform.	Sydney Hospital.....	Sydney.....	Mary Gilt .....	Thomas C. Fisher, and Ralph Worrell.
<b>VIII.</b> 870	25 Aug.	Chas. S. Alexander, P.M.	I find that John D. Rhodes came by his death by the inhalation of chloroform duly and carefully administered by two legally qualified medical practitioners for the purpose of performing a surgical operation on him.	Goulburn Hospital...	Goulburn ...	John David Rhodes	Robert M'Killop and Henry Ray.
<b>IX.</b> 1,072	24 Oct.	Henry Shiell .....	Died from the effects of chloroform, which was being administered to her for the purposes of an operation. We further find that due care and caution were exercised in the administration of the chloroform, and that, when unfavourable symptoms manifested themselves, everything was done that was necessary, with a view of averting a fatal termination.	Dr. Wood's residence, "Clunes," Cambridge-street.	Petersham..	Julia Constance Campbell.	Wm. E. R. Wood, Joseph Foreman, and Edward Thomas Thring.

Sydney: Charles Potter, Government Printer—1888.

15

1887.

(THIRD SESSION.)

LEGISLATIVE ASSEMBLY.

NEW SOUTH WALES.

## DEPARTMENT OF PUBLIC WORKS.

(RETRENCHMENT IN—PERMANENT-WAY MEN EMPLOYED.)

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*Ordered by the Legislative Assembly to be printed, 28 September, 1887.*

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LEGISLATIVE ASSEMBLY.

Question :—

2. MR. McELHONE asked the SECRETARY FOR PUBLIC WORKS,—

(1.) Is it not the fact that several, if not all, the officers in charge of the various branches of the Department of Public Works sent reports to the late or present Minister for Works, suggesting that reductions in the staff of officers under them might be judiciously made without impairing the efficiency of the Service, and pointing out how such retrenchment in the public expenditure could be brought about; and is it not also the fact that up to the present time such suggestions have not been given effect to?

(2.) How many men has he appointed on the permanent-way since he took office?

Answer :—

In reply to the above question I give the following information, received from the heads of the various branches :—

*Ministerial.*—There is one position on the staff vacant which it is not intended to fill up at present.

*Harbours and Rivers.*—Recommendations have been made as indicated, and so far as they were practicable were carried into effect.

*Roads.*—In accordance with a Minute by Mr. Lync, Secretary for Public Works, dated 14th December, 1886, notifying the appointment of Commissioners to inquire into the working of the Department of Public Works, the Commissioner for Roads reported that changes and reductions in the office staff of the Roads Branch might be effected, by which a reduction in number of three officers and a saving of £630 per annum would be made, and this has been done. The Field Staff was remodelled, and all officers placed on the Estimates, and it was proposed that three should retire, but owing to the late passing of the Estimates and the unexpected increase of votes by nearly 30 per cent., their services will be required to the end of the year when two will retire; one must be retained until work is decreased; but a saving of £4,851 has been effected this year, which will be increased to £5,946 for 1888.

*Colonial Architect.*—The question is having consideration.

*Railways.*—1. The principal scheme of retrenchment was in the Existing Lines Branch in regard to the maintenance of the permanent-way. The Engineer responsible for the safety of the line accompanied the suggested scheme with the statement that he was not convinced that in the long run there would be any real economy in the proposed reductions. I have hesitated therefore to give full effect to the scheme, more especially in view of the wet weather we have had during the past season, which has necessarily required more attention to the roadway than at the time the scheme was proposed, but partial effect has been given to it by drafting the men to new extensions as opened instead of taking on new hands. 2. Seven new hands have been appointed since the present Government came into office; the number of permanent-way men to the mile of line prior to the present Government coming into office was 0·86; it is now 0·82.



1887-8.

LEGISLATIVE ASSEMBLY.  
NEW SOUTH WALES.

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**DEVONSHIRE-STREET CEMETERY.**

(RETURN SHOWING THE NAMES OF THE TRUSTEES OF.)

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*Ordered by the Legislative Assembly to be printed, 9 February, 1888.*

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[*Laid upon the Table, in accordance with promise made, in answer to Question No. 7, Votes No. 15, Thursday, 20 October, 1887.*]

DEVONSHIRE-STREET CEMETERY.—NAMES OF TRUSTEES.

CHURCH OF ENGLAND.

Mr. ROBERT ATKINS, Secretary, reports that the present Trustees for the above denomination are,—The Most Reverend the Bishop of Sydney, and William Hezlet and Alfred James Lewington,—Esquires.

ROMAN CATHOLIC.

The Very Reverend Dean Sheridan states that he is the sole surviving Trustee for this section, the other appointed Trustees, the Very Rev. Archbishop Vaughan and Mr. Charles Farrell, being dead.

PRESBYTERIAN.

The Reverend R. S. Paterson reports that Alexander Dodds, Esq., M.L.C., and himself are the Trustees for this section.

INDEPENDENT.

Mr. Samuel Thompson states that Dr. P. S. Jones, T. B. Rolin, J. Palmer, Esquires, and himself, are Trustees for this section.

WESLEYAN.

For this section the Rev. Dr. Sellors reports that all the original Trustees are dead, and that he has reason to believe that no successors have been appointed.

FRIENDS OR QUAKERS.

No information has been obtainable as to the names of the Trustees of this section. The Sexton states that no interment has taken place in the area allotted to them for several years.

JEWISH.

Mr. Frankel, the Secretary to the Great Synagogue, reports that the Trustees for the Jewish section of the Devonshire-street Cemetery are dead, and he is not aware of any others having been appointed.



1887-8.

LEGISLATIVE ASSEMBLY.  
NEW SOUTH WALES.

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**DIVORCE EXTENSION BILL.**

(PETITION FROM W. M. COWPER, COMMISSARY FOR BISHOP OF SYDNEY, AGAINST.)

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*Received by the Legislative Assembly, 7 June, 1888.*

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To the Honorable the Legislative Assembly of the Colony of New South Wales in Parliament assembled.

The Petition of the undersigned William Macquarie Cowper, M.A., Commissary of the Bishop of Sydney, with the advice of the Standing Committee of the Synod of the Church of England in the Diocese of Sydney, within the said Colony;—

HUMBLY SHOWETH:—

That your Petitioner is conscientiously opposed to the provisions of the Divorce Extension Bill now before your Honorable House:—

1. Because he believes that the proposed extension of the conditions of Divorce is at variance with the Christian law as laid down in the New Testament.

2. Because he believes that it is likely to impair the sense of the sacredness of marriage and of the responsibility of entrance upon the married state, to introduce dangerous facilities for disruption of the marriage tie, and so to inflict a serious injury upon the domestic and social welfare of the whole community.

3. Because he considers that variation upon so important a matter from the law established in England and in other Colonies of the British Empire is in itself undesirable, and is likely to introduce serious difficulties into family and social life.

Your Petitioner, therefore, earnestly prays that your Honorable House will be pleased to refuse your assent to the said Bill.

And your Petitioner, as in duty bound, will ever pray, &c.

WILLIAM M. COWPER,  
Commissary for the Bishop of Sydney,  
With the advice and by the desire of the Standing Committee of the Synod.



1887-8.

LEGISLATIVE ASSEMBLY.  
NEW SOUTH WALES.

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**DIVORCE EXTENSION BILL.**

(PETITION FROM CERTAIN MINISTERS OF VARIOUS RELIGIOUS DENOMINATIONS AGAINST.)

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*Received by the Legislative Assembly, 12 June, 1888.*

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To the Honorable the Legislative Assembly of New South Wales, in Parliament assembled.

The respectful Memorial of the undersigned Ministers of Religion of various Religious Denominations in this Colony,—

HUMBLY SHOWETH:—

That your Petitioners regard with much concern the Bill now before your Honorable House intituled the Divorce Extension Act.

That while entertaining other strong objections to the provisions of the said Bill, by which divorce is facilitated, your Petitioners are still more strongly opposed to that which provides for the remarriage of the persons divorced—the guilty as well as the innocent.

That your Petitioners feel the greatest repugnance to this provision, inasmuch as it gives to those who have been guilty of the greatest cruelty and sin, opportunity to repeat their offences upon fresh victims of their licentiousness.

That your Petitioners—accepting the solemn declaration of our Lord Jesus Christ, that “Whosoever marrieth her that is put away committeth adultery,” as the law of the Christian Church—are of opinion that any legislation which provides for the remarriage of one who is put away affords a direct sanction to sin, and is opposed to the Divine law in the Seventh Commandment.

Your Petitioners therefore pray your Honorable House to withhold your assent from the aforesaid Bill.

And your Petitioners, as in duty bound, will ever pray, &c., &c.

*[Here follow 182 Signatures.]*

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1887-8.

## NEW SOUTH WALES.

## DIVORCE EXTENSION BILL OF 1887.

(DESPATCH RESPECTING.)

Presented to Parliament by Command.

The Secretary of State for the Colonies to The Right Honorable Lord Carrington,  
G.C.M.G.

(N.S.W., 12.)

My Lord,

Downing-street, 27 January, 1888.

Her Majesty's Government have given very careful consideration to your Despatch, No. 147, of the 29th July, 1887, transmitting the Bill to amend and extend the law of divorce, which you had reserved for the signification of Her Majesty's pleasure.

After full deliberation they have come to the conclusion that they ought not to advise Her Majesty to assent to the Bill, and I request you to invite the attention of your Ministers to the reasons for that conclusion as stated in this Despatch, which should be communicated to both Houses of the Legislature.

2. Her Majesty's Government have no desire to interfere with legislation which is within the competence of the Parliament of New South Wales, and laws operative within the Colony on the subject of matrimony and divorce fall, as a general rule, within that class of legislation. But it is impossible for Her Majesty's Government to ignore the exceptional importance of the proposed alteration of the existing law. It will introduce a divergence between the law of this country and the law of New South Wales upon a matter most deeply affecting the morality of the people and the happiness of families. It will make those who are wives or legitimate children in one country unmarried mothers and illegitimate children in the other; and it will make the same action innocent in one country and, possibly (as constituting bigamy, if followed by remarriage), criminal in the other.

3. Her Majesty's Government do not feel that these consequences, grave as they undoubtedly are, render it incumbent upon them to advise the Queen to exercise her power of controlling the privilege of legislating for their own requirements, which has been conceded in full measure to the Australian Colonies. But they are of opinion that, in order to reduce to the lowest possible point the inconveniences which this change in the law would cause, three precautionary conditions should be satisfied before it is adopted.

4. In the first place, so far as possible, it should be ascertained that the change is the deliberate resolve of the people of New South Wales, and is not likely in the future to be modified by any accidental alteration in the balance of political parties; and it would therefore be, in the opinion of Her Majesty's Government, more expedient that the Queen's assent to such a measure should be deferred until it has been again passed by another Parliament after the occurrence of a General Election.

5. Secondly, it appears to Her Majesty's Government to be exceedingly inconvenient that a different law on this subject should prevail among the different Colonies of Australia. The many evils which would result from the existence of a conflict of law upon this subject between more distant parts of the same Empire will be intensified in the case of communities so closely connected as the Australian Colonies, if they should not be prepared to adopt similar legislation on this subject.

6. And thirdly, Her Majesty's Government are of opinion that the operation of the change should be confined to those who are really inhabitants of the Colony in which the new law is made, and should not be extended to persons whose residence for any reason is transitory. They are of opinion, therefore, that, in place of a two years' residence, a legal domicile should be required, as the condition of a capacity to obtain a divorce under this measure.

7. If the Bill had been made to apply only to persons possessing a domicile in New South Wales, a decree of dissolution pronounced by the Supreme Court would doubtless be recognized elsewhere; but the Bill substitutes for domicile a residence of two years, and it is far from certain that the Courts of this country, or of other colonies, or of foreign countries, would in such circumstances recognize a decree of the Court of New South Wales, which may alter the status of their citizens. Your advisers are probably familiar with the case of *Niboyet v Niboyet*, L.R. 4, P.D. 1, in which the Court of Appeal held, by a majority of two to one, that the Court had power to decree a dissolution of the marriage of a French subject who was resident in England, but who still retained his French domicile; but I would observe that, even in that case, both the Judges who formed the majority admitted that it did not follow that

the decree would be recognized in other countries; and that it might be that the parties, although in England no longer husband and wife, might in other countries be still so regarded.

8. It should further be borne in mind that cases might occur in which the husband had never lost his domicile in another country, and his residence in New South Wales, though extending over two years, had only been temporary, and with the intention of leaving the Colony after obtaining the decree; in which case the probability would be much increased of other countries declining to recognize the validity of such decree. I may also observe that, as I am advised, an English Court would refuse to recognize the validity of a divorce between two English residents in New South Wales effected upon the grounds provided by the Bill.

9. I request you to invite your Ministers, in connection with this Despatch, again to give their careful consideration to the Despatches No. 40, of Sir Michael Hicks-Beach, dated the 15th July, 1878, and No. 18, of the Earl of Kimberley, dated the 22nd June, 1880, on the Bills then proposed to amend the law relating to divorce and matrimonial causes. The reasoning of those Despatches (of which copies are enclosed for convenience of reference) appears to be equally applicable in the present case; and I need only add, in the words used by Lord Kimberley, that Her Majesty's Government are confident that the Legislature of the Colony will not object to such an amendment of the Bill as may secure that the fact of domicile should in all cases be substantiated as a necessary condition of the exercise of the jurisdiction.

10. In conclusion, then, I have only to repeat that Her Majesty's Government would strongly urge upon your Advisers the inexpediency of enlarging the grounds upon which a divorce can be obtained, until it has been fully established that the general feeling of the Colony is decidedly in favour of the change, and until after communication with the other Australian Colonies it is made clear that they are prepared to adopt a similar alteration in their laws. Her Majesty's Government, however, attach still greater importance to the necessity of securing that legal domicile, and not a transitory residence, such as that of two years, laid down in the Bill, should be a condition of the exercise of the jurisdiction of the Court in decreeing a divorce. They earnestly trust that these views will, upon further consideration, commend themselves to your Ministers.

I have, &c.,  
H. T. HOLLAND.

#### APPENDIX I.

Sir Michael Hicks-Beach to Sir Hercules Robinson.

(N.S.W., 40.)

Sir,

Downing-street, 15 July, 1878.

I have not failed to give my best consideration to the important questions involved in the Bill passed by the Legislative Council and Legislative Assembly of New South Wales, and reserved by you for the signification of Her Majesty's pleasure, entitled, "An Act to amend the Law relating to Divorce and Matrimonial Causes," a transcript of which, accompanied by a protest signed by eight Members of the Legislative Council, was transmitted in your Despatch, No. 57, of the 30th of April, 1877.

2. I regret the delay which has occurred in replying to your Despatch, but the questions raised by this measure appeared to my predecessor, as well as to myself, to be of such grave importance as to demand the most careful deliberation; and I have felt it my duty to seek for advice from the highest legal sources before communicating to you the view taken by Her Majesty's Government.

3. In the first place, I have to point out that this Bill, if passed into law, would conflict with the law of divorce in England. It would no doubt place the law of New South Wales upon the same footing in respect of the grounds for dissolving marriage as the law of Scotland. But it would only partially assimilate the marriage laws of the Colony and Scotland; seeing that they would still differ in respect of the conditions which are required for contracting a legal union, so that the Colony under your Government would acquire a system of marriage law peculiar to itself, and differing from that prevailing in any part of the United Kingdom, or in any other portion of Her Majesty's dominions.

4. If the effect of such legislation could be confined to New South Wales this difference would be a matter of Colonial concern, and I should not feel it necessary to dwell upon the social results which might follow from the proposed change, or the facilities for collusion which it might give. But as questions of marriage and divorce affect persons domiciled in various parts of the Empire, it appears to Her Majesty's Government highly impolitic, unless for the strongest reasons, to add to the discrepancy already unfortunately existing between the laws in force in different parts of Her Majesty's Dominions.

5. I am advised that under this Bill, except in cases where the parties to the petition clearly had their domicile in New South Wales, very delicate and difficult questions might follow upon a decree of dissolution of marriage, and the future status of an innocent wife might be very grievously compromised beyond the Colony were she to follow up a successful suit by the solemnization of a second marriage during the life of the divorced husband. If the first marriage were an English one, and the parties had not changed their domicile, the decree of dissolution would be simply inoperative in England for any purpose, and the same inconvenience might possibly follow if the marriage had been contracted elsewhere out of the Colony, and the parties had not acquired a domicile in New South Wales.

6. The very serious consequences that may result from changes of this nature in the marriage law are illustrated so forcibly in the reasons given by the House of Lords in 1860, for disagreeing to certain amendments made by the House of Commons in "The Conjugal Rights Bill," introduced by Lord Campbell into the House of Lords, that I will quote them for your information.

Their Lordships stated that they disagreed to the amendments, among other reasons, "because the most grievous inconvenience arises from the existing state of the law of England and Scotland on this subject, as declared by judicial decisions in both countries, for according to this when parties have been married in England a sentence of divorce pronounced in Scotland is valid in Scotland and a nullity in England, so that the divorced women still remains the wife of the husband in England, but the husband and wife are free to contract another valid marriage in Scotland, and the children of such second marriage are legitimate in Scotland, but bastards in England; and the husband or wife marrying in England after the divorce in Scotland is liable to be indicted for bigamy and punished by penal servitude."

7. I have now explained to you the reasons for which I have found myself compelled to refrain from submitting this Bill for Her Majesty's assent.

I request you to communicate this Despatch to both Houses of the Legislature, and I trust that they will appreciate the considerations by which I have been actuated in arriving at this decision.

I have, &c.,  
M. E. HICKS-BEACH.

Lord

## APPENDIX II.

Lord Kimberley to Lord A. Loftus.

(N.S.W., 18.)

My Lord,

Downing-street, 22 June, 1880.

The question of the advice to be tendered to Her Majesty, with respect to the Bill passed by the Legislative Council and Legislative Assembly of New South Wales and reserved by you for the signification of Her Majesty's pleasure, entitled, an Act to amend the Law relating to Divorce and Matrimonial Causes, a transcript of which accompanied your despatch, No. 62 of the 4th of December last, has been under the consideration of Her Majesty's Government; and after careful examination of the very grave issues raised by this measure, they have arrived at the decision which I have now the honor to convey to your Lordship.

2. Her Majesty's Government are fully sensible of the force of the reasons which induced their predecessors to advise Her Majesty to withhold her assent from two Bills previously passed by the Colonial Legislature, identical with the Bill now in question, viz. (1), the inexpediency of introducing conflict and divergence on a most important subject affecting family and social relations between the law of New South Wales and that of England, and every other part (except Scotland) of the British Empire (including the other Australian Colonies) between which and New South Wales there is a constant interchange of population; and (2) the confusion and uncertainty as to the validity of subsequent marriages, the status of children, and rights of succession to property which would ensue if sentences of dissolution of marriage were pronounced by the Courts of New South Wales, the validity of which was not recognized in other countries. But whilst on the general ground that it is much to be lamented that a different marriage law should prevail in different parts of the Empire, Her Majesty's Government very greatly regret that the New South Wales Legislature has determined to persevere in this measure, they have come to the conclusion that it is not their duty any longer to resist the principle of a Bill which has now been passed for the third time, and with full knowledge of the objections to which I have referred, provided certain modifications are introduced into it, which I will now proceed to explain.

3. Her Majesty's Government understand the object of those who introduced and supported the Bill in the Council and Assembly to be, that a sentence for dissolution of marriage, on the ground of the husband's adultery, may be pronounced by the Matrimonial Courts of the Colony when, and only when, the parties are domiciled in New South Wales. In order effectually to secure this object, they are of opinion that it should be made a condition by express words in the Act, that any Judge pronouncing such a sentence should first be satisfied, by sufficient evidence in the suit, that the married parties were so domiciled. Of all questions of fact which may require incidental determination for the purpose of ascertaining rights of status, succession, or inheritance, it would be impossible to suggest one more frequently involving difficult and complicated inquiries and voluminous evidence than that of domicile; and it is most important that it should be clearly laid down by law as the duty of a tribunal, on which it is proposed to confer a new matrimonial jurisdiction, dependent for its effect on domicile, to require proof for that domicile as the foundation of its jurisdiction, and to afford easy means of obviating, by the judgment and evidence on record, the questions which might otherwise be liable to arise in neighbouring colonies or in Great Britain or elsewhere at a distance of time, and after the remarriage or death of either of the parties. The proof of domicile, when both parties are living, will generally be much more easy and simple than after their deaths, and (in the absence of collusion) even an admission of the fact of domicile by a husband defendant upon the record, so made as to satisfy the Judge, might often be held conclusive if an attempt were afterwards made to raise the same question.

4. Her Majesty's Government are confident that the Colonial Legislature will not object to such an amendment of the Bill as may secure that the fact of domicile should in all cases be substantiated, as a necessary condition of the exercise of the jurisdiction, and, if this should be done, they will be prepared to advise Her Majesty to give her assent to a Bill passed in that form.

5. But in the absence of such an express condition, they think that there would be a very serious risk of suits being instituted and sentences of dissolution of marriage pronounced under the proposed law in cases in which there was no real colonial domicile, and of the consequent confusion and uncertainty above adverted to, I am therefore unable to submit the Bill in its present shape for Her Majesty's assent.

I have, &c.,  
KIMBERLEY.



1887-8.

LEGISLATIVE ASSEMBLY.  
NEW SOUTH WALES.

ESTATE OF THE LATE CAPTAIN JOHN FOSTER COCHRAN.  
(COPIES OF PAPERS RELATING TO.)

*Ordered by the Legislative Assembly to be printed, 26 June, 1888.*

RETURN to an *Order* made by the Honorable the Legislative Assembly of New South Wales, dated 12th June, 1888, That there be laid upon the Table of this House,—

“ Copies of all letters and other documents, including extracts from Police Court records and books in the office of the Inspector-General of Police, relating to the estate of the late Captain John Foster Cochran, who died in the Sydney Infirmary on 2nd October, 1861.”

(*Mr. Neild.*)

Senior-Constable Kelly to Mr. Police-Superintendent Ryeland.

No. 1 Police Station, Sydney, 10 June, 1888.

*Re* Captain John Foster Cochran.

SENIOR-CONSTABLE KELLY respectfully reports, for the information of Mr. Superintendent Ryeland, that he has made diligent search in the police records for the month of October, 1861, but cannot find any trace of the name inquired for.

The Senior-Constable has been informed by Mr. Russell, Secretary to the Sydney Hospital, that the person, subject of inquiry, was admitted to that institution by Dr. Houston (since deceased) on the 7th October, 1861, suffering from consumption, and died on 22nd of same month. The name recorded in the Hospital register is John Foster Cochran, 63 years of age, a labourer, a native of Ireland, and was admitted to the hospital as a pauper patient.

Inquiry has been made at the Registrar-General's Office, and search having been made, no trace of any will in the name of John Foster Cochran could be discovered in the Wills Branch of that Department.

Inquiry has also been made at the office of the Curator of Intestate Estates, and search having been made in that Department no estate belonging to the deceased is mentioned in the records of the office from 1860 to 1875.

THOS. KELLY,  
Senior Constable.

Forwarded to the Inspector-General of Police.—J. RYELAND, Supt., 11/6/88. The Principal Under Secretary.—G. READ, A.I.-G., 11/6/88.



1887-8.

## NEW SOUTH WALES.

# EXTRADITION.

(AUTHENTICATION OF PAPERS—DESPATCH.)

Presented to Parliament by Command.

Department of Justice,  
Sydney, 27th February, 1888.

His Excellency the Governor directs the publication, for general information, of the following despatch, dated 28th December, 1887, from the Principal Secretary of State for the Colonies.

WILLIAM CLARKE.

(Circular.)

Downing-street,  
28th December, 1887.

Sir,

With reference to my predecessor's Circular Despatch of the 29th December, 1885, relative to the authentication of extradition papers required by section 5 of the Act passed in August, 1882, by the United States Congress, I have the honour to transmit herewith, for your information, a memorandum embodying a copy of a form of authentication adopted in 1833. This certificate, with the certificate of the United States Minister in similar terms, was accepted, in the particular case, as sufficient by the United States Courts, and the same forms have been employed in subsequent cases without successful objection being raised to them.

The memorandum also comprises an extract from a letter from the Counsel to Her Majesty's Consulate-General at New York, concerning the particulars required by the United States Courts when a request for extradition for the crime of forgery is transmitted by telegraph.

I have, &c.,  
H. T. HOLLAND.

The Officer Administering the  
Government of New South Wales.

## AUTHENTICATION OF DOCUMENTS IN UNITED STATES EXTRADITION CASES.

### MEMORANDUM.

In consequence of difficulties which had arisen as to the Evidence in Extradition cases, the United States Congress in August, 1882, passed an Act "Regulating Fees and practice in Extradition Cases"; and section 5 of this Act now contains the law as to the Authentication of the Documentary Evidence offered in support of a demand for the Extradition of a fugitive offender from the United States.

The section is as follows:—

Section 5.—That in cases where any depositions, warrants, or other papers, or copies thereof, shall be offered in evidence upon the hearing of any Extradition Case under title sixty-six of the Revised Statutes of the United States, such depositions, warrants, and other papers, or the copies thereof, shall be received and admitted as evidence on such hearing for all the purposes of such hearing, if they shall be properly and legally authenticated so as to entitle them to be received for similar purposes by the tribunals of the foreign country from which the accused party shall have escaped; and the certificate of the principal diplomatic or consular officer of the United States resident in such foreign country shall be proof that any deposition, warrant, or other paper, or copies thereof, so offered, are authenticated in the manner required by this Act.

The following form of certificate for the authentication of extradition papers was prepared by the Home Office and attached to the papers in a case which occurred in 1833:—

I hereby certify that, to the best of my knowledge and belief the signatures "Chas. Lister" on the annexed Warrant of Arrest, and on the annexed information and depositions on which the Warrant was granted, are the signatures of Charles Lister, Esq., one of Her Majesty's Justices of the Peace for the City of Manchester, having authority to issue and receive the same, and I further certify that such documents so signed by a Magistrate having jurisdiction in the place where the same were issued and taken and authenticated by a Minister of State and sealed with his official seal, would be received as evidence of the criminality of a fugitive criminal from the United States charged before a tribunal in Great Britain with an Extradition crime under the Extradition Treaty between Great Britain and the United States.

(L S)

(Signed)

A. F. O. LIDDELL,  
Under Secretary of State for the  
Home Department.

Whitehall, 4th May, 1883.

The above Home Office Certificate of 4th May, 1883, and the Certificate of the United States Minister which followed the terms of the Home Office Certificate, were accepted in this case as sufficient by the United States Courts. The same forms of Certificate have been employed in all subsequent cases, and, so far as the Home Office is aware, no successful objection has been raised to them.

The following is an extract of a letter from Messrs. Marbury, Counsel to Her Majesty's Consulate-General at New York, concerning the particulars required by the United States Courts when a request for Extradition for the crime of forgery is transmitted by telegraph:—

(EXTRACT.)

1. It is of prime importance, where a person is apprehended upon a telegraphic despatch, to have as far as possible complete particulars of the character of the offence committed, to secure his detention until the depositions and documentary evidence shall be received. In cases of forgery the despatch should contain a description of the instrument claimed to be forged, date, amount if draft or bill upon whom drawn, name of payee, place of utterance, name forged or character of forgery, and the person defrauded, or as much of these as can be furnished, and more to be supplied as soon as obtained. Where adequate particulars are contained in the despatch, which is the foundation for the complaint, there will be no difficulty in having the accused remanded until the arrival of the papers.



1887.

(THIRD SESSION.)

NEW SOUTH WALES.

FISHERIES OF THE COLONY.

(REPORT OF THE COMMISSIONERS OF FISHERIES UP TO 31 DECEMBER, 1886.)

Presented to Parliament by Command.

REPORT of the Commissioners of Fisheries for New South Wales on the Fisheries of the Colony, to the 31st December, 1886.

To the Honorable The Colonial Secretary.

Sir,

We have the honor to submit to you the following Report on the Fisheries of the Colony to the end of the year 1886.

After the presentation of our last very voluminous Report, it became apparent to us that the system under which the Oyster Fisheries on our coast were being worked was proving absolutely destructive to the continued existence of the natural beds, and that unless some other system of dealing with them could be devised, oysters would soon become a product of the past.

Our deliberations in this regard resulted in the passing into law of the present statute, the "Oyster Fisheries Act, 1884."

By this Act the indiscriminate dredging of oysters under license, which had been working such havoc both on the natural beds and the foreshore deposits, had to give place to the more equitable and economic system of distributing the oyster-bearing areas amongst persons who were willing to hold them under leases of lengthened tenure, and to devote themselves to the not unprofitable work of cultivating and producing oysters as a means of livelihood; the Crown on its part affording to the lessees such an absolute control over their leased areas, and such complete protection against trespass, that your Commissioners were warranted in expecting not only that the hitherto wholesale destruction of oysters would cease, but that the supply would be regular and ample for the demands of the market. That we were justified in our expectations may be gathered from the fact that within five months from the measure becoming law, no less than 700 applications for leases had been received, and these applications embraced the enormous extent of over 505,000 lineal yards of foreshore.

It will be readily comprehended that such an influx of applications pouring in immediately upon the enactment of the new legislation, very much retarded the work of modelling the Department to fit it for the administration of the new law.

As it was found impossible within any reasonable time to have all these areas measured and reported on, with the view to the early issue of the leases, and as, nevertheless, it was our desire that the applicants should speedily obtain some beneficial results from the areas for which virtually they had paid the State a rental, we availed ourselves of the provision afforded by the Regulations to allow applicants to work their areas under permits. These permits entitled the holders to enter upon and occupy the portions of foreshore for which they had applied for the purposes of cultivation, and removal of oysters.

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This system would have worked fairly well, and to a large extent would have compensated *bonâ fide* workers for the non issue of their leases, but it was found that the law as it stood did not protect their work from spoliation by others, and it was by no means an infrequent experience of these holders to find their areas, upon which they had expended considerable labour and time, divested by unprincipled persons of every oyster that could be found there. Notwithstanding this, however, the yield of oysters shows a very fair average, no less than 14,774 bags having been won during the year 1886, as against 12,801 bags taken during 1885.

We note that the greatest output has been from Port Stephens, 3,223 bags. This is followed by 2,683 bags from the Hawkesbury and 1,922 bags from the Clarence, 1,469 from the Clyde, and 1,324 bags from the Shoalhaven and Crookhaven Rivers.

At the close of the year 1,831 leases had been applied for, and of these 736 had been granted.

Very nearly all the coastal waters are oyster-bearing, but those above enumerated may at present be regarded as the chief sources of supply.

The royalty collected during 1886 amounted to £2,216 2s. The greatest take was obtained in January, when 2,103 bags were won. The monthly average during the summer was about 1,436 bags. Fully detailed information respecting the catch will be found in Appendix C.

In addition to oysters locally produced, there were received from other colonies during 1886 no less than 4,906 bags. These oysters are not subject to royalty, and lessees complain very strongly of the heavy handicap under which they are thus placed. To instance this it may be stated that it costs in freight alone on an average 2s. 9d. per bag to land oysters in Sydney from Port Stephens, and on arrival they are subject to an additional charge of 3s. per bag for royalty, while at the same time oysters can be carried from New Zealand for 2s. 6d. per bag, and on arrival are not subject to any Crown charge whatever.

As against this argument, it must be remembered that lessees hold their areas at a very nominal rental, only 20s. for every 100 lineal yards of foreshore, and as these areas in some instances extend into deep water 600 yards, and on an average quite 300 yards, it will be apparent that for 20s. a considerable superficial area, viz., from 6 to 12 acres, is assured to the lessee.

Of course it is not contended that all of such an area would be oyster bearing, but in judiciously selected portions much of it would be naturally so, and much more could be made so by artificial means.

Referring again to the advantage accruing by the leasing over the previous system of indiscriminate dredging, such advantage is especially evidenced in the report for 1885 of the Inspector for the Northern Division of Fisheries, who, writing of the output of oysters from the Clarence River, says, that when opened to dredgers in 1883 it was worked by sixty-four boats, and although these boats were limited to two days work each per week no less than 1,000 bags were won within a month, and this rate of catch had in four months so reduced the beds as to necessitate their immediate closing against further dredging.

This same river, worked under lease during 1885 under the new law, which makes oysters the property of the lessees, was under judicious management allowed to produce an average of only 166 bags per month.

A like experience, though perhaps in a less degree, has been gained in other coastal waters, but we cite the fact to show, that while under the licensed dredging system the oyster-beds and shore deposits were really plundered and destroyed, they may under the present system of leases embracing them, and affording to the lessees a secure tenure and an almost permanent vested interest, be expected to thrive and yield a steady market supply.

The Crown holds large areas of shore on which the oyster thrives only to a certain limit, and then ceasing to grow further remains useless for market purposes. Oysters of this kind are to be found in abundance in the lower parts of most of our tidal waters, the rocks between high and low water mark being literally plastered with them.

In the Oyster Fisheries Act provision has been very wisely made for the disposal of these immature oysters to holders of oyster culture leases for the purpose of stocking their areas, which in many instances, notably so in the Hawkesbury River, are more suitable for fattening than production; this provision has been largely availed of, and will be more so as soon as its advantages become more widely known.

Coming to the year 1886, it is to be noted, with much regret, that a fatality has exhibited itself amongst the oysters, but it has been almost confined to the waters north of Port Jackson. This disease  
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in the tidal waters between the Richmond River and Port Macquarie is attributed by the Inspector to the appearance of a fine sea-weed which was washed into the inlets, and decomposing in quantities on the beds caused the destruction. In the Evans River the deposit was so heavy as to destroy not only the oysters but the fish also.

In the Manning the fatality is attributed to deposits of mud and sand. In the Hawkesbury, to an extensive growth of congewoi, and in the Hunter and Port Stephens to the ravages of a small worm which, boring through the shell, affords the entrance for a deposit of fine mud, by which the mollusc is eventually killed.

Your Commissioners having given very careful consideration to the latter, which at one time it was thought would lead to the ultimate extinction of the oyster in at least the northern waters, have arrived at the conclusion that although it has asserted itself in different ways in different waters its existence is due to the one cause of the long continued absence of floods. It is a recognised fact that oysters will not thrive in water of a too great salinity—it is the salinity of the water which hinders the perfect development of oysters at the mouths of tidal waters,—while in waters, the salinity of which is modified by the admixture of a considerable proportion of fresh water, oysters arrive very rapidly at maturity and fatten quickly.

Until floods of sufficient volume and force occur to clear the accumulated mud, silt, or marine vegetable growth, as the case may be, we may not expect our oyster-beds to resume that vigor and productiveness which they previously possessed.

Mr. Benson, the Inspector for the Southern Division of Fisheries in his report writes somewhat despondingly of the state of the oysters in his district. He states that lessees are not paying that attention to their areas which it was reasonably expected they would do, and that their sole desire seems to be to get as many marketable oysters off the beds as possible, leaving none for breeding purposes, thus annihilating the very source of production. While saying thus much of the greed and negligence of these lessees, he notes, as exceptions, certain leaseholders in the Clyde River, who, he says, are carrying on their workings in a systematic manner, and while obtaining a fair return for their outlay are improving their holdings considerably.

Mr. Benson's summarised remarks on the several waters in his division, which are to be found in the appendices hereto, afford a very fair idea of their respective oyster-bearing capabilities; a perusal of these remarks and of the reports from inspectors on other coastal waters is invited.

We have much satisfaction in stating the revenue returns from our Oyster Fisheries during the last three years.

In 1884 there were received as rental, £2,980; and as royalty, £1,098 3s. 6d. In 1885, as rental, £2,141; as royalty, £1,920 3s.; and in 1886, as rental, £3,641 5s. 2d.; as royalty, £2,216 2s.—making a total of £14,996 13s. 8d., giving an average of £4,998 17s. 10d. per year.

During the year 1885 a very strong pressure was brought to bear against the granting of leases for oyster culture along the shores of Port Jackson and its tributaries. It was represented that such a disposition of those shores would debar the public from what was deemed to be their legitimate rights to those shores for purposes of recreation and amusement.

In deference to this represented public feeling we succeeded in obtaining the cancellation of all the applications which had been made for areas in those waters.

Following upon the success of the agitation in regard to the Port Jackson shores, numerous signed petitions were sent to us praying that leases might not be granted in George's River.

After very careful deliberation your Commissioners having regard to the public interest could not see their way to meet the prayer of the petitioners.

George's River is a very capable oyster-bearing water, and to have withdrawn it from the leasing provisions of the Oyster Fisheries Act would, in fact, have been to deprive the general public of a prolific source of supply. However, we decided on a compromise which we think is in the public interest equitable. We have proposed the issue of leases on all parts of its shores, excepting for a distance of one half mile on either side of the Railway Bridge. This area we propose to reserve from lease for the use of persons seeking pleasure and recreation.

A further concession to recreationists is to be found in the proclamation as a Public Oyster Reserve of the shores of the National Park at Port Hacking.

FISH.

## FISH.

The supply of fish to the Metropolis is obtained almost wholly from the Home Division of Fisheries, the limits of which are Port Stephens on the north, and Shoalhaven on the south. In the absence of proper facilities for carriage, the waters to the north and south of this Division are too remote to admit of fish being landed in a fresh state, except in the extreme winter months.

In these remoter waters, however, fish of all kinds abound, but are not utilised, except for meeting local demand, or affording a supply to a few Chinamen engaged in curing them for the China market.

Your Commissioners contemplate with deep regret the fact that so far capital and enterprise have not been forthcoming to render these enormous preserves available to the metropolis and its suburbs as an article of every day food.

When it is remembered that in the greater number of homes fish is regarded as a luxury to be indulged in only occasionally, it might reasonably be expected that any scheme which would result in bringing that food to those homes in cheapness and plenty would yield abundant profit to the enterprising persons embarking in the undertaking.

In the appendices will be found carefully prepared tables setting forth particulars of the supply of fish food to the Sydney Markets.

The large quantities shown therein to have passed into consumption will perhaps be a matter of surprise to many.

As an evidence that a popular taste for fish food exists amongst us to a large degree, we quote from these tables and offer the quotations in support of our argument that a properly conceived scheme for the carriage of fish from remote waters would yield handsome results.

During the last year no less than 45,583 baskets of mixed fish were brought to the Fish Market, besides 1,130½ dozens of schnapper, 1,060 dozens of mullet, 19½ dozens of jew-fish, 173½ dozens of king-fish, 660 dozens of salmon, 117½ dozens of various large fish, and 2,673 dozens of cray-fish. The sales of these fish realised no less an amount than £34,331 18s. 9d.

In 1884 the supply reached 32,956 baskets, which realised £30,115 17s. 1d., while the revenue derived by the Department for fishermen's and fishing-boat licenses was £543 10s.

In 1885 there were passed through the Market 38,162 baskets on which £30,789 were realised, the Departmental revenue being £564.

If with this large supply, fish be, as it certainly is, a rarity in most homes, what a vastly increased total might be quoted if, in plentiful supply, it could be brought to every door.

There may be said to be in the home division seven principal sources of supply. We give them in the following order of productiveness:—Lake Macquarie, Botany and George's River, Lake Illawarra, Broken Bay, Tuggerah, Port Stephens, and Port Jackson. To conserve these sources to the greatest possible extent we have adopted the practice of closing against the use of fishing-nets all the tributaries of those waters. These tributaries thus become havens of protection to spawning fish and young fry, as, by a provision of the Fisheries Act, persons found netting in them render themselves liable to the confiscation of their nets and to a considerable money penalty. The beneficial result of exempting these waters from the use of fishing-nets has already made itself apparent, and its advantages are beginning to be admitted even by some of those fishermen who have made the loudest complaints of the curtailment of what they have been accustomed to regard as their legitimate right.

For convenience of perusal we epitomise the inspectors' reports on some of the principal waters in the home division.

## LAKE MACQUARIE.

This lake continues to be our most productive water; no less than 12,739 baskets of fish were taken from it during last year, which is very nearly double the quantity taken from the Illawarra Lake.

Its productive quality causes it to be very much worked by fishermen; and the temptation to evade the law by using nets of unlawful length and mesh seems to have been very great, for it has resulted in the conviction and punishment of several fishermen for offences—in some cases more than once repeated.

As in other waters so in this have the tributaries and entrance been in the interests of the fishermen protected against the use of fishing nets.

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The great drawback which has to be contended with is the difficulty in sending the catch to market.

The lake entrance, being very shallow, can be availed of only at certain states of tide, and the plan of sending the catch by boat to a steamer in waiting off the bar was attempted; the attempt, however, fell through—strange to say, for want of support—so the old plan of sending *via* Newcastle had to be resumed. This route involves a journey by dray of some 12 miles over a very rough road; the subsequent transference of the fish to the steamboat; and at the Sydney end, from the steamboat to the fish market—the result being, especially in hot weather, that a large proportion of the consignments are, on arrival at the market, found to be unfit for human food.

It may be noted that during last summer the lake channel became the resort of an immense quantity of salmon, a fish not highly esteemed for food, but very destructive to the more edible varieties. In December some persons undertook the task of destroying these salmon, and were largely successful; but the remedy created an evil of another kind, for, having left the results of their efforts to decay on the shore, the pestilential odours arising therefrom rendered it for a time almost impossible for the residents to remain in the locality.

This lake is not oyster-bearing; a few are to be found in isolated spots, but not in quantity.

#### GEORGE'S RIVER AND BOTANY.

The inspector states that these waters are more abundant than ever in their supply of fish, notwithstanding that their number of net and line fishers have doubled. Oysters on the contrary have not thriven although the fall of spat during the year was unusually plentiful.

#### LAKE ILLAWARRA.

This water is a very important breeding ground and nursery for fish, so much so that it was found necessary to secure its closure against the use of fishing nets; but, on urgent representations by the local fishermen that this step had deprived them of their means of living and prevented the residents of Illawarra from obtaining any fish whatever, the closure was eventually modified so as to include only the tributaries and the sea entrance with a certain length of shore on either side of each, leaving the great body of the lake open to the use of fishermen.

The Inspector, whom consequently it was found necessary to appoint to protect the closures from netting, reports that the lake is extremely prolific, and certainly it has contributed very largely to the metropolitan supply.

It is worthy of remark that the local supply, the alleged curtailment of which was made a matter of such urgency by the fishermen, is reported by the Inspector to be very small, averaging only one basket per week. He states that the fishermen will not trouble to hawk fish about the district, as they find it more profitable to ship direct to Sydney, so that, notwithstanding the now modified closure, the matter of local supply must be almost as deficient as before.

There are no oysters in Lake Illawarra.

#### THE HAWKESBURY.

Both net and line fishing are carried on in this water, and in the lower part of the river it is continued through the year, for being so adjacent to Sydney fish can be carried fresh in the hottest weather.

The supply during the past year has, however (it is hoped temporarily), fallen off materially, owing to continuous blasting operations on the railway line, the effect of which has been to drive the fish away from some of their most usual grounds. Shoals of large mullet and quantities of young fish frequent the upper parts of the river.

Schnapper, bream, and other fish find the waters of Cowan Creek—which, like those of the ocean, are clear and salt—a favourable resort.

During the spring and summer months schnapper entered the creek in large numbers to spawn; it was noted that at this time they would not take the bait.

The oyster fishery has been only moderately successful ; those taken were chiefly rock oysters--artificial layings yielding only a small percentage, but owing to their having been stocked for only a very short time better results ought not to have been expected. Besides, a disease, popularly known as the worm disease, began to show itself towards the end of last year, and has fatally affected some of the layings. It is feared that this fatality will materially lessen the supply for 1887.

#### BRISBANE WATER

is reported to be improving greatly in its oyster-bearing capabilities. The Inspector states that two years since not twenty bags of marketable oysters could be found, while during last year some 300 were produced. He attributes this result to the careful oversight and attention of lessees.

There are said to be thousands of yards in Woy Woy Creek fit for oyster culture, but they have not, so far, been availed of, owing to their liability to interference by the railway labourers working on its banks.

#### TUGGERAH BEACH LAKES.

These waters are not oyster producing.

During last year they were not netted, except in certain months, but in those months they maintained their celebrity for fish supply. Regarding the importance these waters possess as breeding grounds and nurseries, we have bestowed much attention upon them.

We think that the temporary prevention of netting has been beneficial ; but if the tributaries and entrances to the lakes can be protected against the use of fishing-nets, we think it probable that the main water may be kept available for fish capture unimpeded by further restrictions.

#### PORT STEPHENS.

The supply has been fair in quantity, and obtained principally from the lower part of the Harbour, and from the outside fishing grounds.

The Inspector reports that, during the months from May to August, there were no fish in the upper waters of the harbour. After this they appeared in large numbers ; but as the upper waters are too remote for means of transit, they are not much netted by the fishermen.

#### PORT JACKSON.

This water comes seventh in order of productiveness. The Inspector reports that in the early part of the year fish were very scarce in all of the Port, from Middle Harbour to Hen and Chicken Bay on the Parramatta River ; but while this was the case as regards fish, prawns were more plentiful than has hitherto been known. We regard the tributaries of this Port as of great value as nurseries for spawning fish, and we keep them constantly closed against netters. Inspector Mulhall and his assistants are most unceasing in their efforts to protect these closures from plunder, and very much improvement in the shape of increasing supply is observable.

#### INLAND FISHERIES.

As we have before had the honor to report, the Inland Fisheries are very imperfectly protected by legislation so that our control of them is but little more than nominal. The principal catch is made on the Murray River in the vicinity of Moana, from whence it is forwarded by rail to the Melbourne market. During last year 46,828 lb. were so captured and sent. This catch is by far the lowest we have yet recorded, the quantity obtained in 1883 having been no less than 330,568 lb. ; the decrease, which is attributed to the high state of the waters and the vigour with which the Inspector has suppressed the use of the destructive bag nets previously in use, has been regular since that year, for in 1884 the catch weighed 155,918 lb., in 1885, 73,752 lb., and in 1886, as already stated, 46,828 lb.

As however all of this supply has gone to the Victorian market the decrease has not affected New South Wales prejudicially. The Murray River fisheries cannot be said to be revenue producing, for there are only about twelve men engaged in catching, and these men are not required by law to pay any license fee. All the law demands is an annual fee of £1 for the boats they use.

What

What supervision we are maintaining over this water is practically for the benefit of Victoria only. We think an effort should be made to conserve this fishery for our own people, or at least that legislation sufficient to prevent the supervision being an unremunerative charge on our revenue should be provided.

We invite attention to the report of the local Inspector, Mr. Osborne Wilshire, which will be found in the appendix.

The Lake George fishery, which by rail to Bungendore can be reached in six or seven hours, is within distance which can be made readily available for a supply of fresh water fish to the metropolis; this fishery is deserving of more attention than it has hitherto received from fishermen.

Your Commissioners have pleasure in stating that in response to an invitation from the local Commission they undertook the preparation and collection for the Colonial and Indian Exhibition, 1886, of exhibits which should be illustrative of the condition and progress of the fisheries of the Colony.

These exhibits consisted of specimens of oysters taken from our several coastal waters, also of the various edible kinds of fish preserved to our order, both in the fresh and smoked state by two of the principal meat preserving companies, the Sydney Meat Preserving Company (Limited), and Messrs. Walsh, Elliott, and Rennie, of Botany, as well as tinned oysters, prawns, and crayfish, and a collection of fish oils.

In addition, assisted by the Australian Museum, we supplied a splendid collection of Australian sponges.

Dr. Von Lendenfeld, who has made this matter of sponges one of diligent research, estimates the number of known species at 350, and considering how little knowledge we possess of the Australian marine invertebrates, compared with our acquaintance with those in European seas, we may conclude that the species in our waters exceed in number those found in any other locality of like extent.

In addition, and with like assistance, we were enabled to supply photographs, as well as life-size oil paintings, of Australian fish, fish in alcohol, stuffed fishes, and marine mammalia.

A reference to the Appendix B, 1885, will afford information as to the extent and description of these exhibits, and we venture to think that at that Exhibition New South Wales was in this particular direction worthily represented.

Your Commissioners find a satisfaction in being able to state that in the three years, 1884, 1885, and 1886, the revenue of the Department has in total exceeded the expenditure by the sum of £2,151 1s. 1d., as will be seen from the following table:—

Year.	Revenue.			Expenditure.		
1884	...	...	£5,865 17 9	...	...	£4,525 6 9
1885	...	...	4,988 4 0	...	...	5,565 18 8
1886	...	...	7,089 3 2	...	...	5,700 18 5
			£17,943 4 11			£15,792 3 10

Excess of total revenue over expenditure, £2,151 1s. 1d.

Your Commissioners hope early next year to be able to report a similar favourable result for 1887.

Since your Commissioners last had the honor to address you, three vacancies occurred on their Board by reason of the resignations of Messrs. Geddes, Want, and Thomas. These vacancies were respectively filled by the appointments of Messrs. James Richard Hill, Alexander Oliver, M.A., and S. H. Hyam, M.P., so that the Commission at present consists of the following:—

James C. Cox, M.D., President;  
 Edward Pierson Ramsay, LL.D.;  
 James Richard Hill;  
 Alexander Oliver, M.A.;  
 S. H. Hyam.

In October of the present year Drs. Cox and Ramsay's tenure of office as Commissioners will have expired.

In the permanent staff at head quarters no change has taken place beyond the appointment of the Secretary, Mr. Lindsay Thompson, to the additional position of Chief Inspector of Fisheries. The creation of this office was considered desirable in the interests of the fisheries. In order to cope with the large number of applications for leases for oyster culture, and to secure the efficient performance of the general business of the Department, it was found necessary to employ temporary assistance; some of this assistance being still required has so far been retained.

In the inspectorial staff we have to report the removal of Mr. Jas. Quinan, the Inspector for the Home Division of Fisheries, his services having been dispensed with. It is not at present intended to recommend that the vacancy so created be filled; also, the appointment of Mr. D. W. Benson to Lake Illawarra, of Mr. C. H. Otway to Port Stephens, in the room of Mr. J. C. White, resigned, and of Mr. Angus Sutherland to Moruya *vice* Captain Tranent, deceased. We may note also the appointment of Bourne Russell as an Acting Assistant Inspector of Fisheries at Eden, and Frederick Nelson to a like position at Lake George.

In submitting this Report for your consideration, we think we are warranted in offering our congratulations upon the general results achieved.

JAMES C. COX,  
President.

1884.

## APPENDIX A.

AWARDS of the Juries of the International Fisheries Exhibition, London, 1883.

## NEW SOUTH WALES.

	Gold Medal.	Silver Medal.	Bronze Medal.	Diploma.
JURY No. 3.				
The Commissioners of the New South Wales Fisheries—Collection of Fishing-gear, Nets, &c.	.....	.....	B.	
JURY No. 15.				
The Commissioners of the New South Wales Fisheries—Collective Exhibit .....	G.			
The Commissioners of the New South Wales Fisheries—Tinned Fish .....	.....	S.		
The Commissioners of the New South Wales Fisheries—Smoked and Dried Fish .....	.....	.....	B.	
JURY No. 23. Sec. I.				
The Trustees of the Australian Museum, Sydney—General Exhibit .....	G.			
The Commissioners of the New South Wales Fisheries—Edible Mollusks .....	.....	S.		
JURY No. 23. Sec. II.				
The Trustees of the Australian Museum, Sydney—Collection of Fish in Spirits .....	G.			
The Commissioners of New South Wales Fisheries—Collection of Oil-Paintings of Fish.	G.			
The Hon. W. J. Macleay, F.L.S.—Work on Ichthyology .....	G.			
E. P. Ramsay, F.L.S., F.G.S., &c.—MS. Notes on Australian Fishes and Photographs.	G.			
The Rev. J. E. Tenison-Woods, F.L.S.—Works on Ichthyology .....	.....	.....	.....	D.
JURY No. 23. Sec. III.				
The Trustees of the Australian Museum, Sydney—General Exhibit of Seals and other Aquatic Mammals destructive to Fish.	G.			
The Trustees of the Australian Museum, Sydney—Dugongs ( <i>Halicornis australis</i> ).....	G.			
The Trustees of the Australian Museum, Sydney—Collection of Birds destructive to Fish, &c.	.....	S.		
JURY No. 26.				
The Trustees of the Australian Museum, Sydney—Squalidæ .....	G.			
The Trustees of the Australian Museum, Sydney—Muraenidæ .....	G.			
The Trustees of the Australian Museum, Sydney—Mugilidæ .....	G.			
The Trustees of the Australian Museum, Sydney—Cirrhitidæ .....	G.			
The Trustees of the Australian Museum, Sydney—Triglidae .....	.....	S.		
The Trustees of the Australian Museum, Sydney—Scombridæ .....	.....	S.		
The Trustees of the Australian Museum, Sydney—Percidæ .....	.....	S.		
The Trustees of the Australian Museum, Sydney—Sparidæ .....	.....	S.		
The Trustees of the Australian Museum, Sydney—Raidæ .....	.....	S.		
The Trustees of the Australian Museum, Sydney—Large specimen of <i>O. thargoriscus</i> sp.	.....	S.		
The Trustees of the Australian Museum, Sydney—Siluridæ .....	.....	.....	B.	
The Trustees of the Australian Museum, Sydney—Sciænidæ .....	.....	.....	B.	
JURY No. 27. Sec. I.				
The Trustees of the Australian Museum, Sydney—Collection of Stuffed Fish.....	G.			
Total .....	13	0	4	1
TASMANIA.				
JURY No. 23. Sec. I.				
Beddome, Lieut. C. E.—General Collection of Tasmanian Shells.....	G.			
JURY No. 23. Sec. II.				
The Commissioners of the Tasmanian Fisheries—Collection of Fish .....	G.			
The Commissioners of the Tasmanian Fisheries—Collection of Water-colour Paintings.	.....	S.		
JURY No. 23. Sec. III.				
The Commissioners of the Tasmanian Fisheries—General Exhibit of Birds and Mammals.	.....	S.		
JURY No. 26.				
The Commissioners of the Tasmanian Fisheries—Trichiuridæ .....	G.			
The Commissioners of the Tasmanian Fisheries—Cirrhitidæ .....	.....	S.		
Total .....	3	3		

## APPENDIX B.

COMMISSIONERS of Fisheries for New South Wales, 1884:—

James C. Cox, Esq., M.D., President.

George F. Want, Esq.,

Edward P. Ramsay, Esq.,

John H. Geddes, Esq.,

Frederick Thomas, Esq.

Official Staff, 1884.

Lindsay G. Thompson, Secretary to the Commissioners and Chief Inspector of Fisheries.

Edward J. Ellis, 1st Clerk.

Edgar Cox, Clerk.

J. F. O'Grady, Clerk.

W. A. Trengrouse, Draftsman.

J. H. Mackenzie, "

A. Reid, "

William Lannen, Messenger.

James

James Quinan, Inspector for Home Division of Fisheries.		
Thos. Temperley, „	Northern	„
George G. Bruson „	Southern	„
Andrew Gylor, Assistant Inspector of Fisheries,		Manning River.
Thomas Mulhall, „	„	Sydney.
Henry Curan, „	„	Newcastle.
Peter Smith, „	„	Hawkesbury River.
Charles Gordon, „	„	Shoalhaven.
J. C. White, „	„	Port Stephens.
William Boyd, „	„	Lake Macquarie.
John D. Grant, „	„	Botany and George's River.
Richard Seymour, Assistant Inspector of Fisheries,		Fish Market, Sydney.
W. N. Cain „	„	Brisbane Water.
F. W. Smithers, „	„	Eden.
William McGregor, Acting Assistant Inspector of Fisheries,		Tweed River.
Thomas Stewart, „	„	Bellinger River.
W. J. Whaites, „	„	Nambucca River.
John Jamieson, „	„	Macleay River.
A. H. Kendall, „	„	Cape Hawke.
H. W. C. Windeyer, „	„	Port Macquarie.
Thomas Laman, „	„	Port Stephen's Heads.
A. T. Black, „	„	Broken Bay.
Bourne Russell, „	„	Twofold Bay.
Angus Sutherland, „	„	Moruya.
George Glading, Boatman Sydney.		
Richard Hellings, „	„	„
Frank Aldrich, „	„	Botany and George's River.

## APPENDIX C.

RETURN showing the quantity of fish exported from Moama to Melbourne during 1884:—

	lbs.		lbs.
January .....	27,776	July .....	93,016
February .....	18,256	August .....	3,172
March .....	21,280	September .....	5,560
April .....	15,680	October .....	9,576
May .....	6,904	November .....	20,272
June .....	3,120	December .....	15,196
			9,126
	93,016		155,918

## APPENDIX D.

RETURN of the number of bags of Oysters received at Sydney from various places on the Coast during each month of the year 1884, and the amount of Royalty collected thereon at the Custom House.

Date.	Port of Shipment.	Name of Place.	No. of Bags.	Rate.	Royalty.	Amount.
1884.				s. d.	£ s. d.	£ s. d.
Jan.....	Bateman's Bay .....	Clyde .....	5	2 6	0 12 6	
	Palmer's Island .....	Clarence .....	633	„	79 2 6	
	George's River .....	George's River .....	70	„	8 15 0	
	Crokie .....	Manning River .....	53	„	6 12 6	
	Port Stephens .....	Port Stephens .....	188	„	23 10 0	
	Jervis Bay .....	Bherewerre .....	222	„	27 15 0	
	Shoalhaven .....	Shoalhaven .....	74	„	9 5 0	
	Moruya .....	Tuross .....	173	„	21 12 6	
	Forster .....	Wallis Lake, Cape Hawke .....	71	„	8 17 6	
	Eden .....	Wondboyne .....	47	„	5 17 6	
			1,536			192 0 0
Feb.....	Bateman's Bay .....	Clyde .....	402	2 6	50 5 0	
	Palmer's Island .....	Clarence River .....	136	„	17 0 0	
	George's River .....	George's River .....	35	„	4 7 6	
	Crokie .....	Manning River .....	69	„	8 12 6	
	Port Stephens .....	Port Stephens .....	850	„	106 5 0	
	Shoalhaven .....	Shoalhaven .....	131	„	16 7 6	
	Moruya .....	Tuross .....	225	„	28 2 6	
	Do .....	Moruya .....	97	„	12 2 6	
	Forster .....	Wallis Lake, Captain Hawke .....	15	„	1 17 6	
	Tathra .....	Bega River .....	5	„	0 12 6	
	Evans River .....	Evans River .....	88	„	11 0 0	
	Ballina .....	Richmond .....	66	„	8 5 0	
	Eden .....	Pambula .....	26	„	3 5 0	
			2,145			268 2 6

APPENDIX E—continued.

Date.	Port of Shipment.	Name of Place.	No. of Bags.	Rate.	Royalty.	Amount.
				s. d.	£ s. d.	£ s. d.
1884. March	Bateman's Bay	Clyde	184	2 6	23 0 0	170 10 0
	Palmer's Island	Clarence	8	"	1 0 0	
	George's River	George's River	38	"	4 15 0	
	Crokie	Manning River	408	"	51 0 0	
	Shoalhaven	Shoalhaven	20	"	2 10 0	
	Moruya	Tuross	170	"	21 5 0	
	Evans River	Evans River	26	"	3 5 0	
	Tathra	Bega River	12	"	1 10 0	
	Ulladulla	Ulladulla	6	"	0 15 0	
	Ballina	Richmond	409	"	51 2 6	
	Eden	Wonboync	22	"	2 15 0	
	Do	Panbula	30	"	3 15 0	
		Narravilla	27	"	3 7 6	
		Port Jackson	4	"	0 10 0	
		1,364				
April	Ballina	Richmond	54	2 6	6 15 0	24 2 6
	Bateman's Bay	Clyde	67	"	8 7 6	
	Crokie	Manning	30	"	3 15 0	
	Shoalhaven	Shoalhaven	16	"	2 0 0	
	Port Jackson	Port Jackson	6	"	0 15 0	
	Eden	Wonboync	20	"	2 10 0	
		193				
May	Bateman's Bay	Clyde	47	2 6	5 17 6	8 17 6
	Crokie	Manning	18	"	2 5 0	
	Eden	Wonboync	6	"	0 15 0	
		71				
June	Bateman's Bay	Clyde	159	2 6	19 17 6	44 10 0
	Croki	Manning	98	"	12 5 0	
	Ballina	Richmond	22	"	2 15 0	
	Tweed	Tweed	54	"	6 15 0	
	Port Stephens	Port Stephen	10	"	1 5 0	
	Eden	Wonboync	13	"	1 12 6	
			356			
July	Bateman's Bay	Clyde	142	2 6	17 15 0	29 5 0
	Croki	Manning	66	"	8 5 0	
	Ballina	Richmond	6	"	0 15 0	
	Eden	Wonboync	20	"	2 10 0	
			234			
August	Bateman's Bay	Clyde	152	2 6	19 0 0	26 2 6
	Croki	Manning	15	"	1 17 6	
	Ballina	Richmond	6	"	0 15 0	
	Port Stephens	Port Stephens	26	"	3 5 0	
	Eden	Wonboync	10	"	1 5 0	
			209			
Sept.	Bateman's Bay	Clyde	164	2 6	20 10 0	39 17 6
	Croki	Manning	15	"	1 17 6	
	Ballina	Richmond	8	"	1 0 0	
	Port Stephens	Port Stephens	42	"	5 5 0	
	Forster	Wallis Lake, Cape Hawke	27	"	3 7 6	
	Port Macquarie	Hastings	31	"	3 17 6	
	Camden Haven	Camden Haven	5	"	0 12 6	
	Eden	Wonboync	19	"	2 7 6	
	Palmer's Island	Clarence	8	"	1 0 0	
			319			
October	Bateman's Bay	Clyde	96	2 6	12 0 0	37 5 0
	Forster	Wallis Lake, Cape Hawke	20	"	2 10 0	
	Port Stephens	Port Stephens	88	"	11 0 0	
	Tomakin	Tomakin	24	"	3 0 0	
	Moruya	Tuross	17	"	2 2 6	
	Port Macquarie	Hastings	29	"	3 12 6	
	Shoalhaven	Shoalhaven	15	"	1 17 6	
	Ballina	Richmond	2	"	0 5 0	
	Eden	Panbula	7	"	0 17 6	
			298			
Nov.	Bateman's Bay	Clyde	70	3 0	10 10 0	
	Shoalhaven	Shoalhaven	96	"	14 8 0	
	Moruya	Tuross	31	"	4 13 0	
	Port Stephens	Port Stephens	122	"	18 6 0	
	Tomago	Tomago	7	"	1 1 0	
	Forster	Wallis Lake, Cape Hawke	44	"	6 12 0	
	Ballina	Richmond	37	"	5 11 0	
	Newcastle	Newcastle	9	"	1 7 0	
	Eden	Panbula	15	"	2 5 0	

## APPENDIX E—continued.

Date.	Port of Shipment.	Name of Place.	No of Bags.	Rate.	Royalty.	Amount.
1884.						
Nov.	Broken Bay .....	Broken Bay .....	105	s. d. 3 0	£ s. d. 15 15 0	£ s. d. 87 12 0
	Croki .....	Manning.....	26	"	3 18 0	
	Palmer's Island .....	Clarence .....	14	"	2 2 0	
	George's River.....	George's River .....	8	"	1 4 0	
			584			
Dec.	Port Stephens .....	Port Stephens .....	305	3 0	45 15 0	169 19 0
	Shoalhaven .....	Shoalhaven .....	201	"	30 3 0	
	Broken Bay .....	Broken Bay .....	182	"	23 6 0	
	Tonago .....	Tonago .....	6	"	0 18 0	
	Forster .....	Wallis Lake, Cape Hawke .....	35	"	5 5 0	
	Port Macquarie .....	Hastings .....	26	"	3 18 0	
	Ballina .....	Richmond .....	16	"	2 8 0	
	Camden Haven .....	Camden Haven .....	42	"	6 6 0	
	Croki .....	Manning.....	49	"	7 7 0	
	Bateman's Bay .....	Clyde .....	187	"	23 1 0	
	Palmer's Island .....	Clarence .....	41	"	6 3 0	
	Eden .....	Panbula .....	13	"	1 19 0	
	Wagonga .....	Wagonga .....	9	"	1 7 0	
	Bermagui .....	Bermagui .....	4	"	0 12 0	
	Newcastle .....	Newcastle .....	8	"	1 4 0	
	George's River.....	George's River .....	9	"	1 7 0	
			1,133			
		Total.....	8,442			1,098 3 6

## APPENDIX E.

## RETURN of Revenue for 1884.

			£	s.	d.	£	s.	d.
Fishing-boat licenses...	...	...	222	@	1 0 0	222	0 0	0
Do .....	...	...	61	@	0 10 0	30	10 0	0
Fishermen's licenses	...	...	513	@	0 10 0	256	10 0	0
Do .....	...	...	138	@	0 5 0	34	10 0	0
Oyster-dealers' licenses	...	...	94	@	5 0 0	470	0 0	0
Do .....	...	...	9	@	2 10 0	22	10 0	0
Oyster-dredging licenses	...	...	163	@	3 0 0	489	0 0	0
Brand certificates	...	...	56	@	0 2 6	7	0 0	0
Royalties on oysters raised from natural beds	...	...	...	...	...	1,098	3 6	0
Deposits on applications for leases for oyster culture	...	...	...	...	...	2,980	0 0	0
Sundries, including moiety of penalties, fines, and forfeitures recovered under Fisheries Act	...	...	...	...	...	255	14 3	0
						£5,865	17 9	0

## APPENDIX F.

## SCHEDULE of Applications for Leases of Shore for Oyster Culture.

	Yds.			Yds.	
Edwin Cain .....	500	Duras Water	P. M. Rotton.....	1,000	Wagonga River, Nooroona
Walter Foreman .....	800	The Pagos, Tuross Lake	Claude Quinan .....	2,000	Karuah River, Port Stephens
James Barclay .....	200	Narrawillee Creek	William Ougley .....	1,000	Myall River
Samuel Lilley .....	1,000	Fenningham Island, Port Stephens	William Ougley .....	600	Pipe-clay River
Peter Melvey .....	200	Fisherman's Point, Hawkesbury River	Gother K. Mann .....	200	Bull's Head Bay, Port Jackson
Peter Melvey .....	300	do do	Daniel O'Connor .....	250	Platt's Passage, Hunter River
Joseph Southwell .....	300	Maunung River	Henry Woodward .....	2,000	Bull's Island, Port Stephens
Marian Quinan .....	2,000	Bob's Farm Creek, Port Stephens	Do .....	1,000	Mud Island, Port Stephens
Mary Ann Quinan .....	2,000	Boto Boto Point, Port Stephens	Percy Wakefield .....	300	Nelson's Lake, Tanja
Claud Quinan .....	2,000	Karuah River, Port Stephens	James Newell .....	800	North Creek, Richmond River
Annie Beatrice Quinan.....	2,000	do do	Margaret C. Hawdon .....	1,000	Kyla Park, Tuross Lake
Laura Quinan .....	2,000	Middle Bed, Karuah River	James Newell .....	1,000	North Creek, Richmond River
Harold Quinan .....	2,000	Swan Bay, Port Stephens	Patrick O'Connor .....	2,000	Browera Creek, Hawkesbury River
Nina Quinan .....	2,000	Karuah River, Port Stephens	Do .....	1,200	Platt's Passage, Hunter River
Joseph Kenady .....	400	Mooney Mooney Creek, Hawkesbury River	Thomas Wilson, senr. ...	800	Crookhaven River
Murdock M'Intosh .....	300	South Foster, Wallis Lake	Thomas Wilson, junr. ...	800	Western Arm, Crookhaven River
John Forster .....	1,000	Wagonga River, parish of Nooroona	John Wilson .....	800	Comerong Bay, Crookhaven River
Frank Griffin .....	1,360	Port Stephens, between Limeburners' and Pipe-clay Creeks,	Joseph Haizer .....	800	do do
Thomas Colville.....	1,400	Between the North of Pipe-clay Creek and the Little Mountain	Henry Haizer .....	800	do do
Alber Situart.....	200	Tuross Lake	George Haizer .....	800	Curley's Bay do
Thomas Padden .....	200	Evans River	Do .....	800	do do
Charles Evans .....	1,000	Schnapper Island, Port Stephens	Joseph Coote, junr. ....	800	Comerong Bay do
Alexander Ross .....	400	Micalo Island, Tolombi	William Coote .....	800	do do
			Richard Ostem .....	800	do do
			Joseph Coote .....	800	do do
			Alfred Reginald Fremlin.	2,000	Limeburners' Creek, Hastings river
			Do .....	2,000	Limeburners' Creek
			Do .....	2,000	do
			Mutlow Cuthbert Fremlin	2,000	Limeburners' Creek, Hastings River
			Reginald William Fremlin	2,000	do do

## APPENDIX F—continued.

	Yds			Yds	
Cuthbert Mallow Fremlin	2,000	Limeburner's Creek, Hastings River	Thomas Davis	500	Long Point, Tuross Lake
Henry B. Cohen	2,000	do do	Frederick J. Gibbins	700	North Creek, Richmond River
Do	2,000	do do	Henry Burns	2,000	Warwiba Creek, Manning River
William Cohen	2,000	do do	Frederick J. Gibbins	2,000	do do
Edward Rose	300	Tuross Lake	Alfred J. Gibbins	1,500	North Creek, Richmond River
Albert Stuart	300	do	Bezwick Bulmer	220	Oyster Reach, Manning River
Herbert McIntosh	500	Wallis Lake	William Ougley	70	Narrabeen Lagoon
John Lonesborough	700	Crookhaven River	Frederick J. Gibbins	2,000	Spit Island, Hunter River
Alexander Philp, junr.	1,000	Micolo Island, Clarence River	Hans Anderson	1,340	do do
Henry Woodward	1,700	Lake Channel, Clarence River	William Bird	700	Camden Haven
Do	5,000	do do	Frederick J. Gibbins	2,000	do do
Do	1,700	do do	John Bird	2,000	do do
Do	750	do do	William Ougley	900	Cabbage-tree Island, Manning River
Annie Beatrice Quinan	2,000	Wonboyn River	Andrew Knox	1,000	East side, Clyde River
Laura Quinan	2,000	do do	Do	1,500	do do
Harold Quinan	2,000	Port Stephens	Joseph Coote	800	Sand Island, Port Stephens
Claudius Quinan	2,000	do do	Richard Ostern	500	do do
H. W. Bell	1,200	Tuross Lake	Edwin Cain	1,000	Clyde River
William Coote	500	Appletree Island, Crookhaven River	H. V. Harrison	600	Kiah River
Joseph Coote	500	do do	Do	1,000	Myrral Inlet, Eden
Joseph Coote, junr.	500	do do	J. V. Harrison	1,000	do do
Richard Ostern	500	do do	John Davison	500	Wagonga Bay
Patrick Donovan	200	Clyde River	Alexander Ross	600	Lake Channel, Clarence River
Michael Ryan	400	do do	Peter Engsham	600	Curragee Lake
Thomas Templeman	300	do do	Charles Brice	800	Bermagui River
Richard Ostern	800	Windy Wappa, Myall River	John Severs	944	Broadwater
William Coote	800	Sand Island, Myall River	William Lavington, senr.	400	South bank, Bega River
Joseph Coote	800	do do	Do	100	do do
John E. Weekes	800	do do	James Stanbury, junr.	500	Crookhaven
Richard R. Armstrong	2,000	Cabbage-tree Lagoon, Port Hacking	William Lavington, senr.	300	North bank, Bega River
John C. Walker	2,000	do do	Do	100	do do
Waldyve Wellington Taitton	900	Oyster Creek, Clarence River	Do	300	South bank, do
Richard R. Armstrong	1,100	Quibray Bay, Botany	Do	1,300	North bank, do
William Martin	1,100	do do	Philip Wetheridge	500	Shoalhaven River
James Hunt	2,000	Oyster Creek, Clarence River	Philemon Wetheridge	500	Duck Creek, Shoalhaven River
Robert C. Rose	2,000	do do	P. Wetheridge	1,000	Comerong Island Shoalhaven River
W. H. Hicks	1,100	Quibray Bay, Botany	Frederick Christenson	2,000	Shoalhaven River
John Bird	500	Camden Haven	Alfred Reginald Fremlin	1,000	Hastings River
J. Arnold	1,100	Quibray Bay, Botany	Philip Cohen	1,000	do do
James Hanley	500	Camden Haven	Alfred J. Gibbins	1,500	Richmond River
Thomas H. Budden	2,000	Wonboyn River	Do	750	do do
Do	2,000	do do	Philip Cohen	1,000	Limeburner's Creek, Hastings River
William Frederick Griffin	500	Limeburner's Creek, Port Stephens	H. V. Harrison	500	Kiah River
A. E. Griffin	600	do do	Albert Edward Stuart	500	Tuross Lake
F. A. Griffin	600	do do	Athanasio Comino	2,000	Evans River
Joseph Hauser	500	Crookhaven River	John Fisher	2,000	do do
Henry Hauser	500	do do	George Dimitri	2,000	Evans River
George Hauser, junr.	500	do do	Sydney Heber Loten	300	Cabbage-tree Island, Manning River
George Hauser, senr.	500	do do	William Lavington, senior	600	Bega River
Margaret C. Hawdon	300	Kyla Park, Tuross Lake	Frederick J. Gibbins	400	Evans River
Do	400	do do	Do	2,000	do do
Do	100	do do	Thomas Paddon	1,000	do do
Do	200	do do	Do	194	do do
Joseph Coote	1,000	Tillighery Creek, Port Stephens	William Templeman	400	Clyde River
William Coote	1,000	do do	John Duren	500	Wagonga River
Charles Peterson	1,000	Bull's Island, Tillighery Creek	Edwin Kirkham	500	do do
Henry Woodward	300	Mogo Creek, Clyde River	Walter Thomas Coonan	500	Karuah River
John Holdom	500	Karuah River, Port Stephens	Do	500	do do
Do	400	do do	Do	500	do do
John McMillan	300	Durras Lake	Frederick Henry Melmeth	200	Sawyer's Point, Karuah River
John McMillan, senr.	500	do do	John Smith	300	Clyde River
James McMillan	300	do do	William Templeman	200	do do
William Latta	1,000	do do	Cuthbert Mallow Fremlin	2,000	Wattamolla, Port Hacking
Thomas Hewlett	1,000	Bateman's Bay	J. H. Young	2,000	Hastings River
J. Sharp & E. McKinnon	200	North Creek, Richmond River	William Thomas Pool	2,000	Cockle Creek
Geo. Maunsell	2,000	Clyde River	P. Lynch	500	Wagonga River
John Callaghan	300	Middle Ground, Karuah River	Joseph Benjamin Olliffe	2,000	Wonboyn River
Do	100	Billy Batton's Point, Port Stephens	Do	2,000	do do
John S. Dick	400	Port Macquarie	Richard R. Armstrong	2,000	do do
J. Surcombe	300	Bega River, north side	Do	2,000	do do
C. J. Carter	600	South side of Bega River, Tathra	Tancred D. C. Armstrong	2,000	do do
William Clement	250	North Creek, Richmond River	Laurons F. M. Armstrong	2,000	do do
George Dent, junr.	500	Currumbene Creek, Jervis Bay	William Geo. Armstrong	2,000	do do
Alfred Harvey Emerson	1,500	North Bank, Wagonga River	J. Sharp & E. Mackinnon	800	Richmond River
Thomas Field	500	do do	Christopher West	200	Cockle Creek
E. J. Coonan	2,000	Wagonga River	Arthur Maldon	500	Broadwater, Panbula River
Thomas Howlett	2,000	do do	Henry Groll	522	Panbula River
George Philben	500	Clyde River	William Stephens	1,900	do do
C. H. Hespie	1,000	Durras Lake	George Stephens	500	Broadwater, Panbula River
Edwin Cain	500	Bharrewerrie River	Henry Woodward	1,000	Camden Haven
John Bryce	300	South Bank, Tuross River	Do	400	Wallis Lake
Charles Brown	2,000	North Creek, Richmond River	Do	1,000	do do
John & Alexander Ayles	300	Money Money Creek, Hawkesbury River	Alfred Carter	2,000	Panbula River
William Vincent Seymour	200	Wagonga River	Henry C. Beall	2,000	do do
E. J. Cowan	2,000	Berowra Pt., Hawkesbury River	Do	2,000	do do
John Crumpton	200		Andrew Gyler, junior	500	Scott's Creek, Manning River
			Henry C. Beall, junior	2,000	Panbula River

## APPENDIX F—continued.

	Yds.			Yds.	
Alexander Newton	300	Manning River	A. Emerson	600	George's River
M. A. Black	700	Rose Bay	William Marsh	700	North Creek, Richmond River
Henry Woodward	1,000	Wallis Lake	Edward Butcher	100	Lanc Cove River
Do	1,000	do	Henry Moore	180	Rose Bay
Do	220	Manning River	Eliza C. Davis	200	Cockle Creek
Do	220	Manning River	R. C. Rose	1,500	Bull's Island, Port Stephens
Do	500	Port Hacking	Walter Black	300	Oyster Channel
Do	500	do	Sarah Ann Baker	800	Clarence River
J. R. Hill	650	Vauchuse, Port Jackson	Frederick Schmitzer	100	Manning River
Frank Bertram	500	Evans River	J. F. Merrett	100	Cockle Creek
Richard Lloyd	200	Peat's Ferry, Hawkesbury River	Mary Agnes Dick	250	Port Macquarie
Constantine Fisher	1,000	Wagonga River	Mathew Henry Woolland	300	Green Point, Pambula
Mark Fisher	2,000	do	Reginald C. F. Armstrong	2,000	Weony Bay, George's River
Peter Melvey	600	Bar Point, Hawkesbury River	William George Armstrong	200	do do
Timothy Wray	500	Clyde River	Richard R. Armstrong	200	do do
Christopher Fredk. Schmidl	200	do	Laurens F. M. Armstrong	200	do do
Thomas Cadell	170	Kirribilli	James Kennedy	600	Comerong Island
Nicholas J. Cusack	2,000	Evans Creek	John Ruprecht	400	Manning River
Mrs. H. Baker	800	Oyster Creek, Clarence River	John Severs	400	Saltwater Creek, Panbula River
A. Hunter & M. Russell	600	South Ballina, Richmond River	John Severs, jun.	1,000	Broadwater, Panbula River
Thomas Abbott Palmer	100	Cockle Creek	John Wilson	300	Blackwall, Brisbane Water
Do	100	do	John Longworth	264	Camden Haven River
Peter Melvey	900	Brovera Creek, and Hawkesbury River	Do	1,000	do
Mrs. Marian Quinan	500	Merica Creek	Do	400	do
Samuel Lilley	500	Port Stephens	Sarah Martins	200	Oyster Channel, Clarence River
Henry Thompson	1,000	do	Do	200	South Arm, Brunswick River
Samuel Lilley	500	Port Stephens	Do	1,000	North Arm, do
Do	1,000	Flemmington's Island, Port Stephen	Do	300	do do
John Milson	500	Hawkesbury River	John Gylar	400	Manning River
R. Wisdom & S. H. Terry	2,000	George's River	Fred J. Gibbins	1,200	Camden Haven River
William Layton	300	Manning River	Joseph Laurie	500	do
John Cameron	200	do	J. Graham Love	2,000	Wallunga Lake
Hans Anderson	880	Moquito Island, Hunter River	W. Thompson	300	Panbula River
Frederick J. Gibbins	880	Hunter River	E. O. Moriarty	100	Shell Cove
Do	880	do	James Wherry	300	Manning River
Edwin Cain	500	Clyde River	Joseph Ross	400	Goat Island
Frederick Henry Melmeth	200	Sawyer's Point, Port Stephens	James Wherry	100	Michell's Island, Manning River
William Cohen	1,000	Hastings River	George Murdoch, jun.	300	Oxley Island, Manning River
Francis Hughes	250	Hunter River	Henry Woodward	2,000	Broughton Creek
Jas. William Gordon	300	Manning River	Do	1,000	Goodwin's Island
Richard Ostern	1,500	Nogee Creek, Wonboyn River	William Mitchell	100	Oxley Island
Henry Thompson	500	Tillighery Creek, Port Stephens	Joseph John Spruson	23	Neutral Bay
James Graham	100	Oyster Beach, Manning River	W. A. Uhr	37	do
Do	200	Oyster Creek, Manning River	Thomas Street	1,500	Manning River
Francis Syron	300	Oyster Bank	H. W. Forster	200	Camden Haven
Percy Wakefield	1,000	Cuttagee Lake	Do	200	do
Do	1,000	do	F. A. Wright	540	Kissing Point Bay
James Dunlop	500	Kincumber, Broadwater	Archibald McLean	300	Manning River
Edwin Cain	500	Clyde River	Harold Quinan	300	Panbula River
W. C. Muston & A. Allardice	100	Port Stephens	R. Emmett	1,000	Patongu Creek, Hawkesbury River
Cuthbert Mutlow Fremlin	1,000	Maria and Hastings Rivers	Do	600	Porto Bay, do
Fred. J. Gibbins	2,000	Clyde River	A. W. Davison	500	Kiah River
Richard R. Armstrong	1,500	Danger Island, Hawkesbury River	E. M. Inherney & J. Butler	500	Hastings River
Do	1,500	do do	J. M. Inherney	1,300	do
William Lee	383	Manning River	Archibald Nicoll	300	Mooney Mooney Creek
Do	500	do	Nicholas J. Cusack	100	Clarence River
Alfred J. Gibbins	142	Clyde River	Joseph Lewis	700	North Creek, Richmond River
Henry Woodward	2,000	do	C. & A. Ainsworth	600	do do
James Evans	400	Koruah River	John Severs	300	Panbula River
William O. McMahon	264	Manning River	Joseph Lewis	500	North Creek, Richmond River
Do	264	do	Henry Woodward	200	Manning River
John Haldom	300	Karuah River	Beswick Bulmer	200	do
E. Brown	500	Tuross Lake	T. E. Harrison	200	Wonboyn River
Do	500	do	J. H. Martin	1,000	Panbula River
Henry Woodward	440	South Passage, Manning River	John Ross	400	Micolo Island
Mrs. F. M. Josephson	440	do do	George F. Want	160	Double Bay
James Cole	600	Mooney Mooney Creek	Henry Rooke	200	Port Stephens
John Archer	400	Evans River	Do	200	do
Henry Woodward	400	Manning River	George Rooke	1,200	do
Do	200	do	Do	100	do
Do	1,000	Camden Haven River	George Schmitzer	200	Manning River
Do	200	Manning River	John A. Bettini	1,000	Clyde River
Do	200	do	F. S. Ellis Holt	600	George's River
Samuel Holdom	400	Port Stephens	Francis Budd	400	Donovan's Creek, Clyde River
Frank Bertram	600	Evans River	William Latta	400	M'Leod's Creek, do
William Harkus	200	Moruya River	David Latta	500	Callendulla Creek
John William Bettini	1,000	Tuross Lake	Eyre G. Ellis	1,014	Little Cabbage Bay, Manly Cove
Abraham Windley	500	Tomago River	Reginald C. F. Armstrong	200	Batangabee Bay
Richard R. Armstrong	500	Clyde River	James Donnelly, jun.	500	Wonboyn River
Alexander Newton	200	Manning River	Richard R. Armstrong	1,000	do
J. C. Walker	400	Port Stephens	Laurens F. M. Armstrong	900	do
Richard R. Armstrong	400	Bob's Creek, Port Stephens	T. C. Armstrong	600	do
Francis Adams	150	Middle Harbour	W. G. Armstrong	600	Merica Creek, Wonboyn River
— Harrison	200	Kiah River	J. C. Walker	1,200	Wonboyn River
William Clerment	253	North Creek	A. R. Fremlin	300	Hastings River
A. Emerson	500	George's River	William Ougley	400	Middle Harbour
Do	450	do	T. Toul & G. P. Morse	660	Hunter River
Do	600	do	M. A. Black	300	Rose Bay
			John C. Neild	700	Manly Cove
			G. Withers	1,600	Hawkesbury River
			S. Taylor & F. Milford	200	Pittwater
			Samuel Taylor	1,000	Bar Point, Hawkesbury River

## APPENDIX F—continued.

	Yds.			Yds.	
Francis Butler	100	Tabouree Lake	Joseph J. Lewis	400	North Creek
Mrs. Jessie Campbell Brown	1,100	St. Hubert's Isle	William Wilson	1,000	George's River
Do	594	do	Do	700	do
F. G. Weaver	100	Double Bay	Francis Guy	500	Durras Lake
Stanley Lees Peydon	44	Lane Cove River	Edward Rose	300	Turoos Lake
James W. Meikle	331	Rose Bay	William T. Tucker	500	do
Philip Cohen	400	Hastings River	Samuel R. Smart	500	Turoos River
Robert M'Lean	300	Oxley Island	John Allen	500	Big Island
Charles Croeso	200	Mosquito Island	John S. Dick	400	Hastings River
C. Cecil Griffiths	1,300	George's River	Isabella Martin	270	Rose Bay
Edward Blake	100	Tounson's Bay, George's River	Robert H. D. White	700	Balbrook Cove
James Ramsay	880	Iron Cove Creek	Henry Woodward	300	Tillighery Creek
David Ramsay	1,320	Long Cove Creek and Iron Cove Creek	Do	1,000	Manning River
A. R. Fremlin	500	Hastings River	Emily Fremlin	400	Coolabong Creek
E. M. Hunt	300	Rose Bay	Philemon Witheridge	500	Shoalhaven
C. Cecil Griffiths	1,100	George's River	Rock Davis	200	Brisbane Water
E. M. Hunt	300	Rose Bay	Robert Cantley	200	Turoos Lake
D. Quigley & J. Black	2,000	Cockle Bay	James Gill	400	Camden Haven River
William Thomas Poole	1,800	Clarence River	James Pickering	600	Woniora River
D. Quigley & J. Black	2,000	Hunter River	Alexander Finch	200	Walkis Island
A. Armstrong	2,000	Cockle Creek	Do	700	Goodwin Island
W. Spier	2,000	do	Alexander Ross	450	Micalo Island
Alexander Barclay Black	1,200	Sandy Island	F. G. Crouch & M. Solling	85	Richmond River
Edw. Augustus Macpherson	400	Middle Harbour	John Milton	100	Clyde River
John Hall	600	Cockle Creek	Alexander Bryce, jun.	500	Bharrewerre River
William Pritchard	998	Five-dock Bay	Thomas Davis, jun.	100	Turoos River
F. L. Partridge	64	Shell Cove	James Armstrong	600	Wapengo Lake
J. Murphy, manager Holt-Sutherland Estate	1,500	Botany Bay	Henry Woodward	1,000	Port Stephens
Do	1,000	Weeny Bay	Frank Griffin	200	do
Do	2,000	Weeny Bay	James Ross	800	Hawkesbury River
Do	500	Quibray Bay	Robert Hardy	100	Brisbane Water
Do	300	Weeny Bay	Henry Woodward	1,000	Port Stephens
Michael Fagan	400	Watson Taylor's Creek	Edwin Cain	300	Clyde River
Do	300	do	F. Veremysec & A. E. Woodward	242	Rose Bay
Do	300	Brisbane Water	Charles Blaxland	600	Parramatta River
Peter Francis Fagan	1,200	do	Murdoch McIntosh	100	Cockatoo Island
Do	550	Hawkesbury River	Do	100	Tancurry
Michael Fagan	800	Brisbane Water	Frank Griffin	200	Port Stephens
William Cooper	1,500	Bouble Bay	Patrick Murray	100	Brisbane Water
A. Stuart & R. Harnett	2,000	Lane Cove River	Samuel Richardson	100	Double Bay
Do	2,000	Middle Harbour	F. Edward Joyce	150	do
Do	400	Burns' Bay	Richard R. Armstrong	200	Port Stephens
Do	400	Great Sirius Cove	Do	800	do
Do	400	Little Sirius Cove	Henry Woodward	1,000	do
Do	2,000	Sugarloaf Bay	Do	1,000	do
Do	400	Middle Harbour	Samuel Lilly	500	do
Samuel Crawford	300	Broken Bay	Richard Flood	100	Myall River
Do	400	do	Do	100	do
J. L. C. Rankin & Executors of the late Hon. Bowie Wilson	1,000	Middle Harbour	Peter Korsman	100	do
Do	2,000	do	W. Vickers Jacob	100	Rose Bay
Do	1,000	North Sugarloaf Bay	Nina Quinan	1,500	Wonboyn River
Do	1,000	Middle Harbour	Henry Woodward	200	Goat Island
Do	100	do	Do	500	Stinko Creek
G. S. Caird	2,000	do	Walter Foreman	200	Borang Lake
R. Harnett & A. Stuart	2,000	Great Sirius Cove	Do	400	do
R. G. Enneber & G. Phillips	88	Neutral Bay	Do	200	do
William Templeman	1,400	Big Island	Do	200	do
Alexander Martin	47	Long Cove	Do	200	do
Archibald Campbell	400	Tillighery's Creek	Do	300	do
Isaac Dobbins	100	Manning River	Henry Woodward	300	Broughton Creek
J. Callaghan and W. H. McIntosh	300	Lane Cove River	Nina Quinan	500	Wonboyn River
Do	300	Little Sirius Cove	George Hellings	500	Woolloomooloo Bay
Edwin Cain	200	Cullendulla Creek	William Stannard	8	Double Bay
Robert Craig	100	Neutral Bay	Philip F. Richardson	700	North Creek
Nicholas J. Cusack	400	Oyster Creek, Clarence River	Do	300	do
R. Ostern	200	Wotonger River	G. Haiser, jun.	300	Crookhaven River
William Glover	200	do	Robert H. D. White	700	Farm Cove
Thomas Ball	200	Pargogamar, Moruya	Fred J. Gibbins	2,000	Mullet Creek
A. Hunter & M. Russell	400	Richmond River	George Haiser	300	Shoalhaven
Alexander Templeman	300	Clyde River	Do	1,000	do
Henry C. Ziegler	250	Pompey Point, Broulee	Henry Woodward	800	Crookhaven River
Edwin Cain	200	Cullendulla Creek	Do	500	do
A. Philp	300	Micalo Island	Holt-Sutherland Estate Land Company	2,000	Torria Point, George's River
Charles d'Aprice	140	Lane Cove River	Do	500	Cummins' Point, do
Samuel H. Terry	300	George's River	Frank Griffin	200	Wurrung Island
James Marshall	100	Manning River	William Busby	200	Double Bay
Joseph Kennedy	2,000	Mooney Mooney Creek	Henry Woodward	1,000	Swan Island
Do	2,000	do	Do	600	do
Laura Quinlan	2,000	Wonboyn River	Alexander Ross	200	Warringa Island
Annie B. Quinlan	2,000	do	S. T. Hobart	100	Tarcan
Nina Quinan	2,000	do	Edwin Cain	300	Baleman's Bay
Clara Quinan	1,500	do	Do	200	do
Frederick Chave	200	Pittwater	John Holdom	1,100	Karuah River
Do	200	Do	Henry Woodward	1,100	Pelican Island, Clyde River
M. D. Harnston	400	North Creek	Do	300	Clyde River
Do	300	Do	Do	200	do
			John Longworth	400	Stinko Creek
			Henry Woodward	200	Clyde River
			Do	200	do
			Do	400	Mundalla Creek

## APPENDIX F—continued.

	Yds.			Yds.	
Henry Woodward	326	Crookhaven River	G. F. Want	100	Port Hacking
Do	500	do	Samuel Holdon	200	Karuah River
Do	500	do	R. H. D. White	400	Port Stephens
Do	1,000	do	Philemon Witheridge	600	Shoalhaven
Do	500	do	John Longborough	400	do
Do	300	do	R. Lloyd	400	Hawkesbury River
Do	500	do	G. Haizer	500	Crookhaven River
Do	300	Sheep Station Creek, Clyde River	Richard Lloyd	300	Hawkesbury River
Do	300	do	Henry Woodward	500	Clarence River
Do	200	do	John Longworth	500	Camden Haven
John Longworth	400	Stinko Creek	James Evans	600	Karuah River
Jones Agnew Smith	700	Balberook Cove	James Joass	1,000	Port Stephens
Do	800	Cockrenoyon Point, Pt. Stephens	Henry Engel	400	Swan Bay
Robert H. D. White	200	Garden Island	William Engel	800	Swan Island
F. Edward Joseph	200	Seven-shilling Beach	Edward Cain	200	Bateman's Bay
John Wm. Bettini	500	Horse Island, Tuross	Henry Kaiser	300	Crookhaven River
Do	500	Bateman's Bay	W. Bate	600	Port Stephens
R. Harnett, junr.	400	Mossman's Bay	Mrs. H. Muston	500	do
Do	400	Middle Harbour	A. Windley	200	Bateman's Bay
Henry Woodward	600	Good-night Island	Patrick Graham	100	Manning River
Do	200	Clyde River	William Wells	500	Hunter River
Alexander Ross	200	Orangdaman Island	R. E. Symonds	500	Port Stephens
James Barclay	500	Clyde River	William Wells	500	do
John Milton	300	Bateman's Bay	Percy Wakefield	2,000	Bega
William Davis	500	Coila, Bergalia	George Hables	200	Cape Hawke
George Sly, junr.	100	Tuross Lake	Arthur Hood Pegus	300	Oyster Channel, Clarence River
Charles Evans	400	Port Stephens	Charles Leusdt	1,000	Scobby's Bay, Port Stephens
Fred. J. Gibbins	800	Hunter River	Walter G. Bate	200	Bundabul Creek, do
Hans Anderson	1,000	Spectacle Island, Hunter River	Do	1,000	Port Stephens
G. F. Want	200	Ewey Bay, Port Hacking	Henry Thompson	200	Tilligherry Creek
Henry Woodward	300	Camden Haven	Do	200	Pelican Island
Do	400	do	William Thompson	400	Tomaree
Andrew Gyler, junr.	400	Mangrove Island	Samuel Lilley	1,000	do
Joseph Southwell	400	do	Thos. V. Want	200	Port Hacking
John Lewis	200	Tomakin River	Do	200	do
Do	400	do	John Holdon	800	Worong Island
Do	300	do	Arthur Hood Pegus	200	Waringa Island
Do	100	do	R. H. D. White	150	Balberook Cove
Do	400	do	Do	250	Telligherry Creek
Do	300	do	Do	200	Farm Cove
Henry Woodward	200	Wallis Lake	Do	250	Telligherry Creek
Do	200	do	F. H. Melmeth	200	Goat Island
William Riley	200	Brisbane Water	Geo. Sly, junr.	100	Horse Island, Tuross
Fred. J. Gibbins	300	Pelican Island	John Longborough	300	Crookhaven River
Robert H. D. White	600	Telligherry Creek	Timothy Wray	100	Clyde River
Demetrius Donnell	100	Wagonga Heads	Peter Melvey	500	Barr Point
Do	500	do	Henry Woodward	200	Wallis Lake
John Murray	100	Brisbane Water	Do	1,000	Cromarty's Bay
R. H. D. White	500	Rocky Point, Port Stephens	Do	400	South Channel, Manning River
Stephen Covell	600	Port Stephens	Jones A. Smith	300	Balberook Cove
Do	600	Karuah River	Do	300	do
Henry Woodward	600	Clyde River	James Holdon	500	Clarence River
Do	200	Broughton Creek	Henry Woodward	1,000	Furningham Creek
Do	500	Crookhaven River	F. J. Gibbins	300	Mooney Mooney Creek
Do	174	do	Walter Foreman	150	Congo, Dampier
Do	600	Ferningham's Island	Henry Woodward	300	Wallis Lake
Do	1,600	Crookhaven River	Do	300	do
Do	400	do	Barton Crossland	300	Hawkesbury River
Do	400	do	William Simpson	100	Port Hacking
Do	1,000	Bengs Creek, Shoalhaven	Do	100	do
Do	1,000	do	Do	200	do
R. H. D. White	100	Port Stephens	James Stanbury	100	Crookhaven River
Frank Griffin	200	Karuah River	John Longborough	300	do
Paul B. Bettini	470	Moruya River	Timothy Wray	100	Clyde River
Henry Bunnister	100	Clyde River	Henry Woodward	200	Wallis Lake
Anthony Patrech	500	do	Do	1,000	Cromarty Bay
G. F. Want	200	Port Hacking	Do	300	Oyster Channel, Clarence River
Henry Woodward	300	Camden Haven	Robert Rupert Milton	900	Hawkesbury River
G. F. Want	300	Port Hacking	Do	1,250	do
William Bryce	300	Bherrewerre Creek	Frederick J. Gibbins	1,300	Evans River

APPENDIX G.

RETURN showing the quantity, in baskets, of Fish, brought to the Fish Market, Woolloomooloo, from January to December, 1884:—

Place.	Jan.	Feb.	March	April	May.	June.	July.	August.	Sept.	Oct.	Nov.	Dec.	Total.
Botany .....	242	392	333	486	243	269	200	337	313	363	298	371	3,877
Broken Bay .....	185	582	257	314	247	336	265	224	271	375	441	390	3,887
Clarence River .....					28	153	223	96					500
Manning River .....					7	17	31	6					60
Newcastle and Lake Macquarie .....	227	337	312	506	719	520	896	614	608	451	407	248	5,845
Narrabeen Lagoon.....	10	35	54	53	15					137	6	95	495
Port Jackson and tributaries .....	167	345	278	364	204	95	67	80	87	230	221	240	2,378
Port Stephens.....		5	25	59	597	726	635	523	550	788	571	341	4,820
Shoalhaven.....			28	9	94	212	279	221	203	93	18	4	1,161
Shell Harbour .....	5	9	39	26	15	31	14				19	11	169
Tuggerah Lakes.....	450	794	678	464	661	1,080	510	456	555	713	364	129	6,854
Ulladulla .....			5		51	65	68	78	47	19	30	3	366
Wollongong .....	10	73	102	245	360	411	322	301	228	204	156	131	2,543
Various places .....		33	5			9	18	1		15		10	91
<b>Total.....</b>	<b>1,296</b>	<b>2,605</b>	<b>2,116</b>	<b>2,526</b>	<b>3,241</b>	<b>3,924</b>	<b>3,528</b>	<b>2,936</b>	<b>2,892</b>	<b>3,388</b>	<b>2,531</b>	<b>1,973</b>	<b>32,956</b>
Condemned as unfit for food.....	75	71	42½	107	7	18	38	25	15	28	12	34	472 baskets.
Seized under Fisheries Act .....	1	½	1	15		1	1	11	½				31 „
Prawns .....			6										6 „
Crayfish .....						15	155	124	144	213	134	44	829 dozen.
Jew and Kingfish .....	4		19	11			1	14			12	2	63 „
Mullet .....			1,479	1,569	150								3,198 „
Schnapper .....	10		47	75	119	104	77½	134	173	58	27	33	857½ „
Various large fish .....											390		390 „
Turtles .....											1	1	2 „

## APPENDIX H.

RETURN showing range of prices obtained at Fish Market for fish sold, from January to December, 1884.

Name of Fish.	January.	February.	March.	April .	May.	June.	July.	August.	September.	October.	November.	December.
Schnapper, per dozen .....	16/ to 40/	9/ to 45/	12/ to 66/	9/ to 148/	7/ to 78/	8/ to 96/	13/ to 68/	6/ to 60/	8/ to 48/	8/ to 60/	7/ to 50/	8/ to 84/
Squire " .....	7/ to 12/	4/ to 15/	3/6 to 19/	4/ to 18/	2/ to 12/	4/ to 18/6	4/ to 15/	4/ to 10/	6/ to 9/	5/ to 10/	3/ to 11/	4/ to 15/
Flathead " .....	5/ to 12/	2/6 to 20/	2/6 to 12/	3/ to 24/	5/ to 15/	3/ to 18/	3/ to 24/	2/6 to 19/	4/ to 18/	4/ to 36/	2/ to 24/	2/ to 24/
Whiting " .....	3/ to 6/	2/6 to 10/	3/ to 8/6	2/6 to 9/	1/ to 7/	1/6 to 7/6	1/9 to 8/	1/ to 7/	1/ to 9/	2/6 to 8/	1/3 to 9/	1/ to 10/
Flounders & Soles " .....	3/ to 12/	2/6 to 11/	3/6 to 8/	2/ to 13/	2/ to 10/	2/6 to 12/	2/6 to 12/	2/ to 16/	2/ to 11/	2/ to 10/	1/6 to 11/	2/ to 14/
Kingfish " .....	2/6 to 7/	3/ to 17/	4/6 to 12/	4/6 to 18/	2/6 to 18/	3/ to 27/	12/ to 18/	5/ to 60/	.....	6/ to 18/	3/ to 12/	8/ to 18/
Jew " .....	2/ to 54/	11/ to 96/	12/ to 72/	9/ to 66/	6/ to 126/	8/ to 72/6	9/ to 78/	8/ to 72/	2/ to 78/	8/ to 66/	3/6 to 96/	4/ to 108/
Gropers " .....	.....	12/	.....	12/ to 30/	.....	12/ to 24/	18/	24/	.....	.....	18/ to 42/	36/
Traglin " .....	4/ to 19/	4/ to 16/	4/ to 13/	8/ to 25/	4/ to 12/	.....	.....	9/	.....	8/ to 10/	5/ to 20/	8/ to 14/
Nannegai " .....	.....	.....	.....	.....	3/6 to 9/6	.....	5/ to 15/	3/6 to 6/	6/ to 10/	8/	.....	3/ to 10/
Salmon " .....	4/ to 7/	1/6 to 15/	4/ to 10/	.....	3/ to 3/6	7/ to 8/	.....	3/ to 6/	.....	1/ to 2/	6/ to 9/	2/ to 13/
Mullet (sea) " .....	5/ to 7/	3/ to 18/	9/ to 10/6	1/ to 13/6	1/6 to 15/	4/ to 14/6	6/ to 13/	4/6 to 11/	6/ to 11/6	5/ to 12/6	3/ to 13/	3/ to 14/6
Long Toms " .....	.....	.....	2/6 to 3/6	2/6 to 4/6	2/6	.....	.....	.....	5/ to 7/	1/6 to 5/	1/6 to 6/	2/ to 4/6
Rock Cod " .....	4/ to 10/	2/6 to 8/	2/6 to 18/	5/ to 30/	2/6 to 15/	2/ to 6/	2/6 to 7/	2/ to 7/	2/ to 6/	2/ to 9/	1/6 to 15/	1/6 to 6/
Leather-jackets " .....	.....	.....	1/ to 2/	4/	.....	.....	.....	1/	.....	.....	.....	.....
Eels " .....	9/ to 12/	9/ to 16/	6/ to 18/	5/ to 48/	7/ to 25/	9/ to 26/	6/ to 30/	6/ to 24/	2/ to 24/	9/ to 48/	7/6 to 36/	8/ to 30/
Bream, per basket, 80 to 90 lbs.....	13/ to 44/	7/ to 38/	11/ to 38/	12/ to 64/	10/ to 50/	10/ to 34/	7/ to 33/	2/ to 33/	5/ to 34/	6/ to 30/	4/ to 36/	7/ to 60/
Garfish " .....	10/ to 48/	5/ to 48/	9/ to 54/	11/ to 80/	6/ to 56/	8/ to 38/	7/ to 36/	10/ to 36/	2/ to 38/	10/ to 48/	10/ to 42/	8/ to 74/
Blackfish " .....	6/ to 20/	4/ to 30/	8/ to 39/	7/ to 31/	6/ to 30/	5/ to 23/	6/ to 28/	2/ to 35/	3/ to 25/	4/ to 22/	3/ to 31/	5/ to 34/
Silverbellies " .....	9/ to 18/	6/ to 16/	.....	9/	4/ to 8/	14/ to 18/	6/ to 15/	8/	.....	5/ to 14/	3/ to 11/	3/ to 9/
Salmon Trout " .....	10/ to 31/	8/ to 20/	.....	4/ to 12/	3/ to 8/	.....	.....	.....	5/ to 14/	.....	2/ to 17/	8/ to 10/
Mullet (sand) " .....	12/ to 42/	6/ to 42/	4/6 to 50/	2/6 to 50/	5/ to 34/	5/ to 26/	5/ to 26/	2/ to 23/	5/ to 23/	2/ to 27/	3/ to 31/	4/ to 42/
Travally " .....	8/	4/ to 26/	4/ to 30/	7/ to 15/	4/6 to 18/	7/6 to 16/	4/ to 18/	4/6 to 23/	2/ to 17/	3/ to 19/	5/ to 21/	6/ to 17/
Yellowtail " .....	8/ to 23/	4/ to 40/	10/ to 35/	8/ to 30/	9/ to 26/	10/ to 18/	5/ to 17/	9/ to 20/	8/ to 18/	10/ to 16/	9/ to 20/	7/ to 24/
Tailers " .....	6/ to 12/	3/ to 24/	3/ to 14/	4/ to 26/	3/ to 16/	6/ to 18/	5/ to 16/	7/ to 14/	2/ to 18/	6/ to 19/	3/ to 25/	1/6 to 34/
Lobsters, per dozen .....	21/	15/ to 20/	.....	.....	.....	23/ to 26/	8/6 to 28/	15/ to 28/	20/ to 25/	11/6 to 24/	14/ to 27/	13/ to 18/
Crabs " .....	2/ to 4/	1/ to 9/	1/ to 5/6	2/ to 5/	1/6 to 6/	1/9 to 5/	2/ to 4/6	2/ to 5/	1/6 to 3/	2/ to 5/6	2/ to 4/6	2/ to 5/
Prawns, per basket.....	17/ to 66/	24/ to 60/	11/6 to 50/	9/ to 60/	3/6 to 28/	.....	.....	.....	.....	20/ to 69/	18/ to 60/	16/ to 60/

APPENDIX I.  
HOME FISHERIES DIVISION, 1884.  
Inspector Quinan's Report.

Sir,

Fisheries Office, Sydney.

I do myself the honor to furnish herewith, for the information of the Commissioner of Fisheries, my report as to the condition of the fisheries, "Home Division," for the year 1884.

*Port Jackson and Tributaries.*—During the early months of the year fish of all descriptions were very plentiful—all the bays in the rivers were well stocked with young fish—mullet especially were in great abundance. Great care and constant watching, both by night and day, had to be exercised to prevent illegal netting; several breaches of the Act were brought under notice, and fines inflicted by the Magistrates. In a separate return furnished by me will be found the quantity of fish sold at the Fish Market, Woolloomooloo, that arrived from all the fishing stations within the Colony, also the prices obtained, which were very fluctuating. It has been noticed that if more than two hundred baskets of fish are brought to market in any one day the prices obtained are not remunerative, and an excess of this quantity is often difficult to dispose of.

Several sources of pollution to the waters have been specially reported upon; thousands of small fish are destroyed by polluted sewers.

Oyster culture in Port Jackson is a thing of the past; the numerous picnic parties have stripped the rocks of all oysters, the Fisheries Act giving them power to do so. Several applications have been made for oyster culture areas; at the Middle Harbour small oysters are in great abundance, but they never grow to marketable size, nor from inquiries I have made do they increase in size if transplanted to other waters. Messrs. Woodward and Comins obtained small areas for the purpose of reviving oysters which arrived out of condition, principally those from New Zealand, but it has not proved to be a remunerative enterprise—fully one half the oysters are lost. Assistant-Inspector Mulhall has charge of these waters.

*Botany and George's River.*—These waters are of great value in consequence of the abundance of fish at all times of the year, and the fresh state that they can be placed in the market for sale (often alive even in summer-time); this is also one of the most permanent fishing stations in the Colony, supporting quite a village of fishermen and their families. During the mullet season, about February, tons weight of these fish are captured and sold very cheap, enabling the public to enjoy for a few pence what at other times becomes a luxury.

The George's River is not availed of much by net fishermen; they state that the river is closed at the wrong time of year. During the summer months, when the waters are open, the blubber fish are so numerous that it is impossible to use their nets; tons weight of this blubber gather in the net and injure it, besides killing at once any food fish that may have entered the net. Thousands of young fish are caught by hook and line.

George's River produces some of the finest oysters in the Colony, those obtained from the rocks about 40 feet deep being the largest and best flavoured; these are only obtainable by a diver in full dress, and costs, I am informed, more than £1 per bag to gather. Foreshore, rock, and mangrove oysters are fairly plentiful; the men employed on the railway bridge have, as well as the general public, helped themselves pretty freely, and greatly injure the growth. Several applications for oyster culture leases have been made and reported upon. A special report has been furnished upon the source of pollution to these waters. Assistant-Inspector Grant is in charge of these waters, and pays periodical visits to —

*Port Hacking.*—These waters are visited by the Botany fishermen, who obtain good hauls of nearly all description of fish; they are easily brought to market, and are always fresh. The upper portion of these waters is closed during the winter months for breeding purposes.

The foreshores are well stocked with oysters, though rather small. Several applications have been made for oyster culture areas, and reported upon.

*Shoalhaven and Crookhaven Rivers.*—Although fish are very plentiful in these waters, it is only in the winter months that consignments can reach Sydney in good condition; during the summer months fish are preserved, and find a ready sale at all times. A good many of the residents have turned their attention to oyster culture, and have applied for areas for that purpose. The foreshores are well stocked with oysters, which grow on the mangrove flats; these are being gathered and laid down on suitable beds; they grow very rapidly and are generally in good condition, and demand a fair market value. Assistant Inspector Gordon is in charge of this district and visits.—

*Jervis Bay.*—A number of fishermen from Sydney established a fishing station at the bay, and although they made excellent hauls and a good prospect of doing well, fish being in great abundance and of good quality, they were obliged to abandon it, as no reliance could be placed upon steamers calling regularly for their fish; they tried overland cartage to Greenwell Point, Shoalhaven, but found it not to answer.

Mud oysters were some years ago very plentiful in the bay, but they are nearly all exterminated from natural causes.

Currumbene Creek at the head of the bay is well stocked with mangrove oysters, and some applicants for leases are planting them out; they are not of much value without cultivation.

*Hawkesbury River, Broken Bay, and Brisbane Water.*—These waters are under the supervision of Assistant Inspectors Smith and Black; the former is stationed at Peat's Ferry, and as fishing operations are almost confined to the Lower Hawkesbury, his principal work lies in looking after the oyster beds; extensive areas have been taken up for oyster culture. Spat is very plentiful; dredge oysters none; the oysters obtained from this river are those growing on the rocks, and alike in character and excellence to those obtained at George's River.

Mr. Smith pays an occasional visit to Brisbane Water; the oysters growing in these waters are very small, and not of much commercial value; areas for cultivation have been applied for and cultivation commenced.

Assistant

Assistant Inspector Black, who is stationed at Barrenjoey, looks after fishing operations and vessels outward-bound conveying oysters; by his vigilance that destructive process known as stalling has been put a stop to, many thousands of small fish were left on the sands to die, by this illegal netting.

Fish were very plentiful in these waters, the returns show a supply equal to Botany, and a steamer leaves Peat's Ferry late at night and conveys fish direct to the Woolloomooloo market, arriving there at 4 a.m., thus assuring a fresh supply each morning.

*Tuggerah Beach Lakes.*—These lakes are situated about 2 miles inland from Bungaree Norah, where a small steamer calls for consignments of fish, the fish are carted overland to the steamer, and arrive at the markets early in the morning; as a rule the fish are in good condition; at times, however, the weather prevents the steamer from calling, and great loss is occasioned by the fisherman.

These lakes abound with fish of all description, including squire or young schnapper. Fish have a peculiar smoky flavour from these waters; I attribute this to the feed, which on account of the stillness of the water, having little if any rise and fall of tide, the entrance being very narrow, cannot get away to make room for younger growth.

Oysters are not to be found in these waters. These fisheries are not under the supervision of a local Inspector. I paid a visit during the latter part of the year.

*Lake Macquarie.*—The great drawback to the fishing industry at these lakes is the rough and tedious journey to the shipping port at Newcastle, 12 miles distant; although the greatest care is taken in packing the fish, they very often arrive in such a bruised condition that while consignments have to be condemned as unfit for food to the great loss of the fisherman. Some of the finest fish on the coast are obtained in these waters, the large blue-nosed whiting and black bream are especially prized for their size and delicious flavour; the lakes are so extensive that no fear need be entertained that the fisheries could be exhausted.

The channel leading from the entrance to the lakes, about 4 miles in length, is permanently closed as a breeding ground, is well stocked with fish of all description; the sharks and salmon at certain seasons of the year drive the fish into the lakes; this channel is so tempting to the fishermen that Assistant Inspector Boyd has to keep a watch both by night and day so as to prevent illegal netting; offences of this nature have taken place, and offenders fined.

*Port Hunter and Tributaries.*—The once famous oyster-beds at this place are, as regards dredge-oysters, completely destroyed by the worm which enters the shell and kills the fish—hardly a live oyster is to be found below low-water-mark; the foreshores are fairly stocked with rock and mangrove oysters. Numerous applications have been made for oyster culture areas. Mr. Gibbins, one of the lesscos, laid a quantity of New Zealand oysters down on his beds so as to restock them, but they shared the same fate as those indigenous to the waters. I am of opinion, and have expressed it in my reports some time back, that unless the beds are thoroughly cleaned at flood-time this disease cannot be eradicated.

Fish are plentiful, but strange to say the supply obtained by local fishermen does not equal the demand, the outlying mining townships rely upon their fish supply from Lake Macquarie.

In the upper Hunter, near Raymond Terrace, during the season a good supply of prawns is obtained, where they are cured, and sent to all parts of the Colony; these are not accountable for in the market returns. Assistant Inspector Curan, who has charge of this district, has his time fully occupied, he also attends to shipments of oysters from Port Stephens that reach Newcastle *en route* for Sydney by way of Raymond Terrace and by water.

*Port Stephens.*—In consequence of the local Assistant Inspector not supplying me with returns, although I have repeatedly brought this neglect of instruction under notice, I am unable to furnish any information in respect to the fisheries at this place; during the early part of the year several consignments of oysters were seized, being under the regulation size; the market report shows a good supply of fish.

*Lake Illawarra.*—This lake is distant from Wollongong about 6 miles, and is well stocked with fish; Mullet Creek, one of the tributaries, is teeming with the fish it is named after; meshing nets are only used, and large consignments are sent to Sydney in the winter months. This lake, although quite as valuable as Lake Macquarie, is without an Inspector.

In conclusion, I would respectfully recommend that the waters of Port Jackson be closed during the winter months (April to September), from the Heads upwards—this will give the Harbour a rest, without in any way diminishing the market supply; also that an Assistant Inspector be appointed to look after the fisheries at Lake Illawarra.

I have, &c.,  
JAMES QUINAN,  
Inspector, Home Division of Fisheries.

## APPENDIX J.

### NORTHERN FISHERIES DIVISION, 1884.

#### Inspector Temperley's Report.

THE Fisheries Act of 1881 having been amended by the Fisheries Act of 1884, the natural oyster-beds were worked during 1884 under two systems—the licensing boat system in the first half of the year, and the leasing system by means of provisional permits in the latter part of the year.

The large number of licensed dredgers in the Clarence River at the close of 1883 having reduced the beds there by February proceeded to the Richmond and Evans Rivers. They discovered a natural oyster-bed in the latter river, reduced it, together with the natural beds on the Richmond, and then proceeded elsewhere. A number of them settled down on the Manning River, and continued to dredge its already reduced beds—working for as low a quantity as half a bag per day—the high price of the oysters returning sufficient remuneration for even so low a yield.

The evils previously pointed out in connection with the licensing boat system continued while that system lasted. The dredgers rushed from river to river working the beds regardless of their condition, and depositing cullings despite supervision, where they were least liable to give further trouble, and regardless of injury to the natural beds, while the old leases having expired the work of laying immature oysters was entirely discontinued.

In

In the third quarter most of the dredgers' licenses had expired, and the natural beds were allowed a brief but at the same time much-needed period of rest.

The immediate outcome of the Amended Fisheries Act of the 21st July, 1884, was a large amount of inquiry for suitable cultivation sites and numerous applications for oyster-bearing foreshores. The work of measuring the proposed leases and reporting upon the applications considerably increased the duties and responsibilities of the officers in charge of the respective inlets. Where the applications were for foreshores not previously surveyed and charted the identification of sites was rendered difficult, and on this account was often inevitably delayed.

Concerning oyster deposits there was but one natural oyster-bed in the whole of the Division in good working condition, viz., the House bed on the Clarence River. The remainder were in a more or less reduced condition. Those which had been closed for any length of time and left to improve themselves unassisted showed but little or no improvement whatever. The permits issued in the latter part of the year enabled the lessees to work the areas they had secured, but the House bed was not worked up to the close of the year, the delay being due to the difficulty attending the determination of prior right between contending applicants for the lease. In several instances where permits had been issued the lessees set to work without delay to restock their deep-water areas with immature oysters from the foreshores.

The spawning season of 1884 was not of a hopeful character. That the oysters had spawned was evidenced by the presence of young oysters, but the spawning season had evidently been a moderate one, and was generally unnoticed during its occurrence.

The total quantity of oysters procured in the North Division was 3,186 bags, and the royalty paid thereon £435 15s.

The following return shows the rivers from which the oysters were procured, and the quantities and royalty for each:—

River.	No. of Bags.	Royalty paid in	Royalty collected	Total Royalty.
		Sydney.	locally.	
		£ s. d.	£ s. d.	£ s. d.
Tweed River .....	105	16 12 0	4 8 0	21 0 0
Richmond River .....	715	104 2 0	3 3 0	107 5 0
Evans River .....	228	27 0 6	2 5 6	29 6 0
Clarence River .....	664	81 10 6	2 7 6	83 18 0
Port Macquarie .....	80	12 0 0	.....	12 0 0
Manning River .....	1,226	153 8 0	1 17 6	155 5 6
Cape Hawke .....	168	27 0 6	.....	27 0 6
Total .....	3,186	421 13 6	14 1 6	435 15 0

With reference to fish, the north coast rivers teem with an abundance of the finest kinds, but the present means of transit are not sufficiently rapid to admit of their conveyance in a fresh condition to Sydney. During the last few years the local fishermen on the rivers possessing good steam communication have shipped fresh fish to Sydney during the winter months—the quantity shipped depending entirely upon the length and severity of the winter. That of 1884 was an exceptionally mild one, and consequently was not favourable to extensive operations. The rivers which contributed to the winter supply were the following:—The Clarence River, Manning River, Macleay River, and Port Macquarie.

On the Clarence River the experiment was tried of boiling down mullet for oil. It was found that on an average it required about forty fish to produce one gallon of oil. The appliances used were meagre and crude, and the oil was injured for the want of sufficient apparatus to reduce the fish in quantity while they were fresh. The men engaged in the work had neither the knowledge nor the means to purify their produce, and the result of boiling down stale fish was the production of a much discoloured and offensively odorous oil that realized in the market the insignificant price of 2s. per gallon. The boiled fish which, after the extraction of the oil, would have been good food for poultry or pigs, was not utilized in any manner, and the work was eventually discontinued.

### Detailed Report upon the Oyster-bearing inlets of the Northern Division of Fisheries.

*Tweed River.*—The Tweed River contains several natural oyster-beds, and a fair quantity of mangrove oysters. The beds were closed since 1882, and were undisturbed until May, 1884, when they were worked for two months only and were then reduced. These beds have not recovered after their rest to the extent that was expected, and they furnish another illustration of the fact that exhausted oyster-beds require something more than mere rest to ensure their recovery.

The river contains a good quantity of foreshore oysters on shallow flats, well adapted for restocking the natural beds.

*The Brunswick River.*—The Brunswick River has not had any oysters taken from it during the Fisheries Act of 1881. This is due to the difficulties attending their transit. There are both in the north and south arms quantities of foreshore oysters; both of the mangrove and rock oyster class, and there are many suitable sites for laying them down. When the necessities of the large extent of alienated land in the Brunswick River have developed means of transit this river will contribute its quota of oysters to the metropolitan supply.

*The Richmond River.*—The natural oyster-beds of the Richmond River having been undisturbed for about six months were reworked in February by several licensed dredges. They procured a quantity of good oysters by hand in shallow water and in Shaw's Bay, a portion of the river not previously worked, and since reserved to the residents of Ballina as an oyster recreation reserve. The oysters opened well up to April, and fell off in condition during the winter months.

No spawning season was observed, but it is believed there was a moderate spawn in the early part of the year. The upper bed was considerably worked, first under license, and later under a lessee's permit, and is only in a moderate condition.

The lower bed not being worked during the latter half-year, pending the determination of the right to lease, is in a fair condition, and contains a large quantity of bank oysters well adapted for laying down.

*Evans River.*—A natural oyster-bed on a rough bottom was discovered and dredged here during the year, and oysters shipped from the river for the first time.

The bed is situated at a narrow rocky part, known as the "Iron Gates," through which the tide flows with considerable rapidity. The oysters at this place spawn freely, and from the Gates downwards to within a quarter of a mile of the river mouth the foreshores are abundantly covered with foreshore oysters.

The principal drawback to oyster cultivation here is the absence of suitable sites for laying down, the bed of nearly the whole of the river being more or less affected with drift sand. Some of the oysters were shipped by the Clarence River, but the greater part of them *via* Woodburn, on the Richmond River.

*The Clarence River.*—The Clarence River contains several good natural oyster-beds, and but very few foreshore oysters. The House bed is one of the best natural beds in the Colony. At the close of 1884 it was in first-class condition, having a good coating of marketable oysters and an abundance of young oysters. It was not worked, for the reason stated in the Annual Report. The remaining natural oyster-beds in the Lower Channel have been closely dredged by licensed dredgers, and were in a reduced condition. The Upper Channel beds have been undisturbed for two years, and have not recovered to the extent that could have been expected from their period of rest. Portions were smothered by a coating of thick spongy weed; other portions contained at the end of the year a moderate quantity of young oysters.

Some of the oysters in the Lower Channel beds spawned during November.

*Bellinger River.*—The Bellinger River has not had its natural oyster-beds worked for two years. They are slow in recovering. The lower bed is covered with the thick spongy weed that has proved to be so injurious on the Clarence River. It is thought probably that a good fresh would remove this weed from the beds. There is only a small quantity of foreshore oysters on this river.

*Nambuccra River.*—The Nambuccra River contains but a moderate quantity of oysters, and has not had any marketable oysters shipped from it within the Fisheries Act of 1881.

*The Macleay River.*—The Macleay River is devoid of oysters, and in this respect differs from every river, creek, or inlet on the coast. It is the exception to the rule that the inlets of New South Wales are oyster-bearing. As previously pointed out, there are deposits of old shell on the river banks, showing that oysters formerly existed.

*Port Macquarie.*—Port Macquarie contains deep-water natural oyster-beds, and a fair quantity of foreshore oysters of the mangrove class. The deep-water natural beds, for some unaccountable reason, almost died out, and although they have had a long period of rest they have not recovered. The oysters shipped from here during 1884 were chiefly procured from the foreshores.

The oyster lessees on this river have restocked portions of the natural oyster with quantities of foreshore oysters.

*Camden Haven.*—The oyster deposits in this inlet consist of good natural beds, and a fair quantity of foreshore oysters of the rock and mangrove class. The beds had been closely worked under an expiring lease in 1883, and by licensed dredgers later on in the same year. They were then in a low condition. They have not been worked during any part of 1884.

*Manning River.*—This river contains several good natural oyster-beds, and a fair quantity of mangrove oysters.

It will be seen from the returns for the whole of the rivers that the Manning produced in 1884 more oysters than any other of the northern rivers.

The price which the oysters realized was sufficient remuneration for the dredgers to work when they could procure but two bags per week.

The result is that the beds have been much dredged and overworked, and are in a low condition.

Some of the lessees have restocked their leases with foreshore oysters.

*Cape Hawke (Wallis Lake).*—The oyster deposits at Cape Hawke lie in shallow water, and consist chiefly of a large extent of good bank oysters.

Licensed dredgers worked this inlet in January; it was then provisionally closed, and was reworked after a rest of eight months by lessees under permits. The old exhausted natural beds, being in shallow water, are well adapted for developing the immature bank oysters, the work of lifting them up after they have been laid down being effected by hand without the use of a dredge. The principal lessee, on obtaining his permit, at once entered extensively into the work of laying down.

THOS. TEMPERLEY,

Inspector, Northern Fisheries.

29 August, 1885.

## APPENDIX K.

### SOUTHERN FISHERIES DIVISION, 1884.

#### Inspector Benson's Report, Southern Division of Fisheries, Narrawilla Creek to Wagonga.

Sir,

Bateman's Bay.

I have the honor to forward my report on the Southern Fisheries for the year 1884.

*Clyde River.*—This river is the most prolific oyster-bearing water in the Southern Division. For full particulars of its natural oyster-beds and capabilities for oyster culture I would respectfully refer you to the Chief Inspector's and my own reports for the year 1883.

On the 1st September, 1883, the lease held by Mr. F. J. Gibbins, of the Clyde River, expired, and in January, 1884, four of the principal deep-water beds, *viz.*, Schnapper Point, Rocky Point, Bold Shore, and Big Island beds, were, in accordance with my recommendation, opened to licensed dredgers, who worked them till the 5th of October, during which time sixteen hundred and forty (1,640) bags of oysters were obtained. Permits were also granted in the beginning of September to several applicants who had applied, under the provisions of the 4th section Oyster Fisheries Act, 1884, for leases for oyster culture, and had paid

paid the first year's rent to ship oysters, resulting in the transmission to market of an additional 337 bags, making a total of 1,977 bags of oysters shipped to Sydney from the Clyde River during the year 1884.

When it is taken into consideration that during the ten years prior to 1884 no less than 13,436 bags of oysters were shipped from this river, there can be no doubt of its oyster-bearing capabilities.

During the year sixty-seven applications for leases, representing an area of 41,700 lineal yards, on the Clyde River, were received by me to report on; several of the applicants having conformed to the 2nd Regulation under the Act entered upon sufferance into occupation, laid down young oysters, and otherwise improved the areas for which they had applied. There seems, however, a disinclination among many to incur expense until there is a certainty of the leases being granted.

Most of the applicants are practical men, and have applied in good faith. The foreshores generally are naturally suitable for growing and fattening. Large quantities of spat and brood are available for laying down, and nothing now remains but the granting of the leases to make oyster culture on the Clyde River an extensive and profitable industry.

*Turross River.*—This river was held by Mr. Robert Martin, under a lease which expired on the 28th February, 1884, but on the application of the lessee for permission to remove, after the expiry of his validated lease, oysters which had been laid down by him, the Commissioners of Fisheries were pleased to grant him an extension of time, viz., to the 31st of March, up to which date 368 bags of oysters were shipped for the year 1884. At the expiration of the lease I visited the river and examined the foreshores, finding them well stocked with spat and brood suitable for laying down. During the year, 14,550 lineal yards were applied for, the oyster-bearing capabilities of which could be greatly improved by judicious management. Permission was granted in October to three of the applicants to ship oysters, of which privilege only one availed himself, and shipped thirty-four bags of oysters for the year.

(?) 368 bags were shipped up to the 1st of March, which is the date of the last return forwarded by the late Acting Assistant Inspector Tranent, of Moruya, who had the supervision of these shipments.

*Narravilla Creek*, situated about 35 miles north of the Clyde River, was gazetted as closed for a period of three years dating from the 31st day of March, 1884. Both sides of the creek, extending from the mouth upwards for a distance of about 1 mile, are lined with mangroves well covered with oysters in all stages of development; the bottom consists of hard mud and rock. I consider it one of the best waters in the Southern Division for oyster culture. Two applications for leases have been received, the areas applied for being respectively 200 and 300 yards; permission was granted to one of the applicants on the 17th September to ship oysters. I am not aware of the number shipped, as in cases where there is no local Inspector particulars of shipment would be wired direct by the consignor to the Collector of Customs at Sydney.

*Cullendulla Creek* is situated about 2 miles north of the Clyde River. It was gazetted as closed for a period of three years dating from the 30th June, 1883. Its oyster-bearing limits extend from the mouth of the creek upwards for 1 mile. The banks are composed of soft mud lined with mangroves, which at present are almost destitute of oysters; patches of hard ground suitable for oyster culture occur at intervals. Much labour and capital will be required to make the areas applied for remunerative. Applications for 3,900 lineal yards have been received, and one of the applicants, who received a permit on the 7th of October, 1884, has shipped twenty bags of oysters.

*Tomago Creek* is 10 miles south of the Clyde River. It was gazetted as closed on the 30th of June, 1883, for three years. The banks of the creek, with the exception of a few rocky points, are composed of soft mud; the foreshores generally are unsuitable for oyster culture. Mangroves fairly stocked with spat and brood occur at intervals. 2,200 yards have been applied for, and thirty bags of oysters have been shipped during the year.

*Durras Lake*, about 10 miles north of the Clyde River, was closed against dredging till 30th August, 1885. The banks and beds are composed chiefly of mud suitable for oyster culture. Oysters grow and fatten in a remarkably short space of time, and are considered of perfect shape in the shell. There is no spat or brood available for laying down; the oysters on the natural beds, owing to the lake having been closed for a lengthened period, have been destroyed by the weeds and slime. Mud oysters are found in large quantity on several parts of lake. Applications have been received for 3,600 yards, and no oysters have been shipped during the year.

*Wagonga River.*—This river is about 55 miles south of Bateman's Bay. The banks are principally rock, and are fairly stocked with spat and brood. The foreshore on most parts of the river does not extend for more than 10 or 12 yards; the bottom, outside of low-water-mark, is soft mud. 17,860 yards have been applied for. Oysters were shipped during the year by applicants who had received permits; particulars of such shipments would be wired direct to the Collector of Customs, Sydney, by the consignors.

*Moruya River* is 20 miles south from Bateman's Bay. The oysters are found on the reefs and mangroves. Acting Assistant Inspector Sutherland states that the principal bed has been destroyed by an accumulation of mud; the foreshores are narrow and unsuitable for oyster culture. 1,250 yards have been applied for, and sixteen bags were shipped during the year under the old Act.

I have, &c.,

GEORGE G. BENSON,  
Inspector of Southern Fisheries.

RETURN showing the number of Bags of Oysters taken from the Clyde River during the year 1884, and the amount of Royalty thereon.

Year.	No. of bags of Oysters shipped under old Act.	No. of bags of Oysters shipped under new Act.	No. on which Royalty was paid.	No. on which Royalty was to be collected in Sydney.	Amount collected.	Amount to be collected, Sydney.	Total.
1884.					£ s. d.	£ s. d.	£ s. d.
January .....	5	.....	5	.....	0 12 6	.....	0 12 6
February .....	317	.....	.....	317	.....	39 12 6	39 12 6
March .....	320	.....	.....	320	.....	40 0 0	40 0 0
April .....	157	.....	4	153	0 10 0	19 2 6	19 12 6
May .....	164	.....	44	120	5 10 0	15 0 0	20 10 0
June .....	226	.....	48	178	6 0 0	22 5 0	28 5 0
July .....	156	.....	45	111	5 12 6	13 17 6	19 10 0
August .....	128	.....	42	86	5 5 0	10 15 0	16 0 0
September .....	155	42	87	110	10 17 6	14 16 0	25 13 6
October .....	12	49	.....	61	.....	8 17 0	8 17 0
November .....	.....	63	.....	63	.....	9 9 0	9 9 0
December .....	.....	183	1	182	0 3 0	27 6 0	27 9 0
	1,640	337	276	1,701	34 10 6	221 0 6	255 11 0

There were twenty bags of oysters shipped at the Clyde, but taken from Cullendulla Creek, which are not included in this list; they were shipped under the new Act, royalty to be paid in Sydney; also ninety bags of oysters from Tuross leased beds—no royalty.

LIST giving the Number of Bags of Oysters which I have been advised were shipped for the year 1884 from the undermentioned Rivers, and the Royalty to be collected in Sydney.

	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Royalty to be collected in Sydney
													£ s. d.
Moruya River .....	16	...	...	...	...	...	...	...	...	...	...	...	2 0 0
Tuross River .....	173	131	64	.....	.....	.....	.....	.....	.....	17	17	.....	4 5 0
Tomago River .....	.....	.....	.....	.....	.....	.....	.....	.....	7	10	7	6	3 15 0
Cullendulla Creek .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	6	7	7	2 10 0

COLLECTIONS under Fisheries Act paid into the Treasury by Inspector Benson for the year 1884.

1884.	Royalty.	Oyster-dredging Licenses.	Fishing-boat Licenses.	Fishermen's Licenses.	Brand Certificates.	Total.
	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
January .....	0 12 6	.....	.....	.....	.....	0 12 6
February .....	.....	3 0 0	1 0 0	0 10 0	0 15 0	5 5 0
March .....	.....	3 0 0	.....	.....	0 2 6	3 2 6
April .....	0 10 0	.....	.....	.....	0 2 6	0 12 6
May .....	5 10 0	.....	.....	.....	0 2 6	5 12 6
June .....	6 0 0	.....	.....	.....	.....	6 0 0
July .....	5 12 6	.....	.....	.....	.....	5 12 6
August .....	5 5 0	.....	.....	.....	.....	5 5 0
September .....	10 17 6	.....	.....	.....	.....	10 17 6
October .....	.....	.....	.....	.....	.....	.....
November .....	.....	.....	.....	.....	.....	.....
December .....	0 3 0	.....	.....	.....	.....	0 3 0
Total .....	34 10 6	6 0 0	1 0 0	0 10 0	1 2 6	43 3 0

## APPENDIX L.

## Report of Mr. Assistant-Inspector Smithers for 1884, of the waters under his supervision.

Eden, 5 April, 1886.

I HAVE the honor to forward for the information of the Commissioners of Fisheries, the following report on the waters under my supervision:—

The district is an extensive one, reaching from Cape Howe to Tuross River, including the rivers, lakes, and creeks, as per schedule marked A. The whole of the places mentioned in the schedule were well stocked with fish till about the middle of the year, when a very noticeable falling off in the quantity of fish took place, more particularly along the coast in the vicinity of Twofold Bay, on the well known schnapper grounds. Up to about August the fish above-mentioned were plentiful, but after that there was a change, for leather jackets had now appeared, not however, in considerable numbers, and schnapper were almost gone. In the bay the fish, which had been so plentiful, began to disappear in the same way as the schnapper had done by gradually falling off in numbers, although no leather jackets to speak of had come. At the Womboyne River, 20 miles south of Eden, there was a large supply of fish throughout the year, more particularly towards the end. The same may be said of the Merrica Creek and Lagha River. The Kiah River at Twofold Bay gave a large supply of fish throughout the year, principally mullet, bream, and black fish. Nellica Creek has always appeared to me to be well filled with young fish, mostly mullet. Urallo Lake, the greater portion of which is closed, has been well stocked with full-grown fish, as well as some thousands of young fish which will go out when the mouth opens. Panbula River kept up its name for fish throughout year; Merimbula Lake supplied great quantities of fish at the commencement of the year, but towards the last part a great falling off took place. Bournda Lake and Wallagoot Lake have very large quantities of fish in them; Bega River produced great quantities of fish throughout the year; mostly mullet, bream, perch, and whiting. I might mention that great quantities of prawns are in this river, but persons never endeavour to catch them. Nelson Lake always appeared to me to have a plentiful supply of fish, but from inquiries I find that it fell off at the latter part of the year. Middle Lake is fairly alive with fish, and there is one thing worthy of notice, viz., that this place has the largest quantity of garfish I ever saw; the mouth of this lake is also closed. Wapengo Lake I have not observed much, but am advised of its being a splendid place for mullet, &c. The Murrah River has towards its mouth a number of full grown fish, and further up it produces thousands of young fish; I have not heard of the supply falling off. Burragate Lake and Cuttagee Lake have a good supply of fish, more especially the latter, which is full of large fish, and also thousands of young fish, besides great quantities of whiting; the mouths of both these places are closed. The cormorants are at times very plentiful; while at Burragate the place is always full of shags. Bermague River has, as far as I can gather, been only moderately supplied with fish, but off the Port the schnapper have been very plentiful; the same may be said with regard to Montague Island, there being a very large supply of schnapper there. Wallagha Lake, the mouth of which is closed, is, I understand, well supplied with fish, and the supply never diminished throughout the year. This lake is 30 miles round with plenty of deep water throughout; no person ever attempts to catch fish there. I might mention that this lake also produces thousands of young fish. With regard to Tilba Tilba and Corunna Lakes I cannot give any information as I have never been on them with a boat, and am only informed that such places contain a few mullet.

In conclusion, I wish to draw attention to all the lakes which have the mouths closed. When the mouths open then all the fish go out, and when the mouths become closed again scarcely a fish is to be seen, yet in a short time the place is full of young fish, which are protected till a good size in their nursery, thus making these lakes most valuable as nurseries for fish. I am unable to give any reason for the falling off in the supply of fish towards the end of the year.

FREDK. SMITHERS,  
Assistant Inspector of Fisheries, Twofold Bay.

## SCHEDULE A.

Tagha Lake.  
Nagha River.  
Rocky Creek.  
Merrica Creek.  
Wonboyn River.  
Bittangatu Creek  
Twofold Bay.  
Kiah River.  
Nellica River.

Curallo Lake,  
Panbula River.  
Merimbula Lake.  
Bournda Lake.  
Wallagoot Lake.  
Bega River.  
Nelson Lake.  
Middle Lake.  
Wopingu Lake.

Munah River.  
Cuttagee Lake.  
Burragate Lake.  
Bermagui River.  
Wallagha Lake.  
Tilba Tilba Lake.  
Corunna Lake.  
Wogonga River.  
Brow Lake.



## APPENDIX A.

CATALOGUE of the Fishes of New South Wales, with their principal synonyms; by J. Douglas-Ogilby, Assistant Zoologist, Australian Museum, Sydney, N.S.W.

## PALÆICHTHYES.

## CHONDROPTERYGII.

## PLAGIOSTOMATA.

## Selachoides.

## CARCHARIIDÆ.

## CARCHARIAS MACLOTI.

*Carcharias (Hypoprion) macloiti*, Müll. & Henle, Plagiost., p. 34, pl. 10; Duméril, Elasmobr., p. 350.  
 ——— *macloiti*, Günth., Cat. viii, p. 362; Day, Fishes of India, p. 713, pl. 188, f. 2; Macleay, Aust. Cat. ii, p. 287.

*Hab.*—Indian Ocean; New Guinea; Australian Coasts; Port Jackson.

## CARCHARIAS GANGETICUS.

*Carcharias (Prionodon) gangeticus*, Müll. & Henle, Plagiost., p. 39, pl. 13; Duméril, Elasmobr., p. 359.  
 ——— (——) *japonicus*, Schleg., Faun. Japon. Poiss., p. 302, pl. 133.  
 ——— *gangeticus*, Günth., Cat. viii, p. 367; Day, Fishes of India, p. 715, pl. 187, f. 1; Macleay, Aust. Cat. ii, p. 288; Tenison-Woods, Fisheries of N. S. Wales, p. 93.

*Hab.*—Indian Seas; Japan; Fiji Islands, in fresh waters; Port Jackson. *Sea Shark* (Tenison-Woods.) Grows to the length of 7 feet.

## CARCHARIAS BRACHYURUS.

Günth., Cat. viii, p. 369; Macleay, Aust. Cat. ii, p. 288.

*Hab.*—New Zealand; Port Jackson. *Whaler*, at Sydney, where it is the most common *Carcharias*. Grows to the length of 12 feet.

*Carcharias glaucus* is included by Tenison-Woods in his list of New South Wales fishes (Fisheries of N. S. Wales p. 25), but I am unable to find any authority for the statement.

## GALEOCERDO RAVNERI.

M'Don. & Barr., Proc. Zool. Soc. 1868, p. 368, pl. 32; Günth., Cat. viii, p. 377; Ramsay, Proc. Linn. Soc. N. S. Wales v, p. 95, pl. 4; Macleay, Aust. Cat. ii, p. 289; Haswell, Proc. Linn. Soc. N. S. Wales vii, p. 210.

*Hab.*—Indian Seas to Port Jackson; Solomon Islands. *Tiger Shark* of the N. S. Wales coast. Attains to 12 feet in our waters.

## GALEUS AUSTRALIS.

*Galeus australis*, Macleay, Aust. Cat. ii, p. 270; M'Coy, Prodr. Zool. Vict. dec. vii, pl. 64, f. 2; Tenison-Woods, Fisheries of N. S. Wales, p. 92.

*Hab.*—Coasts of S. E. Australia and Tasmania; Port Jackson; *School Shark* of Sydney. Grows to the length of 6 feet at least.

## ZYGÆNA LEEUWINI.

*Zygæna leuwini*, Griff., Anim. Kingd. x, p. 640, pl. 50; Rochebrune, Act. Soc. L. Bord. vi, p. 56.

*Oestracion leeuwenii*, Duméril, Elasmobr., p. 383.

? *Zygæna malleus*, Macleay, Aust. Cat. ii, p. 291; M'Coy, Prodr. Zool. Vict. dec. vi, pl. 56, f. 1.

*Hab.*—Australian Seas; Richmond River; Port Jackson. *Hammer-head* of our coasts. The Australian Museum possesses a mounted specimen of a female which measures over 15 feet; it was killed at the mouth of the Richmond River during the spring of 1884, and no less than thirty-nine living young were taken from it; twelve of these, forwarded to the Museum, averaged 20 inches each.

## MUSTELUS ANTARCTICUS.

Günth., Cat. viii, p. 387; Macleay, Aust. Cat. ii, p. 292; Parker, Trans. N. Z. Inst. xv, p. 219, pl. 30; Casteln., Proc. Zool. Soc. Vict. i, p. 216.

*Hab.*—S. Pacific; Port Jackson; Port Phillip; Tasmania; New Zealand. *Hound* of our coasts, where it is common. Attains the length of 5 feet.

## LAMNIDÆ.

## LAMNA GLAUCA.

*Oxyrhina glauca*, Müll. & Henle, Plagiost., p. 69, pl. 29; Schleg, Faun. Japon. Poiss., p. 302; Duméril, Elasmobr., p. 409.

*Lamna glauca*, Günth., Cat. viii, p. 391; Macleay, Aust. Cat. ii, p. 292; Tenison-Woods, Fisheries of N. S. Wales, p. 95.

*Hab.*—Japan; Cape seas; Australian coasts. *Blue Pointer* of Port Jackson. Grows to the length of 12 feet.

## CARCHARODON RONDELETTII.

Müll. & Henle, Plagiost., p. 70; Duméril, Elasmobr., p. 411; Günth., Cat. viii, p. 392; Macleay, Aust. Cat. ii, p. 294; Haswell, Proc. Linn. Soc. N. S. Wales ix, p. 83, pl. 1, ff. 1-4; Günth., Study of Fishes, p. 320, f. 114 (*tooth*).

*Carcharodon capensis*, Smith, Ill. Zool. S. Afr. Pisc., pl. 4.

*Hab.*—Mediterranean; Cape seas; Australian seas. *White Pointer* of Port Jackson. A fierce and destructive species, which attains the length of 40 feet.

## ODONTASPIS AMERICANUS.

*Squalus americanus*, Mitch., Phil. et Lit. Trans. New York i, p. 483.

*Odontaspis taurus* (Rafin.), Müll. & Henle, Plagiost., p. 73, pl. 30; Duméril, Elasmobr., p. 417; M'Coy, Prodr. Zool. Viet. dec. vii, pl. 64, f. 1.

——— *americanus*, Abbott, Proc. Ac. Nat. Sc. Philad. 1861, p. 399; Duméril, l.c., p. 419; Günth., Cat. viii, p. 392; Macleay, Aust. Cat. ii, p. 294; Tenison-Woods, Fisheries of N. S. Wales, p. 95.

*Hab.*—Atlantic; Cape seas; S. Pacific; Tasmania; Port Jackson. *Grey Nurse* of the Sydney fishermen. Attains the length of 15 feet.

## ALOPTAS VULPES.

*Squalus vulpes*, Gmel. Linn., p. 1496; et auctt.

*Carcharias vulpes*, Cuv., Règne Anim.; De Kay, New York Fauna Fish, p. 348, pl. 61, f. 199; Gay, Hist. Chile Zool. ii, p. 363.

*Alopias vulpes*, Bonap., Faun. Ital. Pesc. iii, p. 66; Müll. & Henle, Plagiost., p. 74, pl. 35, f. 1 (*dentition*); Day, Brit. Fishes ii, p. 300, pl. 157.

*Alopias vulpes*, Yarrell, Brit. Fishes (ed. 3) ii, p. 512; Günth., Cat. viii, p. 393; Macleay, Aust. Cat. ii, p. 295; Günth., Study of Fishes, p. 322.

*Hab.*—Temperate and tropical seas of both hemispheres. *Thresher* of Port Jackson. Grows to at least 15 feet.

## NOTIDANIDÆ.

## NOTIDANUS INDICUS.

Cuv., Règne Anim.; Günth., Cat. viii, p. 398; Day, Fishes of India, p. 723, pl. 189, f. 4; Macleay, Aust. Cat. ii, p. 296; M'Coy, Prodr. Zool. Viet. dec. v, pl. 43, f. 2; Günth., Study of Fishes, p. 324, pl. 115 (*dentition*).

*Heptanchus indicus*, Müll. & Henle, Plagiost., p. 82, pl. 32; Schleg., Faun. Japon. Poiss., p. 303; M'Don. & Barr., Proc. Zool. Soc. 1868, p. 371, pl. 33; Haswell, Proc. Linn. Soc. N. S. Wales ix, p. 88, pl. 1, f. 5.

*Hab.*—Indian seas; Japan; California; Cape seas; Australian seas; Jervis Bay; Port Jackson. *One-finned Shark* of Sydney. Attains a length of 8 feet.

## SCYLLIIDÆ.

## SCYLLIUM ANALE.

Ogilby, Proc. Linn. Soc. N. S. Wales x, pp. 445, 464.

*Hab.*—Port Jackson. *Spotted Dog-fish*. Grows to the length of 2 feet.

## SCYLLIUM MACULATUM.

*Squalus maculatus*, Bl. Schn., p. 130 (*not auctt.*).

*Scyllium maculatum*, Günth., Cat. viii, p. 401; Macleay, Aust. Cat. ii, p. 297; Ogilby, Proc. Linn. Soc. N. S. Wales x, p. 464.

*Hab.*—Australian seas (Günther.) Port Darwin and Port Jackson (Macleay). Grows to the length of 2 feet (Macleay).

## CHILOSCYLLIUM OCELLATUM.

*Squalus ocellatus*, Gmel. Linn. i, p. 1494; Bl. Schn., p. 129.

*Hemiscyllium oculatum*, Müll. & Henle, Plagiost., p. 16; Duméril, Elasmobr., p. 326.

*Chiloscyllium ocellatum*, Günth., Cat. viii, p. 410; Macleay, Aust. Cat. ii, p. 299; Ogilby, Proc. Linn. Soc. N. S. Wales x, p. 464.

*Hab.*—N. Australia; Port Jackson (Ogilby). Grows to the length of 3 feet.

## CHILOSCYLLIUM MODESTUM.

Günth., Proc. Zool. Soc. 1871, p. 654, pl. 54; Macleay, Aust. Cat. ii, p. 299.

*Chiloscyllium furvum*, Macleay, Aust. Cat. ii, p. 300.

*Hab.*—East coast of Australia; Port Jackson. *Dusky Dog-fish*. Grows to 3 feet in length.

## CROSSORHINUS BARBATUS.

*Squalus barbatus*, Gmel. Linn., p. 1493.

*Crossorhinus barbatus*, Müll. & Henle, Plagiost., p. 21, pl. 5; Schleg., Faun. Japon. Poiss., p. 301; Duméril, Elasmobr., p. 338; Günth., Cat. viii, p. 414; Macleay, Aust. Cat. ii, p. 301; M'Coy, Prodr. Zool. Viet. dec. v, p. 43, f. 1; Haswell, Proc. Linn. Soc. N. S. Wales ix, p. 92, pl. 1, ff. 6-8; Tenison-Woods, Fisheries of N. S. Wales, p. 94.

——— *ornatus*, De Vis, Proc. Linn. Soc. N. S. Wales viii, p. 289.

*Hab.*—Japanese and Australian seas; Tasmania; Port Jackson. *Wobbegong* at Sydney. Attains to 8 feet long.

The Australian Museum possesses a specimen of the *Crossorhinus ornatus* of De Vis, taken at Port Stephens, but I can only consider it to be a well-marked variety of the ordinary form. A second specimen brought in from Port Jackson to-day (28th Sept., 1885) confirms this opinion; it measures 4½ feet.

## HETERODONTIDÆ.

## HETERODONTIDÆ.

## HETERODONTUS PHILLIPI.

*Squalus phillipi*, Bl. Schn., p. 134.

*Heterodontus phillipi*, Blainv., Nouv. Bull. Sc. 1816, p. 121; Duméril, Elasmobr., p. 424; Mikloubo-Maclay and Macleay, Proc. Linn. Soc. N. S. Wales iii, p. 309, pls. 22-24.

*Oestracion phillipi*, Cuv., Règne Anim.; Müll. & Henle, Plagiost., p. 76, pl. 31; Schleg., Faun. Japon. Poiss., p. 304; Strüver, Nov. Act. Acad. Carol. Leopold. Nat. cur. xxiii, 1864; Zaddach, Schr. Ges. Königsb. 1872, p. 6; Günth., Cat. viii, p. 415 and Study of Fishes, p. 329, ff. 119, 120 (*jaws*).

*Hab.*—Australian and New Zealand seas; Port Jackson, common. *Port Jackson Shark* of the fishermen; *Tabbigaw* of the aborigines. Attains a length of 4½ feet.

## HETERODONTUS GALEATUS.

*Oestracion galeatus*, Günth., Cat. viii, p. 416 and Study of Fishes, p. 330, pl. 122.

*Heterodontus galeatus*, Mikloubo-Maclay and Macleay, Proc. Linn. Soc. N. S. Wales iii, p. 313, pl. 25.

*Hab.*—Coast of New South Wales. Grows to 3½ feet in length, and is common, but generally confounded with its congener.

## SPINACIDÆ.

## ACANTHIAS MEGALOPS.

Macleay, Aust. Cat. ii, p. 303; ? Richardson, Voy. Erebus and Terror Fishes, p. 44, pl. 23, ff. 1, 2.

*Hab.*—Port Jackson. Grows to 3 feet in length.

## RHINIDÆ.

## RHINA SQUATINA.

*Squalus squatina*, Linn., Syst. Nat. i, p. 398.

*Squatina vulgaris*, Müll. & Henle, Plagiost., p. 99, pl. 35, f. 4 (*snout*); Schleg., Faun. Japon. Poiss., p. 305, pl. 86.

*Rhina squatina*, Raf. Ind., p. 45; Duméril, Elasmobr., p. 464; Günth., Cat. viii, p. 430, and Study of Fishes, p. 334; Macleay, Aust. Cat. ii, p. 304; M'Coy, Prodr. Zool. Vict. dec. iv, pl. 34; Day, Brit. Fishes ii, p. 326, pl. 163.

*Hab.*—Temperate and tropical seas; Port Jackson, common. *Angel Shark* of Sydney. Grows to 6 feet.

## PRISTIOPHORIDÆ.

## PRISTIOPHORUS CIRRATUS.

*Pristis cirratus*, Lath., Trans. Linn. Soc. ii, p. 281, pl. 26, ff. 5 & 27.

*Pristiophorus cirratus*, Müll. & Henle, Plagiost., p. 98; Günth., Cat. viii, p. 432; Macleay, Aust. Cat. ii, p. 305; Haswell, Proc. Linn. Soc. N. S. Wales ix, p. 98, pl. 1, ff. 9-12.

*Hab.*—South and east coasts of Australia; Tasmania; Port Jackson. *Saw Shark* of the fishermen. Attains to 4 feet in length.

## Batoidei.

## RHINOBATIDÆ.

## RHYNOBATUS DJEDDENSIS.

*Raja djiddensis*, Forsk., Descr. Anim., p. 18.

*Rhinobatus laevis*, Bl. Schn. p. 354, pl. 71; Schleg., Faun. Japon. Poiss., p. 306, pl. 139.

*Rhynchobatus laevis*, Müll. & Henle, Plagiost., p. 111; Duméril, Elasmobr., p. 483.

*Rhynchobatus djeddensis*, Cant, Mal. Fish., p. 412; Günth., Cat. viii, p. 441; Klunz., Fisch. Roth. Meer. 1871, p. 674; Day, Fishes of India, p. 730, pl. 192, f. 1; Günther, Study of Fishes, p. 338, f. 125 (*dentition*); Ogilby, Proc. Linn. Soc. N. S. Wales x, p. 465.

*Hab.*—East African, Indian, Japanese, and Australian seas; Port Jackson. Grows to the length of 7 feet.

## RHINOBATUS GRANULATUS.

*Rhinobatus rhinobatus*, Bl. Schn., p. 353.

— *granulatus*, Cuv., Règne Anim., Müll. & Henle, Plagiost., p. 117, pl. 38; Duméril, Elasmobr., p. 493; Günth., Cat. viii, p. 443; Day, Fishes of India, p. 732, pl. 192, f. 2; Macleay, Aust. Cat. ii, p. 307; Ogilby, Proc. Linn. Soc. N. S. Wales x, p. 465.

*Hab.*—East Indian and Australian seas; Port Jackson (Macleay). I have not seen a New South Wales example of this fish, which appears to have been confounded with the following by writers on the Australian fauna. Attains to 7 feet in length.

## RHINOBATUS BOUGAINVILLEI.

*Rhinobatus (Syrhhina) bougainvillii*, Müll. & Henle, Plagiost., p. 117; Duméril, Elasmobr., p. 491, pl. 10, f. 1 (*mouth*).

— *bougainvillii*, Günth., Cat. viii, p. 445; Ogilby, Proc. Linn. Soc. N. S. Wales x, p. 464.

*Hab.*—Port Jackson. *Shovel-nosed Ray* of Sydney fishermen. Grows to the length of 4 feet.

## TRIGONORHINA FASCIATA.

Müll. & Henle, Plagiost. p. 124, pl. 43; Duméril, Elasmobr., p. 502; Günth., Cat. viii, p. 448; Macleay, Aust. Cat. ii, p. 309; Haswell, Proc. Linn. Soc. N. S. Wales ix, p. 107, pl. 2, ff. 1-8.

*Hab.*—South and east coasts of Australia; Port Jackson, common. *Fiddler* of the Sydney fishermen. Attains a length of 4 feet.

## TORPEDINIDÆ.

## HYPNOS SUBNIGRUM.

Duméril, Rev. Zool. 1852, p. 279, pl. 12, and Elasmobr., p. 520; Günth., Cat. viii, p. 453; Macleay, Aust. Cat. ii, p. 310; Tenison-Woods, Fisheries of N. S. Wales, p. 100; Haswell, Proc. Linn. Soc. N. S. Wales ix, p. 104, pl. 2, ff. 6 & 7.

*Hab.*—Australian seas; Port Jackson, common. *Numb-fish*, *Cramp-fish*, and *Torpedo*, of the fishermen. Attains 2 feet in length, and over.

## RAIIDÆ.

## RAIIDÆ.

## RAIA AUSTRALIS.

Macleay, Proc. Linn. Soc. N. S. Wales viii, p. 461.

*Hab.*—Outside Port Jackson, in 50 fathoms. Largest specimen measures fifteen inches.

## RAIA NITIDA.

Günth., Voy. Challenger Shore Fishes, p. 27, pl. 14, f. A.; Macleay, Aust. Cat. App., p. 63.

*Hab.*—Twofold Bay, in 120 fathoms. Specimen measures 8 inches in total length.

*Raia lemprieri* is included by Tenison-Woods (Fisheries of N. S. Wales, p. 26); I know of no authentic record of its occurrence on our coast.

## TRYGONIDÆ.

## TRYGON PASTINACA.

*Raia pastinaca*, Linn., Syst. Nat., p. 396; Bl. Schn., p. 460.

*Trygon pastinaca*, Cuv., Règne Anim.; Müll. & Henle, Plagiost., p. 161; Duméril, Elasmobr., p. 603; Günth., Cat., viii, p. 478; Day, Brit. Fishes ii, p. 350, pl. 175; Macleay, Aust. Cat. ii, p. 313; Haswell, Proc. Linn. Soc. N. S. Wales ix, p. 100, pl. 2, ff. 10 & 11.

———— *akajei*, Müll. & Henle, l.c., p. 165, pl. 53; Schleg., Faun. Japon. Poiss., p. 308; Duméril, l.c., p. 604.

*Trygon sayi*, Müll. & Henle, l.c., p. 166; Duméril, l.c., p. 603.

*Hab.*—Atlantic Ocean; Mediterranean; Japanese, Chinese, and Australian seas; Port Jackson, (Günther).

## TRYGON TUBERCULATA.

*Trygon tuberculatus*, Lacép., Hist. Nat. des Poiss. ii, p. 106, pl. 4, f. 1; Duméril, Elasmobr., p. 605.

———— *sabina*, Müll. & Henle, Plagiost., p. 163; Duméril, l.c., p. 607.

———— *tuberculata*, Günth., Cat. viii, p. 480; Macleay, Aust. Cat. ii, p. 314.

*Hab.*—American region of the Tropical Atlantic; Port Jackson, (Günther).

## UROLOPHUS TESTACEUS.

*Trygonoptera testacea*, Müll. & Henle, Plagiost., p. 174, pl. 56.

———— *muelleri*, Steind., Sitzgsber. Ak. Wiss. Wien liii, 1865, p. 479, pl. 6, f. 5 (*young*).

———— *henlei*, Steind., l.c., f. 4 (*half-grown*).

———— *australis*, Steind., l.c., p. 480, pl. 7.

*Urolophus testaceus*, Günth., Cat. viii, p. 486; Macleay, Aust. Cat. ii, p. 315.

*Hab.*—Australian seas; Port Jackson, abundant. *Sting Ray* of the fishermen. Grows to the length of 30 inches.

## UROLOPHUS BUCCULENUS.

Macleay, Proc. Linn. Soc. N. S. Wales ix, p. 172.

*Hab.*—Outside Port Jackson, 40 to 60 fathoms.

## PREROPATEA AUSTRALIS.

Ramsay & Ogilby, Proc. Linn. Soc. N. S. Wales x, (*in press*).

*Hab.*—Cape Hawke. Breadth of disk 23 inches in the single specimen forwarded by Mr. J. Brown to the Australian Museum.

## MYLIOBATIDÆ.

## MYLIOBATIS AQUILA.

*Raia aquila*, Linn., Syst. Nat., p. 396; Bl. Schn., p. 360.

*Myliobatis aquila*, Cuv., Règne Anim.; Müll. & Henle, Plagiost., p. 176; Duméril, Elasmobr., p. 634; Günth., Cat. viii, p. 489, and Study of Fishes, p. 344, f. 129 (*jaws*); Macleay, Aust. Cat. ii, p. 316; Day, Brit. Fishes ii, p. 352, pl. 176.

*Hab.*—Mediterranean and Atlantic; Port Jackson, (Günther).

## MYLIOBATIS AUSTRALIS.

Macleay, Aust. Cat. ii, p. 316; McCoy, Prodr. Zool. Vict. dec. vii, pl. 63.

*Hab.*—Port Jackson.

## AETOBATIS NARINARI.

*Raja narinari*, Euph., Vet. Ak. nya. Handl. 1790, xi, p. 217; Bl. Schn. p. 361.

*Aetobatis narinari*, Müll. & Henle, Plagiost., p. 179; Duméril, Elasmobr., p. 611; Günth., Cat. viii, p. 492; Day, Fishes of India, p. 743, pl. 194, f. 4; Macleay, Aust. Cat. ii, p. 317; Ogilby, Proc. Linn. Soc. N. S. Wales x, p. 466.

*Hab.*—Tropical seas; North Australia; Cape Hawke, N. S. Wales; two specimens presented to the Australian Museum by Mr. J. Brown. Attains to 6 feet in breadth of disk.

## CLERATOPTERA ALFREDI.

Kreff, Macleay, Aust. Cat. ii, p. 317.

*Hab.*—Manly Beach. Specimen now measures about 11 feet in breadth of disk. It is impossible now to differentiate this species, so much has it been destroyed in the process of stuffing. A smaller example, 4½ feet in breadth of disk, taken in Middle Harbour, Port Jackson, is also irrecognizable from the same cause; there is however a short spine on the tail, (? *Cephaloptera*).

## TELEOSTEL.

## TELEOSTEI.

## ACANTHOPTERYGII.

## PERCIFORMES.

## PERCIDÆ.

## PERCA FLUVIATILIS.

Linn., Syst. Nat. 1766, p. 481; Cuv. & Val., Hist. Nat. des Poiss. ii, p. 20; Günth., Cat. i, p. 58; Steind., Ak. Wiss. Wien, SB, lxxviii, Abth. i, p. 399; Houghton, Brit. Fresh-water Fishes i, p. 1, pl. 1; Day, Brit. Fishes i, p. 2, pl. 1; Günth., Study of Fishes, chap. iii, & p. 375, pl. 151.

*Hab.*—Fresh waters of Europe, Siberia, and North America; introduced in many waters of New South Wales. *English Perch* of the colonists. Grows to the weight of eight lbs., but is commonly obtained of less than three.

## LATES COLONORUM.

Günth., Ann. & Mag. Nat. Hist. 1863, p. 114; Macleay, Aust. Cat. i, p. 4; Casteln., Proc. Linn. Soc. N. S. Wales iii, p. 365; McCoy, Prodr. Zool. Vict. dec. ii, pl. 14; Tenison-Woods, Fisheries of N. S. Wales, p. 31, pl. 1.

*Dules novem-aculeatus*, Steind., Sitzgsber. Ak. Wiss. Wien 1866, liii, p. 428, t. 2, f. 1.

*Lates curtus*, Casteln., Res. on the Fishes of Australia, p. 5.

?—*similis*, Casteln., Proc. Zool. Soc. Vict. i, p. 44.

?—*antarcticus*, Casteln., l.c., p. 44.

?—*victoriae*, Casteln., l.c., p. 45.

*Hab.*—Eastern river system of New South Wales; Gippsland. The *Perch* of the colonists. Attains a weight of 5 lbs.

## LATES RAMSAYI.

Macleay, Aust. Cat. i, p. 6.

*Hab.*—Fresh water pools above Parramatta. I hold the opinion, which is shared by Mr. E. P. Ramsay, that this is only a land-locked form of the preceding species.

ETELIS *sp.*

Günth., Voy. Challenger Shore Fishes, p. 27.

*Hab.*—Twofold Bay, 120 fathoms (?). Specimens 2½ inches long; supposed to be the young of *Etelis carbunculus*, Cuv. & Val.

## ENOPLOSUS ARMATUS.

*Chatodon armatus*, White, Voy. N. S. Wales, pl. 39, f. 1.

*Enoplosus whitii*, Lacép., Hist. Nat. des Poiss. iv, p. 541.

—*armatus*, Cuv. & Val. ii, p. 133, pl. 20; Günth., Cat. i, p. 81; Macleay, Aust. Cat. i, p. 9; Tenison-Woods, Fisheries of N. S. Wales, p. 32, pl. 2.

*Hab.*—East and south coasts of Australia; Port Jackson, abundant. *Old wife*, at Sydney. Grows to the length of 9 inches.

## ANTHIAS LEPIDOPTERUS.

*Perca lepidoptera*, Forst., Descr. Anim., p. 138.

*Epinephelus lepidopterus*, Bl. Schn., p. 302.

*Serranus lepidopterus*, Rich., Ann. Nat. Hist. 1842, ix, p. 18.

*Anthias richardsonii*, Günth., Proc. Zool. Soc. 1869, p. 429, and Ann. Nat. Hist. 1876, xvii (4), p. 39; Macleay, Aust. Cat. i, p. 12.

*Scorpiis hectori*, Hutt., Fishes of N. Zeal., p. 4, f. 4, and Trans. N. Zeal. Inst. v, p. 259, pl. 7, and op. cit. ix, p. 353.

*Hab.*—New Zealand, Tasmania, Port Jackson, one specimen in the Macleay Museum, taken in April, 1885. Attains a length of 12 inches.

## CAPRODON SCHLEGELII.

*Caprodon*, Schleg. Faun. Japon Poiss., p. 64, pl. 30; Rich., Ichthyol. China, p. 235 (*male*).

*Anthias schlegelii*, Günth., Cat. i, p. 93 (*male*).

—*longimanus*, Günth., Cat. i, p. 94; Ramsay, Proc. Linn. Soc. N. S. Wales v, p. 294; Macleay, Aust. Cat. i, p. 12; Tenison-Woods, Fisheries of N. S. Wales, p. 33, pl. 3 (*female*).

*Neanthias guentheri*, Casteln., Proc. Linn. Soc. N. S. W. iii, p. 367 (*male*).

*Caprodon schlegeli*, Ogilby, Proc. Linn. Soc. N. S. Wales x, p. 231.

*Hab.*—Japan; Port Jackson, scarce, in summer only. *Longfin*, (Tenison-Woods). Attains a length of 15 inches.

## SERRANUS DAMELI.

Günth., Ann. Nat. Hist. 1876, (4) xvii, p. 391; Casteln., Proc. Linn. Soc. N. S. Wales iii, p. 365;

Macleay, Proc. Linn. Soc. N. S. Wales viii, p. 254; Tenison-Woods, Fisheries of N. S. Wales, p. 33.

*Hab.*—N. S. Wales coast; Normanby Island, D'Entrecasteaux Group, in fresh water. *Black rock-cod*, of Port Jackson. Grows to the length of 2 feet, and is an excellent fish for the table.

## SERRANUS GUTTULATUS.

Macleay, Proc. Linn. Soc. N. S. Wales iii, p. 33, pl. 2.

*Hab.*—Port Jackson. Grows to 14 inches in length.

## SERRANUS UNDULATO-STRIATUS.

Peters, Monatsber. Ak. Wiss. Berlin 1866, p. 518; Casteln., Proc. Linn. Soc. N. S. Wales iii, p. 366.

*Hab.*—Port Jackson. Specimen measured 11 inches.

SERRANUS

## SERRANUS MERRA.

*Epinephelus merra*, Bl., t. 329 (not Bleeker).

*Serranus gilberti*, Rich., Ann. Nat. Hist. 1842, p. 19, & Ichthyol. China, p. 230; Günth., Cat. i, p. 148, & i, p. 141 (part); Macleay, Aust. Cat. i, p. 19; Day, Fishes of India, pp. 13 & 746, pl. 2, f. 2.

———— *megachir*, Rich., Ichthyol. China, p. 230.

———— *ardalis*, Bleek., Atl. Ichthyol. Perc. p. 37, t. 41, f. 3.

*Hab.*—Red Sea; Indian, Chinese and Malayan seas; north and east coast of Australia; Port Jackson, rare. 9 inches in length.

## SERRANUS FUSCO-GUTTATUS.

Rüpp., Atl. Fische, p. 108, t. 27, f. 2; Günth., Cat. i, p. 127; Kner, Voy. Novara Fische, p. 22; Macleay, Aust. Cat. i, p. 16; Day, Fishes of India, p. 22, pl. 5, f. 3.

*Serranus horridus*, Cuv. & Val. ii, p. 321; Günth., Cat. i, p. 136.

———— *geographicus*, Cuv. & Val. ii, p. 322; Günth., Cat. i, p. 150.

———— *dispar*, Playf., Fishes of Zanzibar, p. 6, pl. i, ff. 2, 3.

*Epinephelus horridus*, Bleek., Atl. Ichthyol. Perc., t. 29, f. 3.

*Hab.*—East African, Indian, and Malayan seas; north and east coasts of Australia; Port Jackson, rare. Ten inches long.

Count Castelnau, in a list of Port Jackson fishes (Proc. Linn. Soc. N. S. Wales iii, p. 349), includes *Serranus guttatus*, C. & V. In the absence of the specimen or of a description I am unable to determine whether *S. minimus* (Forsk.) Rüpp., or *S. guttatus*, (Bl.) Peters is intended.

## PLECTROPOMA NIGRO-RUBRUM.

Cuv. & Val. ii, p. 402; Quoy & Gaim., Voy. Astrolabe Poiss., p. 659, pl. 4, f. 1; Günth., Cat. i, p. 158; Macleay, Aust. Cat. i, p. 22; Ogilby, Proc. Linn. Soc. N. S. Wales x, p. 119.

*Hab.*—Southern and eastern coasts of Australia; Port Jackson, scarce. Attains a length of 10 inches.

## PLECTROPOMA ANNULATUM.

Günth., Cat. i, p. 158, & Brench., Cruise of the Curaçoa, p. 415, pl. 28, f. B; Casteln., Proc. Linn. Soc. N. S. Wales iii, p. 369.

*Hab.*—Port Jackson. Grows to 8 inches in length.

## PLECTROPOMA SEMICINCTUM.

Cuv. & Val. ix, p. 442; Gay, Hist. Chile Zool., p. 153., Ictiol. pl. 2, f. 1; Günth., Cat. i, p. 160; Macleay, Aust. Cat. i, p. 22.

*Hab.*—Chili; Juan Fernandez; West Australia; Port Jackson. Eight inches long.

## PLECTROPOMA OCELLATUM.

Günth., Cat. i, p. 504, and Brench., Cruise of the Curaçoa, p. 416, pl. 29; Macleay, Aust. Cat. i, p. 23; Tenison-Woods, Fisheries of N. S. Wales, p. 34, pl. 4.

*Plectropoma cyanostigma*, Günth., Cat. i, p. 161, (not Bleeker).

———— *myriaster*, Steind., Sitzgsber. Ak. Wiss. Wien 1866, liii, p. 426, t. 1, f. 3.

*Hab.*—Australian seas; Port Jackson, common. *Wirrah* of the Aborigines. Grows to 12 inches in length. A very inferior fish for the table.

## PLECTROPOMA SUSUKI.

Cuv. & Val. ii, p. 404; Schleg., Faun. Japon. Poiss., p. 11, pl. 4, f. 1; Rich., Ichthyol. China, p. 230; Günth., Cat. i, p. 160, and Proc. Zool. Soc. 1867, p. 100; Macleay, Aust. Cat. i, p. 23; Day, Fishes of India, p. 20.

?*Perca septem-fasciata*, Thunb., Nov. Ac. Stock. 1793, pl. 1, f. 1.

*Hab.*—Chinese and Japanese seas; Port Jackson (Günther). Attains a length of 12 inches.

Count Castelnau claims to have obtained a specimen of *Plectropoma serratum* (C. & V.) from Port Jackson, but his description (Proc. Linn. Soc. N. S. Wales iii, p. 368) applies more closely to *P. ocellatum*.

## LUTIANUS BENGALENSIS.

*Holocentrus bengalensis*, Bl., t. 246, f. 2.

*Diacope octolineata*, Cuv. & Val. ii, p. 418, & vi, p. 526 (part); Schleg., Faun. Japon. Poiss., p. 12, pl. 6, f. 2; Rich., Ichthyol. China, p. 229.

*Genyoroge bengalensis*, Günth., Cat. i, p. 178; Macleay, Aust. Cat. i, p. 28.

*Mesoprion bengalensis*, Kner, Voy. Novara Fische, p. 31; Günth., Fische d. Sudsee, p. 12.

*Diacopus bengalensis*, Casteln. Proc. Linn. Soc. N. S. Wales iii, p. 349.

*Lutianus bengalensis*, Bleek., Atl. Ichthyol. Perc., t. 24, f. 3; Day, Fishes of India, p. 33, pl. 10, f. 4.

*Hab.*—From the east African coast to Polynesia; Port Jackson. Grows to a length of 10 inches.

## LUTIANUS JOHNNI.

*Anthias johnni*, Bl., t. 318.

*Mesoprion johnni*, Cuv. & Val. ii, p. 443; Günth., Cat. i, p. 200; Kner, Voy. Novara Fische, p. 35; Günth., Fische d. Sudsee, p. 15; Macleay, Aust. Cat. i, p. 29.

*Lutianus johnni*, Day, Fishes of India, p. 42, pl. 13, f. 1.

*Hab.*—East African, Indian, and Malayan seas; North Australia; Richmond River, one specimen from Mr. T. Temperley (Ogilby). Grows to a length of at least 12 inches.

## LUTIANUS FULVIFLAMMA.

*Sciæna fulviflamma*, Forsk., Descr. Anim., p. 45.

*Diacope fulviflamma*, Rüpp., Atl. Fische, p. 72, t. 19, f. 2; Cuv. & Val. ii, p. 423.

*Hab.*—From the east coast of Africa to Australia; Bellinger River, N.S. Wales.

## LUTIANUS MACLEAYANUS.

Ramsay, Proc. Linn. Soc. N. S. Wales viii, p. 178.

*Hab.*—Port Jackson. Specimen measures 30 inches.

LUTIANUS

## LUTIANUS MARGINATUS.

*Diacope marginata*, Cuv. & Val. ii, p. 425.

*Mesoprion marginatus*, Kner, Voy. Novara Fische, p. 31; Günth., Fische d. Sudsee, p. 13, t. 14.

*Genyoroge marginata*, Günth., Cat. i, p. 181.

*Lutianus marginatus*, Bleek., Lutian., p. 72; Day, Fishes of India, p. 44, pl. 13, f. 5.

*Hab.*—From the east African seas to Polynesia; Port Jackson (Kner). Attains at least 16 inches in length.

## GLAUCOSOMA SCAPULARE.

Ramsay, (M. SS.), Macleay, Aust. Cat. i, p. 34, pl. 13; Tenison-Woods, Fisheries of N. S. Wales, p. 34.

? *Glaucosoma bürgeri*, Casteln., Proc. Linn. Soc. N. S. Wales iii, p. 350.

*Hab.*—Port Jackson. Grows to a length of 20 inches at least. An excellent food fish.

## MURRAYIA GUENTHERI.

Casteln., Proc. Zool. Soc. Vict. i, p. 61; Macleay, Aust. Cat. i, p. 56.

*Hab.*—Murray River. Average length, 14 inches. Klunzinger considers this fish identical with *Macquaria australasica*.

## MURRAYIA CYPRINOIDES.

Casteln., Proc. Zool. Soc. Vict. i, p. 62; Macleay, Aust. Cat. i, p. 57.

*Hab.*—Murray River. Attains a length of 12 inches.

## MURRAYIA BRAMOIDES.

Casteln., Proc. Zool. Soc. Vict. i, p. 63; Macleay, Aust. Cat. i, p. 57.

*Hab.*—Murray River, rare. Length, 12 inches.

## MURRAYIA RIVERINA.

*Dules riverinus*, Krefft, Proc. Zool. Soc. 1867, p. 943.

*Murrayia riverina*, Macleay, Aust. Cat. i, p. 58.

*Hab.*—Murray River and its tributaries.

## MURRAYIA JENKINSI.

Macleay, Proc. Linn. Soc. N. S. Wales x, p. 268.

*Hab.*—Yass district of the Murrumbidgee. Specimen measured 5 inches.

## RIVERINA FLUVIATILIS.

Casteln., Proc. Zool. Soc. Vict. i, p. 64; Macleay, Aust. Cat. i, p. 58.

*Hab.*—Murray River.

## MACQUARIA AUSTRALASICA.

Cuv. & Val. v, p. 377, pl. 131; Less., Voy. Coquille Zool. ii, p. 194, pl. 14, f. 1; Günth., Cat. i, p. 286;

Macleay, Aust. Cat. i, p. 59.

*Hab.*—Macquarie River.

## CTENOLATES AMBIGUUS.

*Dutnia ambigua*, Rich., Voy. Erebus & Terror Fishes, p. 25, pl. 19.

*Dules ambiguus*, Günth., Cat. i, p. 270; Klunz., S.B. Ak. Wien lxxx, Abth. i, p. 337, pl. 1, f. 1.

——— *auratus*, Casteln., Proc. Zool. Soc. Vict. i, p. 55.

*Otenolates macquariensis*, Günth., Proc. Zool. Soc. 1871, p. 390, pl. 33.

——— *ambiguus*, Macleay, Aust. Cat. i, p. 54; Tenison-Woods, Fisheries of N.S. Wales, p. 103.

*Hab.*—All the rivers of the Murray system. *Golden Perch* and *Yellow-belly* of the colonists; *Kaakaalain* of the Murrumbidgee aboriginals. Attains a length of at least 16 inches.

## CTENOLATES CHRISTYI.

*Dules christyi*, Casteln., Proc. Zool. Soc. Vict. i, p. 57.

*Otenolates christyi*, Macleay, Aust. Cat. i, p. 55.

*Hab.*—Edwards River, near Deniliquin.

## CTENOLATES FLAVESCENS.

*Dules flavescens*, Casteln., Res. on the Fishes of Australia, p. 10.

*Otenolates flavescens*, Macleay, Aust. Cat. i, p. 55.

*Hab.*—Murray River. Specimen measured 19 inches.

Steindachner (Sitzgsber. Ak. Wiss. Wien lvi, p. 320) describes a *Dules reinhardti*. I have not had an opportunity of seeing the description of this species, and am therefore unable to include it in my list. The example is said to be from Fort Jackson.

## THERAPON CUVIERI.

*Pristipoma sex-lineatum*, Quoy & Gaim., Voy. Freyc. Poiss., p. 320.

*Pelates sex-lineatus, quadri-lineatus, et quinque-lineatus*, Cuv. & Val. ii, p. 146, et seq., pl. 55; Less., Voy. Coquille Zool. ii, p. 223.

*Therapon cuvieri*, Bleek., Nat. Tydschr. Nederl. Indie vi, p. 211, and Atl. Ichthyol. Perc., pl. 37, f. 2;

Günth., Cat. i, p. 282; Macleay, Aust. Cat. i, p. 62.

*Hab.*—Sea of Timor; South coast of New Guinea; North and east coasts of Australia; Port Jackson, abundant. *Mado* and *Trumpeter Perch* at Sydney. Grows but rarely to a length of 12 inches. Of no commercial value.

Our fish is certainly distinct from that described as *Therapon quadri-lineatus*, Bl., by Day (Fishes of India, p. 70, pl. 18, f. 5), below which he places *T. cuvieri*, Bleek., as a synonym.

## THERAPON RICHARDSONII.

Casteln., Proc. Zool. Soc. Vict. i, p. 60; Macleay, Aust. Cat. i, p. 64; Tenison-Woods, Fisheries of N. S. Wales, p. 104.

*Hab.*—Rivers of the Murray system. *Silver Perch* or *Bream* of the colonists; *Kooberry* of the Murrumbidgee aboriginals.

THERAPON

## THERAPON NIGER.

Casteln., Proc. Zool. Soc. Vict. i, p. 59; Macleay, Aust. Cat. i, p. 65.  
? *Dania elliptica*, Rich., Voy. Erebus and Terror Fishes, p. 118, pl. 52, ff. 4-8; Günth., Cat. i, p. 276;  
Macleay, Aust. Cat. i, p. 63.

*Hab.*—? Rivers of Western Australia; Murray River, rare. Specimen 16 inches in length.

## THERAPON UNICOLOR.

Günth., Cat. i, p. 277; Kner, Sitzgsber. Ak. Wiss. Wien lviii, p. 299, t. 2, f. 4, var.; Macleay, Proc.  
Linn. Soc. N. S. Wales iii, p. 16, and Aust. Cat. i, p. 65.

*Hab.*—Northern rivers of N. S. Wales; Warialda. Attains at least 7 inches in length.

## THERAPON MACLEAYANUS.

Ramsay, Proc. Linn. Soc. N. S. Wales vi, p. 831.

*Hab.*—Macquarie River. Spawning in November.

Count Castelnau records (Proc. Linn. Soc. N. S. Wales iii, p. 350) *Therapon sereus*, Bl. from Port Jackson; it is very doubtful whether his identification was correct.

## HELOTES SEXLINEATUS.

*Therapon sexlineatus*, Quoy & Gaim., Voy. Freyc. Poiss., pl. 60, f. 1.

*Helotes sexlineatus*, Cuv. & Val. iii, p. 149, pl. 56; Günth., Cat. i, p. 235; Kner, Voy. Novara Fische,  
p. 46, t. 3, f. 1; Bleek., Atl. Ichthyol. Perc., pl. 64, f. 5; Macleay, Proc. Linn. Soc. N. S.  
Wales ii, p. 348, and Aust. Cat. i, p. 68.

*Hab.*—Australian coasts; Port Jackson. Attains a length of 7 inches.

## AGENOR MODESTUS.

Casteln., Proc. Linn. Soc. N. S. Wales iii, p. 371.

*Hab.*—Port Jackson. Length of specimen 4 inches.

## HYPEROGLYPHE POROSA.

*Diagramma porosa*, Rich., Voy. Erebus and Terror Fishes, p. 26, pl. 16, ff. 5, 6.

*Hyperoglyphe porosa*, Günth., Cat. i, p. 337; Macleay, Aust. Cat. i, p. 72.

*Hab.*—Coasts of Australia; Port Jackson, (Kreffé). Typical specimen 5½ inches long.

## LOBOTES SURINAMENSIS.

*Holocentrus surinamensis*, Bl., t. 243.

*Lobotes surinamensis*, Cuv. & Val. v, p. 319; Day, Fishes of India, p. 84, pl. 21, f. 5.

——— *somnolentus*, Cuv. & Val. v, p. 32.

——— *auctorum*, Günth., Cat. i, p. 338; Macleay, Aust. Cat. i, p. 75.

*Hab.*—East African, Indian, and Malayan seas; Port Jackson; Endeavour River, var. *somnolentus*  
(Macleay). Grows to the length of 2 feet. An excellent food fish.

## HISTIOPTERUS LABIOSUS.

Günth., Proc. Zool. Soc. 1871, p. 658, pl. 59; Macleay, Aust. Cat. i, p. 74.

*Richardsonia insignis*, Casteln., Proc. Zool. Soc. Vict. i, p. 112.

*Hab.*—South coast of Australia; Botany Bay; Port Jackson; scarce. Attains a length of 30  
inches at least.

## GERRES OVATUS.

Günth., Cat. i, p. 343; Casteln., Proc. Linn. Soc. N. S. Wales iii, p. 391; Macleay, Aust. Cat. i, p. 76;  
Tenison-Woods, Fisheries of N. S. Wales, p. 43.

*Hab.*—South-east coast of Australia; Port Jackson, common. *Silver Bream* and *Silver Belly* of the  
Sydney fishermen. Grows to 8 inches in length.

## GERRES SUBFASCIATUS.

Cuv. & Val. vi, p. 477; Günth., Cat. i, p. 343; Macleay, Aust. Cat. i, p. 77.

*Hab.*—Port Jackson. Grows to a length of 6 inches.

## GERRES ARGYREUS.

*Sciæna argyrea*, Forst.

*Cichla argyrea*, Bl. Schn., p. 344.

*Gerres waigiensis*, Quoy & Gaim., Voy. Freyc. Zool., p. 292.

*Gerres argyreus*, Cuv. & Val. vi, p. 478; Günth., Cat. i, p. 352; Macleay, Proc. Linn. Soc. N. S. Wales  
iv, p. 62, & Aust. Cat. i, p. 78.

*Hab.*—From the Red Sea through the Malay Archipelago to the Solomon Islands; Port Jackson  
(Günther); Richmond River (Ogilby). Attains a length of at least 5 inches.

## PENTAPUS SETOSUS.

Cuv. & Val. vi, p. 270; Günth., Cat. i, p. 382; Bleek., Atl. Ichthyol. Perc., pl. 46, f. 1; Kner, Voy.  
Novara Fische, p. 60; Macleay, Aust. Cat. i, p. 85.

*Hab.*—Madras & Singapore (Kner); Batavia (Günther); North coast of Australia; Port Jackson  
(Macleay). Grows to a length of 10 inches.

## APHAREUS ROSEUS.

Casteln., Proc. Linn. Soc. N. S. Wales iii, p. 373.

*Hab.*—Port Jackson (Castelnau). Specimen measured nearly 24 inches.

## OLIGORUS MACQUARIENSIS.

*Grystes macquariensis*, Cuv. & Val. iii, p. 58; Rich., Voy. Erebus & Terror Fishes, p. 118, pl. 53, ff. 8, 9.

——— *peclii*, Mitch., Exped. Austr., pl. 5, f. 1.

*Oligorus*

*Oligorus macquariensis*, Günth., Cat. i, p. 251, and Study of Fishes, p. 392, f. 164; Macleay, Aust. Cat. i, p. 52; and Proc. Linn. Soc. N. S. Wales viii, p. 200; Tenison-Woods, Fisheries of N. S. Wales, p. 102, pl. 41.

*Hab.*—Murray River and its tributaries; northern rivers of the eastern watershed of N. S. Wales. *Murray Cod* of the colonists; *Kookoobul* of the Murrumbidgee aboriginals; *Pundy* on the Lower Murray. Attains a weight of 120 lbs. An excellent food fish. Spawns from November to January.

OLIGORUS MITCHELLI.

Casteln., Proc. Zool. Soc. Vict. ii, p. 150; Macleay, Aust. Cat. i, p. 53; Tenison-Woods, Fisheries of N. S. Wales, p. 103.

*Hab.*—Rivers of the western watershed of N. S. Wales and Victoria. *Murray Perch* of the fishermen. Grows to a large size. An excellent table fish. I think it probable that this will prove to be identical with the preceding; the differences which have been pointed out are easily attributable to sexual and seasonal causes, insufficiency of food, disease, &c.

OLIGORUS GIBBICEPS.

Macleay, Proc. Linn. Soc. N. S. Wales x, p. 265.

*Hab.*—Murrumbidgee River, near Yass. Specimen measures 8 inches. An Alpine form.

ARRIPIS SALAR.

*Centropristes salar*, Rich., Trans. Zool. Soc. iii, p. 78, and Voy. Erebus and Terror Fishes, p. 29, pl. 20, ff. 4-6.

——— *tasmanicus*, Hombr. & Jacq., Voy. au Pôle Sud Poiss., p. 40, pl. 4, f. 1.

? ——— *truttaceus*, Cuv. & Val. iii, p. 50.

*Arripis salar*, Günth., Cat. i, p. 253, and Study of Fishes, p. 393, f. 165; M'Coy, Prodr. Zool. Vict. dec. ii, pls. 16, 17; Macleay, Aust. Cat. i, p. 51; Tenison-Woods, Fisheries of N. S. Wales, p. 35, pl. 5.

*Hab.*—New Zealand; Norfolk Island; South and east coasts of Australia; Port Jackson, common. *Salmon* of the fishermen when full grown; *Salmon Trout* when of medium size. Attains a length of 2 feet. A poor fish for the table, but of considerable commercial value on account of its size and abundance.

ARRIPIS GEORGIANUS.

*Centropristes georgianus*, Cuv. & Val. vii, p. 451; Rich., Voy. Erebus and Terror Fishes, p. 117, pl. 54, ff. 3-6.

*Arripis georgianus*, Jenyns, Voy. Beagle, p. 14; Günth., Cat. i, p. 253; Macleay, Aust. Cat. i, p. 50.

*Hab.*—South and west coast of Australia; Norfolk Island; Port Jackson, (Günther). *Ruffy* of Victorian fishermen, (M'Coy). Grows to a length of 12 inches.

AMBASSIS COMMERSONI.

*Centropomus ambassis*, Lacép. iv, p. 273.

*Ambassis commersonii*, Cuv. & Val. ii, p. 176, pl. 25; Günth., Cat. i, p. 223; Bleek., Atl. Ichthyol. Perc., t. 74, f. 1; Day, Fishes of India, p. 52, pl. 15, f. 3; Macleay, Aust. Cat. i, p. 37, and Proc. Linn. Soc. N. S. Wales viii, p. 255; Kner, Voy. Novara Fische, p. 41.

*Hab.*—From the Red Sea through those of India to North-east Australia; Richmond River; specimens obtained by Mr. T. Temperley (Ogilby). Enters fresh water. Attains a length of 6 inches.

AMBASSIS AGASSIZII.

Steind., Sitzgsber. Ak. Wiss. Wien lv, 1867, p. 9; Günth., Ann. Nat. Hist. 1867, xx, p. 57; Macleay, Aust. Cat. i, p. 38.

*Hab.*—Queensland, (Steindachner); Clarence River, (Kreffl).

AMBASSIS CASTELNAUI.

*Pseudoambassis castelnaui*, Macleay, Aust. Cat. i, p. 39.

*Hab.*—Murrumbidgee River.

AMBASSIS RAMSAYI.

*Pseudoambassis ramsayi*, Macleay, Aust. Cat. i, p. 40.

*Hab.*—Port Jackson. Specimen measures 3 inches.

AMBASSIS JACKSONIENSIS.

*Pseudoambassis jacksoniensis*, Macleay, Aust. Cat. i, p. 40.

*Hab.*—Port Jackson. Average length 2 inches.

NANNOPERCA AUSTRALIS.

Günth., Proc. Zool. Soc. 1861, p. 116, pl. 19, f. 2; Macleay, Aust. Cat. i, p. 42.

*Paradules latus*, Klunz.

*Hab.*—Murray River. Grows to the length of 3 inches.

NANNOPERCA RIVERINÆ.

Macleay, Aust. Cat. i, p. 42.

*Hab.*—Murrumbidgee River. Length of specimen 2 inches.

APOGON FASCIATUS.

*Mullus fasciatus*, White, Voy. N. S. Wales, p. 268, f. 1.

*Apogon novem-fasciatus*, Cuv. & Val. ii, p. 154; Kner, Voy. Novara Fische, p. 43.

——— *fasciatus*, Quoy & Gaim., Voy. Freyc. Zool. p. 314; Günth., Cat. i, p. 241, and Fische d. Sudsee, p. 19, pl. 20, ff. A, B; Kner, Voy. Novara Fische, p. 43; All. & MacL., Proc. Linn. Soc. N. S. Wales i, p. 267; Casteln., Proc. Linn. Soc. N. S. Wales iii, p. 370; Macleay, Aust. Cat. i, p. 43.

——— *aroubiensis*, Hombr. & Jacq., Voy. au Pôle Sud. Poiss., p. 31, pl. 1, f. 1.

——— *balinensis*, Bleek., Perc. p. 28.

*Apogon endeka-tania*, Bleek., Banka, p. 449.

*Amia fasciata*, Gill, Proc. Nat. Soc. Phil. 1863; Bleek, Atl. Ichthyol. Perc. t. 48, f. 4.

— *endeka-tania*, Bleek., Atl. Ichthyol. Perc. t. 32, f. 2.

*Hab.*—East African, Indian, Malayan, and Australian seas; Fiji Islands; Port Jackson, common. Attains a length of 5 inches. A very variable species.

APOGON GUENTHERI.

*Apogon guntheri*, Casteln., Proc. Zool. Soc. Vict. i, p. 45; Ramsay, Proc. Linn. Soc. N. S. Wales vii, p. 110; Macleay, Aust. Cat. i, p. 45.

? — *novæ-hollandiæ*, Val., Nouv. Ann. Mus. Hist. Nat. 1832, p. 55, pl. 4, f. 2; Günth., Ann. Nat. Hist. xx, 1867, p. 58; Casteln., Proc. Linn. Soc. N. S. Wales iii, p. 350.

*Hab.*—Coasts of Tasmania, Victoria, and New South Wales. Grows to the length of 4 inches.

APOGON QUADRIFASCIATUS.

Cuv. & Val. ii, p. 153; Günth., Cat. i, p. 239; Kner, Voy. Novara Fische, p. 43; Macleay, Aust. Cat. i, p. 44.

*Amia quadrifasciata*, Bleek., Atl. Ichthyol. Perc. t. 57, f. 1.

*Hab.*—Indian, Japanese, and Malayan seas; North Australia; Sydney, (Kner).

APOGON GILLII.

*Apogonichthys gillii*, Steind., Sitzgsber. Ak. Wiss. Wien lv, 1867, p. 11, t. 1, f. 1; Macleay, Aust. Cat. i, p. 47, and Proc. Linn. Soc. N. S. Wales viii, p. 200.

*Apogon gillii*, Günth., Ann. Nat. Hist. (4) xvii, p. 392.

*Mionurus lunatus*, Krefft, Proc. Zool. Soc. 1867, p. 942 (*type specimen in the Australian Museum*).

*Hab.*—Rockhampton (Dämel); Cox's River (Krefft). Specimen measures nearly 6 inches.

PRIACANTHUS MACRACANTHUS.

Cuv. & Val. iii, p. 108; Less., Voy. Coquille Zool. Poiss., p. 225; Günth., Cat. i, p. 220; Casteln., Proc. Linn. Soc. N. S. Wales iii, p. 369; Tenison-Woods, Fisheries of N. S. Wales, p. 35.

*Priacanthus bleekeri*, Casteln., Proc. Zool. Soc. Vict. ii, p. 100.

*Hab.*—Japan; Batavia; Port Jackson, in May (Casteln.). Attains a length of 12 inches.

PRIACANTHUS BENMEBARI.

Schleg., Faun. Japon. Poiss., p. 19, pl. 7, f. 1; Rich., Ichthyol. China, p. 237; Günth., Cat. i, p. 218, and Ann. Nat. Hist. 1867, xx, p. 57; Macleay, Aust. Cat. i, p. 37.

*Hab.*—Japanese seas; Port Jackson (Günther). Attains a length of one foot.

DINOLESTES MUELLERI.

Klunz., Arch. f. Nat. 1872, p. 29, t. 3.

*Neosphyraena multiradiata*, Casteln., Proc. Zool. Soc. Vict. i, p. 96.

*Lanioperea mordax*, Günth., Ann. Nat. Hist. 1872, x, p. 183; Macleay, Aust. Cat. ii, p. 36; Tenison-Woods, Fisheries of N. S. Wales, pl. 29.

? *Esox lewini*, Griff. Cuv. An. Kingd., ed. x, p. 465, pl. 60, 1834; Gill, Ann. Nat. Hist. (4) xiv, p. 159.

*Hab.*—Tasmanian, Victorian, and New South Wales coasts. *Sea-pike* of the Sydney market.

SQUAMIPINNES.

CHÆTODON AURIGA.

Forsk., p. 60; Bl. Sehn., p. 226; Cuv. & Val. vii, p. 79; Günth., Cat. ii, p. 7; Day, Fishes of India, p. 106, pl. 27, f. 3.

*Chætodon setifer*, Bl., t. 425, f. 1; Cuv. & Val. vii, p. 76; Günth., Cat. ii, p. 6, and Fische d. Sudsee, p. 36, t. 26, f. B; Kner, Voy. Novara Fische, p. 97; Macleay, Aust. Cat. i, p. 89.

*Hab.*—From the Red Sea to Polynesia; Cape York (Castelnau); Sydney (Kner).

CHÆTODON NESOGALLICUS.

Cuv. & Val. vii, p. 63; Günth., Cat. ii, p. 10, and Voy. Challenger Shore Fishes, p. 27.

*Hab.*—Indian Ocean and Archipelago; Botany Bay (Günther).

CHÆTODON OLIGACANTHUS.

*Platax ocellatus*, Cuv. & Val. vii, p. 299; Cantor, Cat. p. 170.

*Chætodon oligacanthus*, Bleek., Verh. Bat. Gen. xxiii, Chætod., p. 16; Günth., Cat. ii, pp. 34 and 516; Kner, Voy. Novara Fische, p. 102; Macleay, Proc. Linn. Soc. N. S. Wales ii, p. 351, and Aust. Cat. i, p. 88; Day, Fishes of India, p. 109.

*Hab.*—Indian and Malayan seas; Philippine Islands; Port Darwin and Port Jackson (Macleay).

CHÆTODON STRIGATUS.

Cuv. & Val. vii, p. 25, pl. 120; Schleg., Faun. Japon. Poiss., p. 80, pl. 41, f. 1; Günth., Cat. ii, p. 34, and Fische d. Sudsee, p. 47; Macleay, Aust. Cat. i, p. 87.

? *Neochætodon vittatum*, Casteln., Proc. Zool. Soc. Vict. ii, p. 130, and Proc. Linn. Soc. N. S. Wales iii, p. 375; Macleay, Aust. Cat. i, p. 90.

*Hab.*—Chinese and Japanese seas; Port Jackson (Castelnau); ? W. Australia (Castelnau); Clarence River (Ogilby). Length 5 inches, sent by Mr. T. Temperley.

CHÆTODON SEXFASCIATUS.

Rich., Ann. Nat. Hist. x, 1842, p. 26; Günth., Cat. ii, p. 35; Casteln., Proc. Linn. Soc. N. S. Wales iii, p. 3; Macleay, Aust. Cat. i, p. 88.

*Hab.*—West Coast of Australia; Port Jackson (Krefft).

CHELMO

## CHELMO TRUNCATUS.

Kner, Sitzgsber. Ak. Wiss. Wien xxxiv, p. 442, t. 2; Günth., Cat. ii, p. 516; Macleay, Aust. Cat. i, p. 92.  
*Hab.*—King George's Sound; Port Hacking; Port Jackson. Attains a length of 8 inches.

## SCATOPHAGUS ARGUS.

*Chatodon argus*, Linn. Gmel., p. 1248; Bl., t. 204, f. 1.

*Scatophagus argus*, Cuv. & Val. vii, p. 136; Günth., Cat. ii, p. 53, and Ann. Nat. Hist. 1867, p. 58; Kner, Voy. Novara Fische, p. 106; Day, Fishes of India, p. 114, pl. 29, f. 3, and Journ. Linn. Soc. xi, p. 524; Casteln., Proc. Linn. Soc. N. S. Wales ii, p. 234; Macleay, Aust. Cat. i, p. 95.

——— *ornatus*, Cuv. & Val. vii, p. 143, pl. 180; Günth., Cat. ii, p. 59 (*young*).

*Hab.*—Indian, Chinese, and Australian seas, entering rivers; Port Jackson. Grows to the length of 14 inches. Said to be a well flavored fish, but seldom eaten on account of its reputation for foul feeding.

## SCATOPHAGUS MULTIFASCIATUS.

Rich., Voy. Erebus and Terror Fishes, p. 57, pl. 35, ff. 4–6; Günth., Cat. ii, p. 60; All. & Macl., Proc. Linn. Soc. N. S. Wales i, p. 277; Casteln., Proc. Linn. Soc. N. S. Wales ii, p. 235, and iii, p. 376; Macleay, Aust. Cat. ii, p. 96.

*Hab.*—Coasts of Australia; Port Jackson. Attains a length of 16 inches.

## SCORPIS AQUIPINNIS.

Rich., Voy. Erebus and Terror Fishes, p. 121; Günth., Cat. ii, p. 64; Casteln., Proc. Linn. Soc. N. S. Wales iii, p. 376; Macleay, Aust. Cat. i, p. 97; Tenison-Woods, Fisheries of N. S. Wales, p. 37, pl. 6.

*Scorpius boops*, Peters, Monatsber. Ak. Wiss. Berlin 1866, p. 519.

——— *lincolata*, Kner, Voy. Novara Fische, p. 108, pl. 5, f. 3.

*Hab.*—Australian coasts; Port Jackson, abundant. The *Sweep* of the Sydney market. Grows to a foot in length.

## ATYPUS STRIGATUS.

Günth., Cat. ii, p. 64; Macleay, Aust. Cat. i, p. 98.

*Atypichthys strigatus*, Günth., Cat. iv, p. 510 (*note*); Casteln., Proc. Linn. Soc. N. S. Wales iii, p. 375; Steind., Sitzgsber. Ak. Wiss. Wien 1866, liii, p. 435, pl. 4, f. 2.

*Hab.*—Swan River; coast of New South Wales. *Mado* of the Sydney fishermen, by whom it is confounded with *Therapon cuvieri*. Grows to a length of 6 inches.

## MULLIDÆ.

## HYPNEOIDES TRAGULA.

*Upeneus tragula*, Rich., Ichthyol. China, p. 220.

*Upeneoides tragula*, Günth., Cat. i, p. 398; Kner, Voy. Novara Fische, p. 66; Day, Fishes of India, p. 121, pl. 30, f. 4; Bleek, Atl. Ichthyol. Mull. pl. 2, f. 2; Macleay, Aust. Cat. i, p. 102.

*Hab.*—From the east coast of Africa to the Malay Archipelago; north coast of Australia; Port Jackson. Attains at least 4½ inches in length (Day).

## HYPNEUS VLAMINGII.

*Upeneus Vlamingii*, Cuv. & Val. iii, p. 452, pl. 71; Rich., Ann. Nat. Hist. 1842, ix, p. 211.

*Upeneoides vlamingii*, Günth., Cat. i, p. 400; Casteln., Proc. Linn. Soc. N. S. Wales iii, p. 372; Macleay, Aust. Cat. i, p. 103.

*Upeneichthys vlamingii*, Hector, Trans. N. Zeal. Inst. ix, p. 465, pl. 9, f. 5, & Ann. Nat. Hist. (4) xix, p. 340.

*Hab.*—Queen Charlotte's Sound (Richardson); Port Phillip; Port Jackson, common. Attains to a foot in length. An excellent table fish.

Dr. Hector is undoubtedly correct in removing this species from the genus *Hypneoides*; it has no palatine teeth.

## HYPNEUS POROSUS.

*Upeneus porosus*, Cuv. & Val. iii, p. 455; Casteln., Proc. Linn. Soc. N. S. Wales iii, p. 371; Macleay, Aust. Cat. i, p. 105.

*Upeneichthys porosus*, Günth., Cat. i, p. 400.

*Hab.*—New Zealand; Tasmania; Australia; Port Jackson; not common, February to May. (Castelnau). *Pink-check* at Sydney (Castelnau).

## HYPNEUS SIGNATUS.

*Upeneus signatus*, Günth., Ann. Nat. Hist. 1867, xx, p. 59; Macleay, Aust. Cat. i, p. 106.

*Hab.*—Port Jackson. Grows to 6 inches long.

## SPARIDÆ.

## PACHYMETOPON GRANDE.

Günth., Cat. i, p. 424; Macleay, Aust. Cat. i, p. 106.

*Hab.*—Port Jackson. Attains a length of 18 inches.

## GIRELLA TRICUSPIDATA.

*Box tricuspidatus*, Quoy & Gaim., Voy. Freyc. Zool., p. 296.

*Oblata tricuspidata*, Cuv. & Val. vi, p. 372.

*Crenidens triglyphus*, Rich., Voy. Erebus & Terror Fishes, p. 36, pl. 25, f. 2.

*Girella tricuspidata*, Günth., Cat. i, p. 428; Macleay, Aust. Cat. i, p. 107; Johnston, Rep. Roy. Soc. Tasm. 1881, p. 49; Tenison-Woods, Fisheries of N. S. Wales, p. 39, pl. 7.

*Hab.*—Coasts of Victoria, Tasmania, and New South Wales. *Blackfish* of the Sydney Market. Grows to a length of 16 inches. A moderate food fish.

GIRELLA

## GIRELLA SIMPLEX.

*Orenidens simplex*, Rich., Voy. Erebus & Terror Fishes, p. 120.

*Girella simplex*, Günth., Cat. i, p. 429; Kner, Voy. Novara Fische, p. 75; Macleay, Aust. Cat. i, p. 107.

——— *percoides*, Hector, Trans. N. Zeal. Inst. vii, p. 243, pl. 10, f. 6 D., & op. cit. ix, p. 468, pl. 8, f. 6 C.  
*Hab.*—Coasts of New Zealand, Victoria, and New South Wales. *Blackfish*; confounded with the preceding species by the fishermen. Attains a length of 12 inches.

## GIRELLA ELEVATA.

Macleay, Aust. Cat. i, p. 108.

*Hab.*—Port Jackson. *Drummer* of the Sydney fishermen. Attains a length of 21 inches at least. A poor table fish.

## GIRELLA CYANEA.

Macleay, Aust. Cat. i, p. 109.

*Hab.*—Port Jackson. *Bluefish* of the fishermen.

## GIRELLA RAMSAYI.

Macleay, Aust. Cat. i, p. 109.

*Hab.*—Port Jackson. Length of type specimen 18 inches.

*Girella (Melanichthys) zonata*, Günth., Cat. i, p. 429, is included by Castelnau in his list of Port Jackson fishes, (Proc. Linn. Soc. N. S. Wales iii, p. 350); it is most probably the young of *G. tricuspidata*, which is banded in its immature state.

## TEPHRÆOPS ZEBRA.

*Orenidens zebra*, Rich., Voy. Erebus & Terror Fishes, p. 70.

*Tephræops zebra*, Günth., Cat. i, p. 432.

*Neotephræops zebra*, Casteln., Proc. Zool. Soc. Vict. i, pp. 69 & 248; Macleay, Aust. Cat. i, p. 110.

*Girella zebra*, Steind., Sitzgsber. Ak. Wiss. Wien liii, 1866, p. 430, t. 6, f. 2.

*Girellichthys zebra*, Klunz., Arch. f. Nat. 1872, p. 22.

*Hab.*—King George's Sound; Port Jackson, (Steindachner). Grows to a foot in length.

## HAPLODACTYLUS LOPHODON.

Günth., Cat. i, p. 435; Macleay, Aust. Cat. i, p. 111.

*Hab.*—New South Wales coast; Port Jackson, common. Attains a length of 18 inches.

## HAPLODACTYLUS OBSCURUS.

Casteln., Proc. Linn. Soc. N. S. Wales iii, p. 374.

*Hab.*—Port Jackson. Probably an early stage of the preceding.

## LETHRINUS NEMATACANTHUS.

Bleek., Japan, p. 403, & Atl. Ichthyol. Perc., pl. 59, f. 3; Günth., Cat. i, p. 456; All. & Macl., Proc. Linn. Soc. N. S. Wales i, p. 275; Macleay, Aust. Cat. i, p. 112.

*Hab.*—Japan; Louisiade Archipelago; North-east coast of Australia; Port Jackson (Macleay).

## LETHRINUS CHRYSOSTOMUS.

Rich., Voy. Erebus & Terror Fishes, p. 118, pl. 60, ff. 6, 7; Günth., Cat. i, p. 457; All. & Macl., Proc. Linn. Soc. N. S. Wales i, p. 276; Macleay, Aust. Cat. i, p. 112.

*Hab.*—Norfolk Island; north and east coasts of Australia; Port Jackson. Attains a length of 13 inches.

## LETHRINUS HARAK.

*Sciæna harak*, Forsk., Descr. Anim., p. 52.

*Lethrinus harak*, Rüpp., N.W. Fische, p. 116, t. 29, f. 3; Günth., Cat. i, p. 458; Bleek., Atl. Ichthyol. Perc., pl. 49, f. 3; Day, Fishes of India, p. 137, pl. 33, f. 3; Macleay, Aust. Cat. i, p. 114; Kner, Voy. Novara Fische, p. 81.

*Hab.*—From the Red Sea, through the Indian Seas to the Malay Archipelago; Sydney (Kner). It seems probable that Kner's specimens are not identical with Forskal's *S. harak*.

## LETHRINUS GLYPHODON.

Günth., Cat. i, p. 462; Casteln., Proc. Linn. Soc. N. S. Wales iii, p. 372.

*Hab.*—Louisiade Archipelago; Port Jackson (Castelnau). Attains a length of 13 inches.

## PAGRUS UNICOLOR.

*Chrysophrys unicolor*, Quoy & Gaim., Voy. Uranie, p. 209.

*Pagrus unicolor*, Cuv. & Val vi, p. 160; Rich., Ichthyol. China, p. 242; Günth., Cat. i, p. 468; Kner, Voy. Novara Fische, p. 85; Macleay, Aust. Cat. i, p. 116; Tenison-Woods, Fisheries of N. S. Wales, p. 39, pl. 8, and frontispiece.

*Hab.*—New Zealand and Australian seas; Port Jackson, abundant. *Schnapper* of the fishermen; *Wollamai* of the aborigines. Attains a weight of 25 lbs. An excellent food fish.

## CHRYSOPHRYS SARBA.

*Sparus sarba*, Forsk., Descr. Anim., p. 31; Linn. Gmel. p. 1275.

*Chrysophrys sarba*, Cuv. & Val. vi, p. 102; Rüpp., N.W. Fische, p. 110, pl. 28, f. 1; Günth., Cat. i, p. 488; Kner, Voy. Novara Fische, p. 88; Day, Fishes of India, p. 142, pl. 34, f. 6; Macleay, Aust. Cat. i, p. 118; Tenison-Woods, Fisheries of N. S. Wales, p. 42, pl. 9.

*Hab.*—From the Red Sea to the east coast of Australia; Port Jackson, common. Grows to the length of 16 inches. *Tarwhine* of the fishermen. A poor table fish.

## CHRYSOPHRYS AUSTRALIS.

Günth., Cat. i, p. 494; McCoy, Prodr. Zool. Vict. dec. i, pl. 4; Macleay, Aust. Cat. i, p. 119.

*Chrysophrys sarba*, Casteln., Proc. Linn. Soc. N. S. Wales iii, p. 373.

*Hab.*—Australian seas, entering rivers; Port Jackson, abundant. *Black Bream* of the fishermen. Attains to 18 inches in length. Of good flavor.

## CIRRHITIDÆ.

## CIRRHITIDÆ.

## CIRRHITICHTHYS APRINUS.

*Cirrhites aprinus*, Cuv. & Val. iii, p. 76.

——— *graphidopterus*, Bleck, Amboina iii, p. 106.

*Cirrhitichthys graphidopterus*, Günth., Cat. ii, p. 74; Ramsay & Ogilby, Proc. Linn. Soc. N. S. Wales x, (*in press*).

*Hab.*—Amboina; Port Jackson. Attains a length of 5 inches.

## CHIRONEMUS MARMORATUS.

Günth., Cat. ii, p. 76; Macleay, Aust. Cat. i, p. 121.

*Hab.*—Australian coasts. Grows to a foot in length.

## CHILODACTYLUS VITTATUS.

Garrett, Proc. Calif. Ac. Nat. Sc. iii, p. 103; Günth., Fische d. Sudsee, p. 73, pl. 51, f. B; Macleay, Aust.

Cat. i, p. 122; Tenison-Woods, Fisheries of N. S. Wales, pl. 13.

*Zcodrius vestitus*, Casteln., Proc. Linn. Soc. N. S. Wales iii, p. 377.

*Hab.*—Sandwich Islands; Port Jackson. Specimen examined 8 inches long.

## CHILODACTYLUS MACROPTERUS.

*Sciæna macroptera*, Forst.

*Cichla macroptera*, Bl. Schn., p. 342.

*Chilodactylus macropterus*, Rich., Proc. Zool. Soc. 1850, p. 62, and Ann. Nat. Hist. 1851 vii, p. 278;

Günth., Cat. ii, p. 78, and Study of Fishes, p. 411, f. 177; Macleay, Aust. Cat. i, p. 122;

Tenison-Woods, Fisheries of N. S. Wales, p. 46, pl. 10.

*Hab.*—Australian seas; Port Jackson, common. *Morwong* and *Jackass-fish* of the Sydney market. Attains a length of 18 inches. Of excellent flavor.

## CHILODACTYLUS GIBBOSUS.

*Chatodon gibbosus*, Banks.

*Chilodactylus gibbosus*, Rich., Trans. Zool. Soc. iii, p. 102, and Proc. Zool. Soc. 1850, p. 65, pl. 2, ff. 3, 4;

Günth., Cat. ii, p. 84, & Ann. Nat. Hist. xx, p. 60; Stein & Döder., Denk. Ak. Wien xlvi, p. 27, pl. 7, f. 2; Macleay, Aust. Cat. i, p. 124.

*Hab.*—West and south coasts of Australia; Tasmania; Port Jackson (Kreffl).

## CHILODACTYLUS FUSCUS.

Casteln., Proc. Linn. Soc. N. S. Wales iii, p. 376; Macleay, Aust. Cat. i, p. 125; Tenison-Woods, Fisheries of N. S. Wales, p. 46, pl. 11.

*Chilodactylus annularis*, Casteln., l.c., p. 377; Macleay, l.c., p. 125 (*young*).

*Hab.*—Port Jackson, common. *Carp*, of the fishermen. Grows to 16 inches in length. An excellent table fish.

## CHILODACTYLUS MULHALLI.

Macleay, Proc. Linn. Soc. N. S. Wales vii, p. 366.

*Hab.*—Port Jackson. Length of specimen 26 inches.

## PSILOCRANIUM COXII.

Macleay, Proc. Linn. Soc. N. S. Wales viii, p. 439.

*Hab.*—Port Jackson. Length of specimen 32 inches.

## LATRIS CILIARIS.

*Sciæna ciliaris*, Forst., Descr. Anim. ed. Licht., p. 137.

*Latris ciliaris*, Rich., Voy. Erebus and Terror Fishes, p. 37, pl. 26, ff. 6, 7; Günth., Cat. ii, p. 86;

Macleay, Aust. Cat. i, p. 126.

*Hab.*—New Zealand; Port Jackson (Richardson). Attains to 30 inches in length. A moderate fish for the table.

## LATRIS RAMSAYI.

Ogilby, Proc. Linn. Soc. N. S. Wales x, p. 229.

*Hab.*—Port Jackson. Largest specimen examined, rather more than 21 inches. This may be a variety of *L. forsteri*, Casteln., Proc. Zool. Soc. Vict. i, p. 77.

## SCORPÆNIDÆ.

## SEBASTES PERCOIDES.

*Scorpena percoides*, Solander.

*Sebastes maculatus*, Rich., Trans. Zool. Soc. iii, p. 93 (*not Cuv. & Val. nor Smith*).

*Sebastes percoides*, Rich., Ann. Nat. Hist. 1842, ix, p. 384, & Voy. Erebus and Terror Fishes, p. 23, pl.

15, ff. 1, 2; Günth., Cat. ii, p. 101, and Study of Fishes, p. 412, f. 178; Casteln., Proc. Linn.

Soc. N. S. Wales iii, p. 379; McCoy, Prodr. Zool. Vict. dec. iv, p. 17, pl. 33; Hutton, Trans.

N. Z. Inst. v, pl. 8; Macleay, Aust. Cat. i, p. 129; Tenison-Woods, Fish. of N. S.

Wales, pl. 14.

? ——— *allporti*, Casteln., Proc. Zool. Soc. Vict. i, p. 40.

*Hab.*—New Zealand; Tasmania; Victoria; Port Jackson, scarce. *Red Gurnard Perch*, at Melbourne. Grows to the length of 12 inches.

## SEBASTES SCABER.

Ramsay and Ogilby, Proc. Linn. Soc. N. S. Wales x, (*in press*).

*Hab.*—Port Jackson. Largest specimen, 2½ inches.

SCORPÆNA

## SCORPÆNA CRUENTA.

- (Solander), Rich., Ann. Nat. Hist. 1842, ix, p. 217; Günth., Cat. ii, p. 112; Casteln., Proc. Linn. Soc. N. S. Wales iii, p. 378; Hutton, Trans. N. Z. Inst v, pl. 8; Macleay, Aust. Cat. i, p. 130.  
*Scorpæna militaris*, Rich., Voy. Erebus and Terror Fishes, p. 22, pl. 14, ff. 1, 2.  
*Hab.*—New Zealand; Tasmania; Victoria; New South Wales; Port Jackson, common. *Red Rock Cod* of Sydney fishermen. Grows to the length of eighteen inches. A fair food fish.

## SCORPÆNA BYNÖENSIS.

- Rich., Voy. Erebus and Terror Fishes, p. 22, pl. 14, ff. 3-5; Günth., Cat. ii, p. 113, and Study of Fishes, p. 414, f. 180; All. & Maccl., Proc. Linn. Soc. N. S. Wales i, p. 278; Macleay, l.c. ii, p. 353, and Aust. Cat. i, p. 131.  
*Scorpæna jacksoniensis*, Steind., Sitzgsber. Ak. Wiss. Wien liii, 1866, p. 438, t. 3, f. 2.  
*Hab.*—North and east coasts of Australia. Grows to a length of 6 inches.

## SCORPÆNA CARDINALIS.

- (Solander), Rich., Ann. Nat. Hist. 1842, ix, p. 212; Günth., Cat. ii, p. 116; Casteln., Proc. Linn. Soc. N. S. Wales iii, p. 378; Macleay, Aust. Cat. i, p. 131; Tenison-Woods, Fisheries of N. S. Wales, pl. 12.  
*Hab.*—Coast of New South Wales, common. *Red Rock Cod* of Sydney fishermen, who confound it with *S. cruenta*. Attains to 8 inches in length. Of fair quality for the table.

## GLYPTAUCHEN PANDURATUS.

- Apistus panduratus*, Rich., Proc. Zool. Soc. 1850, p. 58, pl. i, ff. 3, 4, and Ann. Nat. Hist. 1851, vii, p. 274; Günth., Cat. ii, p. 121; Macleay, Aust. Cat. i, p. 134.  
*Hab.*—King George's Sound; Port Jackson. Grows to 8 inches in length.

## PTEROIS VOLITANS.

- Gasterosteus volitans*, Linn., Syst. Nat. i, p. 491.  
*Scorpæna volitans*, Bl., t. 184.  
*Pterois volitans*, Cuv. & Val. iv, p. 352, pl. 88; Rüpp., N. W. Fische, p. 107; Günth., Cat. ii, p. 122, and Fische d. Sudsee, p. 81; Day, Fishes of India, p. 154, pl. 37, f. 1; All. & Maccl., Proc. Linn. Soc. N. S. Wales i, p. 278; Macleay, Aust. Cat. i, p. 135, and Proc. Linn. Soc. N. S. Wales vii, p. 248.  
*Hab.*—From the east coast of Africa, through all the Indian seas; north and east coasts of Australia. Attains a length of 5 inches.

## PTEROIS ZEBRA.

- Cuv. & Val. iv, p. 367; Quoy & Gaim., Voy. Uranie, p. 329, and Voy. Astrolabe Poiss., p. 692, pl. 11, f. 6; Günth., Cat. ii, p. 126, and Fische d. Sudsee, p. 82; Day, Fishes of India, p. 153; Bleek., Atl. Ichthyol. Scorp., pl. 1, f. 1; Macleay, Aust. Cat. i, p. 135.  
*Hab.*—Indian and Malayan seas; Port Jackson. Grows to 8 inches at least.

## CENTROPOGON AUSTRALIS.

- Cottus australis*, White, Voy. N. S. Wales, p. 266.  
*Apistus australis*, Cuv. & Val. iv, p. 398.  
*Centropogon australis*, Günth., Cat. ii, p. 128; Macleay, Aust. Cat. i, p. 136.  
*Hab.*—Port Jackson, common; Richmond River. *Fortescue* of the colonists. Attains a length of 5 inches.

## CENTROPOGON ROBUSTUS.

- Günth., Cat. ii, p. 128, and Ann. Nat. Hist. 1867, xx, p. 60; Krefft, Proc. Zool. Soc. 1864, p. 182; Macleay, Aust. Cat. i, p. 136, and Proc. Linn. Soc. N. S. Wales viii, p. 203; Tenison-Woods, Fisheries N. S. Wales, p. 48.  
*Centropogon troscheli*, Steind., Sitzgsber. Ak. Wiss. Wien 1866, liii, p. 440, pl. 4, f. 1.  
*Hab.*—Rivers of the eastern watershed of New South Wales; Cape York (Günther). *Bull-rout* of the colonists. Attains to a length of 7 inches.

## PENTAROGÉ MARMORATA.

- Apistus marmoratus*, Cuv. & Val. iv, p. 416.  
*Pentarogé marmorata*, Günth., Cat. ii, p. 132; Steind., Sitzgsber. Ak. Wiss. Wien 1868, lvii, p. 984; Macleay, Aust. Cat. i, p. 139.  
*Hab.*—Seas of Timor, Australia, and Tasmania; Port Jackson. Grows to the length of 8 inches.

## HAPIOACTIS MILESII.

- Aploactis milesii*, Rich., Proc. Zool. Soc. 1850, p. 60, pl. 1, ff. 1, 2, and Ann. Nat. Hist. 1851, vii, p. 275; Günth., Cat. ii, p. 142; Macleay, Aust. Cat. i, p. 140.  
*Hab.*—King George's Sound; Port Jackson. Grows to the length of 6 inches.

## SYNANCEIA HORRIDA.

- Scorpæna horrida*, Linn. i, p. 453; Bl., t. 183.  
*Synanceia horrida*, Bl. Schn., p. 194; Cuv. & Val. iv, p. 440.  
*Synanctidium horridum*, Müll., Akad. Wiss. 1844, p. 163; Günth., Cat. ii, p. 144, and Fische d. Sudsee, p. 83; Kner, Voy. Novara Fische, p. 119, Day, Fishes of India, p. 162, pl. 39, f. 3; Macleay, Aust. Cat. i, p. 142.  
*Hab.*—Indian and Malayan seas; north coast of Australia; ? Port Jackson. Grows to 18 inches in length. Mr. Ramsay thinks it probable that the unique Port Jackson specimen of this fish in the Australian Museum collection came originally from the north, and has been accidentally labelled as from Port Jackson.

## NANDIDÆ.

## PLESIOPS BLEEKERI.

Günth., Cat. iii, p. 364, and Fische d. Sudsee, p. 87, pl. 58, f. A; Macleay, Aust. Cat. i, p. 100.  
*Hab.*—Port Jackson; Port Hacking. Grows to the length of 12 inches.

## TEACHINOPS TENIATUS.

Günth., Cat. iii, p. 366; Kner, Voy. Novara Fische, p. 215, pl. 8, f. 7; Macleay, Aust. Cat. i, p. 100.  
*Hab.*—New South Wales coast. Length of specimen  $3\frac{1}{2}$  inches.

## RUEPPELLIA PROLONGATA.

Casteln., Proc. Zool. Soc. Vict. ii, p. 51, and Res. Fishes Aust., p. 29.  
*Hab.*—West Australia; Port Phillip; Port Jackson, (Castelnau). Grows to the length of a foot.

## TEUTHIDIDÆ.

## TEUTHIS JAVA.

Linn., Syst. Nat. i, p. 507; Linn. Gmel. i, p. 1362; Günth., Cat. iii, p. 315; Day, Fishes of India, p. 165, pl. 39, f. 5; Casteln., Proc. Linn. Soc. N. S. Wales iii, p. 386; Macleay, Aust. Cat. i, p. 142.  
*Amphacanthus javus*, Cuv. & Val. x, p. 118; Kner, Voy. Novara Fische, p. 205.  
*Hab.*—East Indian, Malayan, and Australian seas; Port Jackson. Attains a length of 6 inches. A good food fish.

## TEUTHIS NEBULOSA.

*Amphacanthus nebulosus*, Quoy & Gaim., Voy. Uranie Zool., p. 369; Cuv. & Val. x, p. 164.  
 ——— *maculosus*, Quoy & Gaim., l.c., p. 370.  
 ——— *olivaceus*, Cuv. & Val. x, p. 163.  
 ——— *gymnopareius*, Rich., Ann. Nat. Hist. 1843, xi, p. 174.  
*Teuthis nebulosa*, Günth., Cat. iii, p. 321, & Study of Fishes, p. 419, f. 182; Playfair, Fishes of Zanz., p. 51, pl. 10, f. 3; Macleay, Aust. Cat. i, p. 144; Tenison-Woods, Fisheries of N. S. Wales, p. 50.  
*Hab.*—From the east coast of Africa to Australia. *Black Trevally* of the Sydney market. Grows to the length of 6 inches. A fair breakfast fish.

## TEUTHIS HEXAGONATA.

*Amphacanthus hexagonatus*, Bleek., Kokos, p. 41; Kner, Voy. Novara Fische, p. 207.  
*Teuthis hexagonata*, Günth., Cat. iii, p. 320.  
*Hab.*—Java; Sumbawa; Kokos; Fiji Islands; Port Jackson (Kner). Attains a length of 6 inches.

## BERYCIFORMES.

## BERYCIDÆ.

## MONOCENTRIS JAPONICUS.

*Gasterosteus japonicus*, Houtt., Act. Soc. Harl. xx, pt. 2, p. 329.  
*Sciæna cataphracta*, Thunb., Nov. Ac. Sc. Suec. xi, p. 102, t. 3.  
*Monocentris carinata*, Bl. Schn., p. 100, t. 24.  
*Lepisacanthus japonicus*, Lacep. iii, p. 321.  
*Monocentris japonicus*, Cuv. & Val. iv, p. 461, pl. 97; Schleg., Faun. Japon. Poiss., p. 50, pl. 23, f. 1; Günth., Cat. i, p. 9, and Study of Fishes, p. 421, f. 183; Bleek., Atl. Ichthyol. Trachich., pl. 2, f. 4; Macleay, Aust. Cat. i, p. 145.  
*Hab.*—Seas of Japan; Port Jackson and Port Stephens, very rare. Attains a length of 5 inches.

## TRACHICHTHYS AUSTRALIS.

Shaw, Nat. Misc., t. 378, & Zool. iv, p. 630; Cuv. & Val. iii, p. 299; Lowe, Fishes of Madeira, p. 55; Günth., Cat. i, p. 10; Casteln., Proc. Linn. Soc. N. S. Wales iii, p. 364; Macleay, Aust. Cat. i, p. 145; Ogilby, Proc. Linn. Soc. N. S. Wales x, (*in press*).  
*Trachichthys jacksoniensis*, Macleay, Aust. Cat. i, p. 146.  
*Hab.*—Coast of New South Wales. Grows to at least 6 inches in length.

## BERYX AFFINIS.

Günth., Cat. i, p. 13; Casteln., Proc. Linn. Soc. N. S. Wales ii, p. 225, & op. cit. iii, p. 365; Hector, Ann. Nat. Hist. 1877, (4) xix, p. 341; Macleay, Aust. Cat. i, p. 147; Tenison-Woods, Fisheries of N. S. Wales, p. 51, pl. 15.  
*Hab.*—Coasts of New Zealand and New South Wales. *Nannygai* of the Sydney market. Grows to 20 inches long. In great estimation for the table.

## CYRTIFORMES.

## CYRTIDÆ.

## PEMPHERIS COMPRESSUS.

*Sparus compressus*, White, Voy. N. S. Wales, App., p. 267, f. 2; Günth., Cat. ii, p. 508; Casteln., Proc. Linn. Soc. N. S. Wales iii, p. 384; Macleay, Aust. Cat. i, p. 151.  
*Hab.*—Swan River; Port Jackson, common. *Bullseye* of the fishermen. Grows to 6 inches in length.

## PEMPHERIS MACROLEPIS.

Macleay, Aust. Cat. i, p. 151.  
*Hab.*—King George's Sound; Port Jackson. Attains a length of 10 inches.

## PEMPHERIS

## PEMPHERIS LINEATUS.

Ogilby, Proc. Linn. Soc. N. S. Wales x, p. 447.

*Hab.*—Port Jackson. Type specimen measures  $7\frac{1}{2}$  inches.

## POLYNEMIFORMES.

## POLYNEMIDÆ.

## POLYNEMUS INDICUS.

Shaw, Zool. v, p. 155; Günth., Cat. ii, p. 326; Kner, Voy. Novara Fische, p. 137, t. 7, f. 1 (*air-bladder*); Macleay, Aust. Cat. i, p. 153.

*Polynemus uronemus*, Cuv. & Val. iii, p. 385.

*Hab.*—Indian and Malayan seas; Port Jackson, (Günther & Castelnau). Grows to 4 feet in length. An excellent food fish.

## POLYNEMUS MACROCHIR.

Günth., Ann. Nat. Hist. 1867, (3) xx, p. 60; Macleay, Aust. Cat. i, p. 153.

*Hab.*—Port Jackson.

## SCIÆNIFORMES.

## SCIÆNIDÆ.

## SCIÆNA AQUILA.

*Cheilodipterus aquila*, Lacép. v, p. 685.

*Sciæna aquila*, Risso, Eur. Mérid. iii, p. 411; Cuv. & Val. v, p. 28, pl. 100; Günth., Cat. ii, p. 291, and Fische d. Sudsee, p. 105; Day, Brit. Fishes i, p. 150, pl. 50.

—— *hololepidota*, Cuv. & Val. v, p. 53; Quoy & Gaim., Voy. Astrolabe Poiss., p. 697, pl. 12, f. 1; Smith, Ill. S. Afr. Zool., Fishes pl. 15.

? —— *antarctica* Casteln., Proc. Zool. Soc. Vict. i, p. 100, and Proc. Linn. Soc. N. S. Wales ii, p. 232, and op. cit. iii, p. 381; Macleay, Aust. Cat. i, p. 151; Tenison-Woods, Fisheries of N. S. Wales, p. 53, pl. 16.

? *Sciæna (Corvina) nova-hollandiæ*, Steindl., Sitzgsber. Ak. Wiss. Wien 1866, liii, p. 445, pl. 5, f. 2.

*Hab.*—Eastern shores of the Atlantic; Mediterranean; Cape Seas; south and east coasts of Australia; Port Jackson, common. *Jewfish* of Sydney; *Kingfish* of Melbourne; *Deuifish* of Brisbane. Attains a length of 6 feet. A good table fish.

## OTOLITHUS ATELODUS.

Günth., Ann. Nat. Hist. 1867, (3) xx, p. 60; Macleay, Aust. Cat. i, p. 156; Tenison-Woods, Fisheries of N. S. Wales, p. 54, pl. 17.

*Otolithus teraglin*, Macleay, Proc. Linn. Soc. N. S. Wales v, p. 48.

*Hab.*—Coast of New South Wales, abundant. *Teraglin* of the Sydney market. Grows to the length of 3 feet. An excellent food fish.

## XIPHIIFORMES.

## XIPHIIDÆ.

## HISTIOPHORUS GLADIUS.

*Scomber gladius*, Brouss., Mem. Acad. Sc. 1786, p. 454, pl. x; Bloch, t. 345.

*Xiphias velifer*, Bl. Schn., p. 93.

*Istiophorus gladius*, Lacép. iii, pp. 374, 375.

*Histiophorus indicus*, Cuv. & Val. viii, p. 293, pl. 229.

—— *americanus*, Cuv. & Val. viii, p. 303.

—— *gladius*, Günth., Cat. ii, p. 513; Playfair, Proc. Zool. Soc. 1867, p. 856; Day, Fishes of India, p. 198; Ramsay, Proc. Linn. Soc. N. S. Wales v, p. 295, pl. 8; Macleay, Aust. Cat. i, p. 157; Tenison-Woods, Fisheries of N. S. Wales, p. 55.

*Hab.*—Seas between or near the tropics; coast of New South Wales. *Swordfish*. Grows to the length of 14 feet.

## TRICHIURIFORMES.

## TRICHIURIDÆ.

## TRICHIURUS HAUMELA.

*Olupea haumela*, Forsk., p. 72; Linn. Gmel., p. 1408.

*Trichiurus haumela*, Cuv. & Val. viii, p. 249; Rüpp., N. W. Fische, p. 41; Günth., Cat. ii, p. 348; Kner, Voy. Novara Fische, p. 140; Day, Fishes of India, p. 201; Macleay, Aust. Cat. i, p. 159.

*Hab.*—East African, Indian, Malayan and Chinese seas; New South Wales coast; Port Jackson and Newcastle. Grows to the length of 3 feet.

## COTTO-SCOMBRIFORMES.

## ACANTHURIDÆ.

## PRIONURUS MICROLEPIDOTUS.

Lacép., Ann. Mus. iv, p. 205; Cuv. & Val. x, p. 295, pl. 292; Günth., Cat. i, p. 347; Macleay, Aust. Cat. i, p. 164.

*Hab.*—Port Jackson. Grows to 12 inches in length.

## CARANGIDÆ.

## CARANGIDÆ.

## CARANX TRACHURUS.

*Scomber trachurus*, Linn., Syst. Nat., p. 494; Bloch, t. 56.

*Caranx trachurus*, Lacép. iii, p. 60; Cuv. & Val. ix, p. 11, pl. 246; Gay, Hist. Chile, Zool. ii, p. 233; Rich., Ichthyol. China, p. 273, and Ann. Nat. Hist. 1843, xi, p. 25; Day, Brit. Fishes i, p. 124, pl. 44; Günth., Study of Fishes, p. 442.

————— var *japonicus*, Schleg., Faun. Japon. Poiss., p. 109, pl. 59, f. 1.

————— *declivis*, Jenyns, Voy. Beagle Fishes, p. 68, pl. 14.

*Trachurus trachurus*, Casteln., Anim. Nouv., p. 23; Günth., Cat. ii, p. 419; Kner, Voy. Novara Fische, p. 150; Kner & Steind., Sitzgsber. Ak. Wiss. Wien liv, p. 364; Steind., op. cit. lvii, p. 382; Macleay, Aust. Cat. i, p. 166; McCoy, Prodr. Zool. Viet. dec. ii, pl. 18.

————— *declivis*, Casteln., Proc. Linn. Soc. N. S. Wales iii, p. 383; Tenison-Woods, Fisheries of N. S. Wales, p. 58, pl. 18.

*Hab.*—All temperate seas; Port Jackson, common. *Yellow-tail* of Sydney. Attains a length of 16 inches. Of fair quality as food.

## CARANX NOBILIS.

Macleay, Aust. Cat. i, p. 167.

*Hab.*—Port Jackson. Length, 24 inches.

## CARANX GEORGIANUS.

Cuv. & Val. ix, p. 85; Jenyns, Voy. Beagle Fishes, p. 71; Rich., Ann. Nat. Hist. 1843, xi, p. 27, and Voy. Erebus & Terror Fishes, p. 135, pl. 58, ff. 1-3; Günth., Cat. ii, p. 440; All. & Macl., Proc. Linn. Soc. N. S. Wales i, p. 327; Macleay, op. cit. viii, p. 204, & Aust. Cat. i, p. 168.

*Hab.*—Coasts of Norfolk and Raoul Islands, New Zealand, & Australia; New South Wales, abundant. *White Trevally* of Port Jackson. Grows to 25 inches. A well-flavored fish.

## CARANX HIPPOS.

*Scomber hippos*, Linn., Syst. Nat. i, p. 494; Bl. Schn., p. 28.

*Caranx forsteri*, Cuv. & Val. ix, p. 107; Kner, Voy. Novara Fische, p. 158.

————— *hippos*, Günth., Cat. ii, p. 449, and Fische d. Sudsee, p. 131, pl. 84, and Study of Fishes, f. 196 (*l.l. plates*); Day, Fishes of India, p. 216; All. & Macl., Proc. Linn. Soc. N. S. Wales i, p. 323; Macleay op. cit. ii, p. 355, and vii, p. 355, and Aust. Cat. i, p. 170.

————— *paraspistes*, Rich., Voy. Erebus and Terror Fishes, p. 186, pl. 58, ff. 6, 7.

*Hab.*—Indian, Malayan, Chinese, and Australian seas. Port Jackson, scarce. Attains a length of 3 feet.

## CARANX CILIARIS.

*Zeus ciliaris*, Bl., t. 191; Linn. Gmel., p. 1223.

*Blepharis indicus*, Cuv. & Val. ix, p. 154; Schleg., Faun. Japon. Poiss., p. 113, pl. 60, f. 2; Rich., Ichthyol. China, p. 271.

————— *fasciatus*, Rüpp., Atl. Fische, p. 129, pl. 33, f. 2.

*Caranx ciliaris*, Günth., Cat. ii, p. 454, and Fische d. Sudsee, p. 135, pl. 89; Day, Fishes of India, p. 224; Macleay, Aust. Cat. i, p. 172, and Proc. Linn. Soc. N. S. Wales vii, p. 356.

*Blepharis ciliaris*, Casteln., Proc. Linn. Soc. N. S. Wales iii, p. 383.

*Hab.*—From the Red Sea through the Indian and Malayan Seas to the north and east coasts of Australia; Port Jackson, scarce. Largest specimen in the Australian Museum, 6 inches.

Castelnau includes *Caranx macrosoma*, Bleck. in his list of Port Jackson fishes (Proc. Linn. Soc. N. S. Wales iii, p. 352), but as the species has not been obtained since his time, and he states that it is called "yellow-tail" at Sydney, there can be little doubt that his identification was erroneous.

## SERIOLA LALANDEI.

Cuv. & Val. ix, p. 208; Günth., Cat. ii, p. 463; Macleay, Aust. Cat. i, p. 174; Tenison-Woods, Fisheries of N. S. Wales, p. 59, pl. 19.

*Seriola aurco-vittata*, Schleg., Faun. Japon. Poiss., p. 115, pl. 62, f. 1.

*Hab.*—Brazilian coast; Cape seas; Japan; east coast of Australia; Port Jackson. *Kingfish* of the Sydney market. Attains the weight of 50 pounds. Of considerable commercial importance when cured.

## SERIOLA GRANDIS.

Casteln., Proc. Zool. Soc. Vict. i, p. 115; Macleay, Aust. Cat. i, p. 175.

*Hab.*—Coast of Victoria; Port Jackson (Castelnau). *Yellow-tail* of the Melbourne market.

## SERIOLA HIPPOS.

Günth., Ann. Nat. Hist. 1876, (4) xvii, p. 392; Macleay, Aust. Cat. i, p. 176; Tenison-Woods, Fisheries of N. S. Wales, p. 60.

*Seriola nigrofasciata*, Casteln., Proc. Linn. Soc. N. S. Wales iii, p. 352; Macleay, Aust. Cat. i, p. 174.

*Hab.*—Port Jackson; Botany Bay. *Samson-fish* of the Sydney fishermen.

I have examined the two fish identified by Count Castelnau as *Seriola nigrofasciata*, and find them to be young examples of this species.

## SERIOLA SIMPLEX.

Ramsay & Ogilby, Proc. Linn. Soc. N. S. Wales x, (*in press*).

*Hab.*—Port Jackson.

## SERIOLELLA BRAMA.

*Neptomenus brama*, Günth., Cat. ii, p. 390; Macleay, Aust. Cat. i, p. 177.

*Hab.*—New Zealand; Tasmania; Port Jackson, (Aust. Mus). Attains a length of 10 inches.

In the Hon. Wm. Macleay's museum is a specimen of the Victorian *Seriotelella travale*, Casteln., labelled doubtfully from Port Jackson.

## NAUCERATES DUCTOR.

*Gasterosteus ductor*, Linn., Syst. Nat. i, p. 489.

*Scomber ductor*, Bl., t. 338; Linn. Gmel. i, p. 1324.

*Naucrates ductor*, Cuv. & Val. viii, p. 312, pl. 232; Günth., Cat. ii, p. 374, and Fische d. Sudsee, p. 137, and Study of Fishes, p. 444; Day, Fishes of India, p. 229, pl. 51A, f. 2, and Brit. Fishes i, p. 127, pl. 45; Lütken, Spol. Atlant., p. 600, pl. 3, ff. 14, 15; Macleay, Aust. Cat. i, p. 194.

———— *indicus*, Cuv. and Val. viii, p. 326; Less., Voy. Coquille Poiss., p. 157, pl. 14; Rich., Ichtyol. China, p. 269; Kner, Voy. Novara Fische, p. 145.

*Hab.*—Temperate and tropical seas; Port Jackson. *Pilot-fish*. Attains to a foot in length. Said to be dry but well-flavored in its flesh.

## CHORINEMUS SANCTI-PETRI.

Cuv. & Val. viii, p. 379, pl. 236; Günth., Cat. ii, pl. 473, and Fische d. Sudsee, p. 138; Day, Fishes of India, p. 230; Macleay, Aust. Cat., App. p. 24.

*Hab.*—From the east coast of Africa, through the Indian and Malayan seas to the east coast of Australia; Port Denison (Klunzinger); Port Jackson (Macleay). Grows to 20 inches long.

## TEMNODON SALTATOR.

*Gasterosteus saltatrix*, Linn., Syst. Nat. i, p. 491.

*Scomber saltator*, Bl. Schn., p. 35.

*Temnodon heptacanthus*, Quoy & Gaim., Voy. Freyc. Zool., p. 400, pl. 61, f. 2.

———— *saltator*, Cuv. and Val. ix, p. 225, pl. 260; DeKay, N. York Faun. Fishes, p. 130, pl. 26, f. 81; Gay, Hist. Chile, Zool. ii, p. 244; Günth., Cat. ii, p. 479; Macleay, Aust. Cat. i, p. 179; Tenison-Woods, Fisheries of N. S. Wales, p. 60, pl. 20.

*Hab.*—Seas of the temperate and tropical regions of both hemispheres; Australian coasts, abundant. *Tailor* of Sydney; *Skip-jack* of Melbourne. Attains to a length of 30 inches. Of good quality for the table.

## TRACHYNOTUS OVATUS.

*Gasterosteus ovatus*, Linn., Syst. Nat. i, p. 490.

*Trachynotus ovatus*, Günth., Cat. ii, p. 481, and Fische d. Sudsee, p. 139; Steind., Sitzgsber. Ak. Wiss. Wien 1869, ix, p. 709; Kner, Voy. Novara Fische, p. 164; Day, Fishes of India, p. 234, pl. 51 B, f. 2; All. & Macl., Proc. Linn. Soc. N. S. Wales i, p. 330; Macleay, Aust. Cat. i, p. 180, and Proc. Linn. Soc. N. S. Wales vii, p. 359.

———— *kennedyi*, Steind., Sitzgsber. Ak. Wiss. Wien lxxii, p. 75, f. 9.

*Hab.*—Nearly all tropical and temperate seas; coasts of Australia; Port Jackson. Grows to the length of 20 inches. Of good quality when cured; dry and insipid when fresh, (Day).

## TRACHYNOTUS BAILLONI.

*Osiomorus bailloni*, Lacép. iii, p. 93, pl. 3, f. 1.

———— *quadripunctatus*, Rüpp., Atl. Fische, p. 90, pl. 24, f. 1.

*Trachynotus bailloni*, Cuv. & Val. viii, p. 431; Günth., Cat. ii, p. 484, and Fische d. Sudsee, p. 139; Day, Fishes of India, p. 233, pl. 51 A, f. 4; All. & Macl., Proc. Linn. Soc. N. S. Wales i, p. 330; Macleay, Aust. Cat. i, p. 180, and Proc. Linn. Soc. N. S. Wales vii, p. 359.

*Hab.*—East African, Indian, Malayan, and Australian seas; Port Jackson. Grows to the length of 20 inches.

## PSETTUS ARGENTEUS.

*Chaetodon argenteus*, Linn., Ann. Acad. iv, p. 249; Bl. Schn., p. 230.

*Psettus rhombeus*, Cuv. & Val. vii, p. 245.

———— *argenteus*, Rich., Voy. Erebus & Terror Fishes, p. 57, pl. 35, ff. 1–3; Günth., Cat. ii, p. 487, and Fische d. Sudsee, p. 140, and Study of Fishes, ff. 198, 199; Kner, Voy. Novara Fische, p. 164; Day, Fishes of India, p. 235, pl. 51 B, f. 5; Casteln., Proc. Linn. Soc. N. S. Wales ii, p. 235; Macleay, op. cit. iv, p. 63, and viii, p. 266, and Aust. Cat. i, p. 181; Tenison-Woods, Fisheries of N. S. Wales, pl. 45.

*Hab.*—East African, Indian, Malayan, and Australian seas; Port Jackson. *Bat-fish* of the Sydney fishermen. Attains to the length of 8 inches.

## PLATAX TEIRA.

*Chaetodon teira*, Forsk., p. 60, t. 22; Bloch t. 199, f. 1; Gmel. Linn., p. 1265.

*Platax teira*, Cuv., Règne Anim.; Rüpp., Atl. Fische, p. 68; Cuv. & Val. vii, p. 220; Günth., Cat. ii, p. 492, and Fische d. Sudsee, p. 141; Day, Fishes of India, p. 235, pl. 51 B, f. 4; Macleay, Aust. Cat. i, p. 182.

———— *vespertilio*, Schleg., Faun. Japon. Poiss., p. 83, pl. 43 (*not Bloch*).

*Hab.*—Indian, Malayan, and North Australian Seas; Lake Macquarie and Port Jackson (Aust. Mus.), rare. Attains a length of 20 inches. Said to be of excellent flavor.

## CYTTIDÆ.

## ZEUS AUSTRALIS.

Rich., Voy. Erebus & Terror Fishes, pp. 36, 138, pl. 25, f. 1; Casteln., Proc. Zool. Soc. Vict. i, p. 108; Macleay, Aust. Cat. i, p. 185; Tenison-Woods, Fisheries of N. S. Wales, p. 61, pl. 21.

*Hab.*—Australian coasts; Port Jackson, common. *Dory* or *John Dory*. Grows to 18 inches long. An excellent food fish.

## CORYPHÆNIDÆ.

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## CORYPHÆNA HIPPIURUS.

Linn., Syst. Nat., p. 446; Bl., t. 174; Cuv. & Val. ix, p. 278, pl. 266; Lowe, Trans. Zool. Soc. ii, p. 188, iii, p. 6, and Proc. Zool. Soc. 1839, p. 80; Günth., Cat. ii, p. 405; Steind, Sitzgsber. Ak. Wiss. Wien 1868, p. 370.

*Coryphæna japonica*, Schleg., Faun. Japon. Poiss., p. 120, pl. 64.

—? *punctulata*, Macleay, Aust. Cat. i, p. 187.

*Hab.*—Indian seas, to the Malay Archipelago and Japan; Botany Bay. Grows to 5 feet; our specimen measures 22 inches; it is, without doubt, a young fish of this species, which has been recorded from these seas so long ago as Dampier's time; *vide*, Voy. New Holland i, pl. 2, f. 7.

## BRAMA RAI.

*Sparus raii*, Bloch, t. 273.

*Brama raii*, Bl. Schn., p. 99; Cuv. & Val. vii, p. 281, pl. 190; Lowe, Trans. Zool. Soc. iii, p. 8; Günth., Cat. ii, p. 408; Lütken, Spol. Atlant. 1880, p. 190, pl. iv, ff. 1, 2; Day, Brit. Fishes i, p. 114, pl. 41; Macleay, Aust. Cat. i, p. 188.

*Hab.*—Mediterranean and western shores of the Atlantic; Port Jackson, (Castelnau). Grows to the length of 30 inches. I doubt very much the propriety of keeping this species in the Australian catalogue solely on the authority of Count Castelnau, who has left neither specimen nor description, but merely a catalogue name (Proc. Linn. Soc. N. S. Wales iii, p. 252), and whose identifications were not always as careful as is advisable.

## PSENES LEUCURUS.

Jenyns, Voy. Beagle Zool., p. 73; Günth., Cat. ii, p. 495; Macleay, Aust. Cat. i, p. 183.

*Hab.*—Indian Ocean; Port Jackson, (Güntber). Largest specimen, 2 inches.

## SCOMBRIDÆ.

## SCOMBER ANTARCTICUS.

Casteln., Proc., Zool. Soc. Vict. i, p. 106; Macleay, Aust. Cat. i, p. 190; Tenison-Woods, Fisheries of N. S. Wales, p. 62.

*Hab.*—South and east coasts of Australia. The *Southern Mackerel*. Attains to 10 inches in length. An excellent fish if eaten quite fresh. This is not the fish figured by M'Coy (Prodr. Zool. Vict. dec. iii, p. 43, pl. 28), as *Scomber pneumatophorus*, De la Roche, (as stated by Tenison-Woods and others) if Castelnau is right in stating that his species has no air-bladder. I have never seen an example of this mackerel, but it is difficult to make out any valid difference between it and *Scomber scombrus*, Linn., from the descriptions only.

## THYNNUS THUNNINA.

*Scomber quadripunctatus*, Geoffr., Descr. Eg. Poiss., t. 24, f. 3.

*Thynnus thunnina*, Cuv. & Val. viii, p. 104, pl. 212; Schleg., Faun. Japon. Poiss., p. 95, pl. 48; Günth., Cat. ii, p. 364, and Fische d. Sudsee, p. 150, pl. 95; Day, Fishes of India, p. 252, pl. 54, f. 6.

— *brasiliensis*, Cuv. & Val. viii, p. 110.

— *affinis*, Cant., Cat. p. 106; Günth., Cat. ii, p. 363; Macleay, Aust. Cat. i, p. 191.

*Hab.*—Tropical parts of the Atlantic; Mediterranean, Indian, Malayan, and North Australian seas; Port Jackson (Macleay). Grows to 2 feet in length.

## THYNNUS PELAMYS.

*Scomber pelamis*, Linn., Syst. Nat. i, p. 492.

*Thynnus pelamys*, Cuv. & Val. viii, p. 113, pl. 214; Schleg., Faun. Japon. Poiss., p. 96, pl. 49; Rich., Ichthyol. China, p. 267; Günth., Cat. ii, p. 364, and Fische d. Sudsee, p. 151, pl. 96; Day, Fishes of India, p. 252, and Brit. Fishes i, p. 100, pl. 37; Macleay, Aust. Cat. i, p. 191.

— *vagans*, Less., Voy. Coquille Zool. ii, p. 162, pl. 32.

*Hab.*—Warm parts of the Atlantic, Indian, and Pacific Oceans; east coast of Australia (Macleay); Port Jackson (Castelnau). The *Bonito*. Attains the length of 3 feet.

## PELAMYS AUSTRALIS.

Macleay, Aust. Cat. i, p. 192.

*Hab.*—Port Jackson (Macleay). This species should be critically compared with *Pelamys chilensis*, Cuv. & Val., to which it appears to bear a great resemblance.

## AUXIS RAMSAYI.

Casteln., Proc. Linn. Soc. N. S. Wales iii, p. 382.

*Hab.*—Port Jackson. *Horse-mackerel* of the Sydney market. Said to be a good food fish.

## CYBIUM COMMERSONI.

*Scomber commersonii*, Lacép. ii, p. 600, pl. 20, f. 1; Shaw, Zool. iv, p. 589, pl. 83.

*Cybiium commersonii*, Cuv., Règne Anim.; Cuv. & Val. viii, p. 165; Rich., Ichthyol. China, p. 268; Günth., Cat. ii, p. 370; Day, Fishes of India, p. 255, pl. 56, f. 5; Macleay, Aust. Cat. i, p. 193, and Proc. Linn. Soc. N. S. Wales viii, p. 266.

*Hab.*—East African, Indian, Malayan, and Australian seas; Port Jackson. Grows to 4 feet in length.

## CYBIUM GUTTATUM.

*Scomber guttatus*, Bl. Schn. p. 23, f. 5.

*Cybiium guttatum*, Cuv. & Val. viii, p. 173; Rich., Ichthyol. China, p. 268 (pt.); Günth., Cat. ii, p. 371; Kner, Voy. Novara Fische, p. 143; Day, Fishes of India, p. 255, pls. 55, f. 1 (*young*), and 56, f. 4 (*adult*); Macleay, Aust. Cat. i, p. 194.

*Hab.*—Indian, Malayan, and Chinese seas; Port Jackson (Macleay). Grows to the length of 6 feet. Is good eating, and salts well. (Day).

ELACATE

## ELACATE NIGRA.

*Scomber niger*, Bl., t. 337.

*Elacate bivittata*, Cuv. & Val. viii, p. 338; Schleg., Faun. Japon. Poiss., p. 104, pl. 56; Rich., Ichthyol. China, p. 269.

——— *nigra*, Günth., Cat. ii, p. 375; Day, Fishes of India, p. 256, pl. 55, f. 2; Casteln., Proc. Linn. Soc. N. S. Wales iii, p. 381; Macleay, Aust. Cat. i, p. 195.

*Hab.*—Warmer parts of the Atlantic; Indian Seas; Port Jackson, scarce. Grows to 5 feet long.

## ECHENEIS NAUCRATES.

*Echeneis naucrates*, Linn., Syst. Nat. i, p. 446; Bl., t. 171.

——— *naucrates*, Lacép. iii, pp. 146 and 162, pl. 9, f. 2; Schleg., Faun. Japon. Poiss., p. 270, pl. 120, f. 1; Rich., Ichthyol. China, p. 203; Günth., Ann. Nat. Hist. 1860, (3) v, p. 395, and Cat. ii, p. 384; Kner, Voy. Novara Fische, p. 146; Day, Fishes of India, p. 257, pl. 57, f. 1; All. & Maccl., Proc. Linn. Soc. N. S. Wales i, p. 321; Casteln., op. cit. ii, p. 234, and iii, p. 382; Macleay, op. cit. viii, p. 266, and Aust. Cat. i, p. 196.

——— *australis*, Griff., Cuv. An. Kingd. Fishes, p. 504.

*Hab.*—All tropical and temperate seas; Port Jackson (Kreffl); Clarence River, (Ogilby), from Mr. T. Temperley; four specimens adhering to a *Zygana leeuwini*. The *Great Sucking-fish*. Attains to 3 feet in length.

## ECHENEIS REMORA.

Linn., Syst. Nat. i, p. 446; Bl., t. 172; Schleg., Faun. Japon. Poiss., p. 271; Jenyns, Voy. Beagle Zool., p. 142; Günth., Ann. Nat. Hist. 1860, (3) v, p. 390, and Cat. ii, p. 378, and Fische d. Sudsee, p. 156; Kner, Voy. Novara Fische, p. 146; Day, Fishes of India, p. 258, and Brit. Fishes i, p. 108, pl. 39, f. 2; Macleay, Aust. Cat. i, p. 196.

*Hab.*—Seas of the temperate and tropical regions; Port Jackson, (Kreffl & Castelnau). There are in the Australian Museum three specimens which I took off a shark caught in lat. 6° 50' S., long 76° 0' E. (Ogilby). The common *Sucking-fish* or *Remora*. Grows to a foot in length.

## TRACHINIDÆ.

## LEPTOSCOPIUS MACROPYGIUS.

*Uranoscopus macropygius*, Rich., Voy. Erebus and Terror Fishes, p. 55, pl. 33, ff. 4, 6.

*Leptoscopus macropygius*, Gill, Proc. Ac. Nat. Sc. Philad. 1859, p. 133; Günth., Cat. ii, p. 232, and Study of Fishes, f. 206; Macleay, Aust. Cat. i, p. 198; Hutton, Trans. N. Zeal. Inst. vi, p. 106, and viii, p. 212.

——— *huttoni*, Haast, Trans. N. Zeal. Inst. v, p. 275.

*Hab.*—Port Jackson. Grows to the length of 2 feet.

## PERCIS NOVÆ-CAMBRIÆ.

Ogilby, Proc. Linn. Soc. N. S. Wales x, p. 228.

*Hab.*—Port Jackson. Largest specimen 7½ inches.

This species has been confounded by Australian naturalists with the *Percis nebulosa* of Quoy and Gaimard, from which, however, it is very distinct.

## PERCIS COXII.

Ramsay, Proc. Linn. Soc. N. S. Wales viii, p. 179.

*Hab.*—Port Jackson. Type specimen measures nearly 7 inches.

## PERCIS ALLPORTI.

Günth., Ann. Nat. Hist. 1876, (4) xvii, p. 394, and Voy. Challenger Shore Fishes, p. 28; Macleay, Aust. Cat. i, p. 199.

*Hab.*—Tasmania; Bass's Straits; Twofold Bay. Specimens measure 11 inches.

Count Castelnau includes *Aphritis urvillii*, Cuv. and Val. in his Port Jackson list (Proc. Linn. Soc. N. S. Wales iii, p. 351), but gives no evidence to prove that it has ever occurred so far north.

## SILLAGO MACULATA.

Quoy. & Gaim., Voy. Freyc. Zool., p. 261, pl. 53, f. 2; Cuv. & Val. iii, p. 411; Günth., Cat. ii, p. 245; Kner, Voy. Novara Fische, p. 127; Day, Fishes of India, p. 265, pl. 58, f. 4; Bleek., Atl. Ichthyol., pl. 389, f. 5; All. & Maccl., Proc. Linn. Soc. N. S. Wales i, p. 279; Casteln., op. cit. iii, p. 380; Macleay, Aust. Cat. i, p. 201; Tenison-Woods, Fisheries of N. S. Wales, pl. 23.

*Hab.*—From the Malay Archipelago to South-east Australia; Port Jackson, abundant. *Whiting* or *Sand Whiting* of Sydney. Grows to about a foot long. An excellent food fish.

## SILLAGO BASSENSIS.

Cuv. & Val. iii, p. 412; Quoy. & Gaim., Voy. Astrolabe Poiss., p. 672, pl. 1, f. 2; Casteln., Proc. Linn. Soc. N. S. Wales iii, p. 380; Macleay, Aust. Cat. i, p. 202; Tenison-Woods, Fisheries of N. S. Wales, p. 65.

*Sillago ciliata*, Günth., Cat. ii, p. 245.

——— *terrac-reginæ*, Casteln., Proc. Linn. Soc. N. S. Wales ii, p. 232.

*Hab.*—Australian coasts; Port Jackson, common. *Trumpeter Whiting* at Sydney. Attains to 15 inches in length. A good table fish.

## SILLAGO CILIATA.

Cuv. and Val. iii, p. 415; Casteln., Proc. Zool. Soc. Vict. ii, p. 113; Macleay, Aust. Cat. i, p. 202; Kner, Voy. Novara Fische, p. 127; All. & Macleay, Proc. Linn. Soc. N. S. Wales i, p. 279; Tenison-Woods, Fisheries of N. S. Wales, pl. 24.

*Hab.*—North coast of Australia; Port Jackson, scarce.

BOVICHTHYS

## BOVICHTHYS VARIEGATUS.

Rich., Voy. Erebus & Terror Fishes, p. 56, pl. 34, ff. 1-4; Günth., Cat. ii, p. 250, and Study of Fishes, f. 207; Hutton, Trans. N. Zeal. Inst. v, p. 262; Macleay, Aust. Cat. i, p. 203.

*Hab.*—New Zealand; Port Jackson. Specimen measures 3 inches.

## OPISTHOGNATHUS JACKSONIENSIS.

Macleay, Aust. Cat. i, p. 205.

*Hab.*—Port Jackson. Attains to 10 inches long.

## BATRACHIDÆ.

## BATRACHUS DUBIUS.

*Lophius dubius*, White, Voy. N. S. Wales, p. 265.

*Batrachus dubius*, Rich., Voy. Erebus & Terror Fishes, p. 16, pl. 10; Günth., Cat. iii, p. 169; All. & Macl., Proc. Linn. Soc. N. S. Wales i, p. 335; Macleay, op. cit. viii, p. 267, & Aust. Cat. i, p. 207.

*Hab.*—South coast of New Guinea; Australian coasts; Port Jackson, common. Grows to 6 inches in length.

## BATRACHUS GRUNNIENS.

*Cottus grunniens*, var. B., Linn. Gmel., Syst. Nat. i, p. 1209.

*Batrachus grunniens*, Bl. Schn., p. 43; Cuv. & Val. xii, p. 466; Steind., Sitzgsber. Ak. Wiss. Wien ix, 1870, p. 564; Day, Fishes of India, p. 269, pl. 59, f. 1.

——— *trispinosus*, Günth., Cat. iii, p. 169; Kner, Voy. Novara Fische, p. 189.

? ——— *dussumieri*, Cuv. & Val. xii, p. 474, pl. 367; Günth., Cat. iii, p. 169; All. & Macl., Proc. Linn. Soc. N. S. Wales i, p. 335; Macleay, Aust. Cat. i, p. 208.

*Hab.*—Indian and Malayan seas; Sydney (Kner). Grows to 7 inches in length.

## PEDICULATI.

## BRACHIONICHTHYS HIRSUTUS.

*Lophius hirsutus*, Lacép., Ann. Mus. iv, p. 202, pl. 55, f. 3.

*Chironectes hirsutus*, Cuv. & Val. xii, p. 434.

*Brachionichthys hirsutus*, Bleek., Nat. Tyd. Ned. Ind. vii, 1854, p. 121; Günth., Cat. iii, p. 182; Macleay, Aust. Cat. i, p. 210; Günth., Voy. Challenger Shore Fishes, p. 28.

*Hab.*—Tasmania; Twofold Bay (Günther).

## ANTENNARIUS MARMORATUS.

*Lophius histrio*, var. *marmoratus*, Bl. Schn., p. 142.

*Chironectes marmoratus*, Less., Voy. Coquille Zool. ii, p. 145, Poiss. pl. 16, f. 2; Cuv. & Val. xii, p. 402; Schleg., Faun. Japon. Poiss., p. 159, pl. 81, f. 1.

——— *pictus* var. *vittatus*, Rich., Voy. Erebus and Terror p. 15, pl. 9, ff. 3, 4.

*Antennarius marmoratus*, Günth., Cat. iii, p. 185, and Fische d. Sudsee, p. 162, t. 100, f. A.; Bleek., Atl. Ichthyol. v, p. 23, t. 198, f. 4, and t. 199, f. 1; Kner, Voy. Novara Fische, p. 192; Day, Fishes of India, p. 272; Macleay, Aust. Cat. i, p. 211.

*Hab.*—East African, Indian, Malayan, and Australian seas; Port Jackson. *Frog-fish* or *Angler* of Sydney. Grows to 5 inches in length.

## ANTENNARIUS STRIATUS.

*Lophius striatus*, Shaw, Nat. Misc. v, pl. 175, and Zool. v, p. 385.

*Antennarius striatus*, Günth., Fische d. Sudsee, p. 162, f. B; Macleay, Aust. Cat. i, p. 212.

*Hab.*—Sandwich and Solomon Islands; Mauritius; Australian coasts; Port Jackson, common. *Frog-fish* and *Angler* at Sydney. Grows to 7 inches in length.

## ANTENNARIUS PINNICEPS.

(Commerson), Cuv. and Val. xii, p. 410; Günth., Cat. iii, p. 190, and Ann. Nat. Hist. 1867, (3) xx, p. 61; Steind., Sitzgsber. Ak. Wiss. Wien 1866, liii, p. 457, (var.); Macleay, Aust. Cat. i, p. 212.

*Chironectes tridens*, Schleg., Faun. Japon. Poiss. (*part*) pl. 81, f. 4.

*Hab.*—Indian Ocean; Sydney (Günther).

## ANTENNARIUS NUMMIFER.

*Chironectes nummifer*, Cuv., Mém. Mus. iii, p. 430, pl. 17, f. 4; Cuv. and Val. xii, p. 425; Rüpp., N. W. Fische, p. 141.

*Antennarius nummifer*, Günth., Cat. iii, p. 195, and Fische d. Sudsee, p. 164; Klunz., Fische d. Roth. Meer., p. 499; Bleek., Atl. Ichthyol. v, p. 18, t. 198, f. 2; Day, Fishes of India, p. 272, pl. 59, f. 2.

*Chironectes coccineus*, Less. & Garn., Voy. Coquille Poiss., p. 143, pl. 16, f. 1; Cuv. & Val. xii, p. 430; Günth., Cat. iii, p. 191; Macleay, Aust. Cat. i, p. 213.

*Hab.*—East African, Indian, Malayan, and South Seas; Port Jackson (Macleay). Grows to 6 inches long.

## ANTENNARIUS COMMERSONII.

*Lophius commersonii*, Lacép. i, p. 327.

*Chironectes commersonii*, Cuv. & Val. xii, p. 426.

*Antennarius commersonii*, Cant., Cat., p. 204; Günth., Cat. iii, p. 192, and Fische d. Sudsee, p. 163, pls. 100-106; Macleay, Aust. Cat. i, p. 213.

*Hab.*—Indian Ocean; South Seas; Port Jackson, (Kreff).

## COTTIDÆ.

## COITIDÆ.

## PLATYCEPHALUS ARDENARIUS.

Ramsay & Ogilby, Proc. Linn. Soc. N. S. Wales x, (*in press*).

*Hab.*—Coasts of New South Wales, common. *Sand Flathead* of the Sydney market. Grows to the length of 15 inches. A well-flavored fish.

## PLATYCEPHALUS BASSENSIS.

Cuv. & Val. iv, p. 247; Quoy & Gaim., Voy. Astrolabe Poiss., p. 683, pl. 10, f. 3; Casteln., Proc. Linn. Soc. N. S. Wales iii, p. 379; Macleay, Aust. Cat. i, p. 216.

*Platycephalus tasmanius*, Rich., Trans. Zool. Soc. iii, p. 97, and Voy. Erebus and Terror Fishes, p. 23, pl. 18, ff. 1, 2; Günth., Cat. ii, p. 179.

*Hab.*—Coasts of Tasmania, Victoria, and New South Wales; Port Jackson, common. Grows to 18 inches long.

## PLATYCEPHALUS FUSCUS.

Cuv. & Val. iv, p. 241; Casteln., Proc. Linn. Soc. N. S. Wales iii, p. 379; Sauv., N. Arch. Mus. (2) i, p. 150; Macleay, Aust. Cat. i, p. 217; Tenison-Woods, Fisheries of N. S. Wales, p. 67, pl. 25.

*Hab.*—Port Jackson; Port Phillip; Maryborough (Ogilby). *Flathead* of the Sydney market. Attains to a length of 3 feet. One of the best food fishes of the Colony.

## PLATYCEPHALUS LEVIGATUS.

Cuv. & Val. iv, p. 248; Quoy & Gaim., Voy. Astrolabe Poiss., p. 684, pl. 10, f. 4; Günth., Cat. ii, p. 179; Casteln., Proc. Zool. Soc. Vict. i, p. 84; Macleay, Aust. Cat. ii, p. 217.

*Hab.*—South and west coasts of Australia; Port Jackson (Kreff). *Rock Flathead* at Melbourne. Grows to the length of 20 inches. An excellent fish for the table.

## PLATYCEPHALUS CIRRONASUS.

Rich., Voy. Erebus and Terror Fishes, p. 114, pl. 51, ff. 7-10; Günth., Cat. ii, p. 186, and Study of Fishes, ff. 212, 213; Macleay, Aust. Cat. i, p. 221.

*Hab.*—Botany Bay; Port Jackson. Grows to 15 inches in length.

## PLATYCEPHALUS LONGISPINIS.

Macleay, Proc. Linn. Soc. N. S. Wales ix, p. 170.

*Hab.*—Outside Port Jackson, in 50 fathoms. Length of specimen, 10 inches.

## PLATYCEPHALUS MACRODON.

Ogilby, Proc. Linn. Soc. N. S. Wales x, p. 226.

*Hab.*—Port Jackson. Length of specimen rather over 13 inches.

## LEPIDOTRIGLA PAPILIO.

*Trigla papilio*, Cuv. and Val. iv, p. 80, pl. 73.

*Lepidotrigla papilio*, Günth., Cat. ii, p. 197; Sauv., N. Arch. Mus. (2) i, p. 155; Macleay, Aust. Cat. i, p. 223.

*Hab.*—Indian Ocean; Port Jackson, common. *Butterfly Gurnard* at Sydney. Grows to 5 inches long.

## LEPIDOTRIGLA MULHALLI.

Macleay, Proc. Linn. Soc. N. S. Wales viii, p. 460.

*Hab.*—Outside Port Jackson, in 40 fathoms, common. Grows to 9 inches in length.

## LEPIDOTRIGLA PLEURACANTHICA.

*Trigla pleuracantha*, Rich., Voy. Erebus and Terror Fishes, p. 23, pl. 16, ff. 1-4; Günth., Cat. ii, p. 202, and Study of Fishes, ff. 214, 215; Macleay, Aust. Cat. i, p. 225.

*Lepidotrigla pleuracantha*, Ramsay & Ogilby, Proc. Linn. Soc. N. S. Wales x, (*in press*).

*Hab.*—Port Jackson, scarce. Specimen measures 6½ inches.

## TRIGLA KUMU.

Less. & Garn., Voy. Coquille Poiss., pl. 19; Cuv. & Val. iv, p. 50; Jenyns, Voy. Beagle Fishes, p. 27; Schleg., Faun. Japon. Poiss., p. 37, pl. 14 A, f. 3; Günth., Cat. ii, p. 204; Kner, Voy. Novara Fische, p. 124, t. 6, f. 2 (*air-bladder*), and Sitzgsber. Ak. Wiss. Wien lviii, p. 318; McCoy, Prodr. Zool. Vict. dec. i, pl. 5; Casteln., Proc. Linn. Soc. N. S. Wales iii, p. 380; Macleay, Aust. Cat. i, p. 225; Tenison-Woods, Fisheries of N. S. Wales, p. 68, pl. 26.

*Hab.*—From the Cape seas to those of Japan and New Zealand; Port Jackson, common. Attains a length of 12 inches. A good fish for the table.

## TRIGLA POLYOMMATA.

Rich., Proc. Zool. Soc. 1839, p. 96, and Trans. Zool. Soc. iii, p. 87, pl. 5, f. 2; Günth., Cat. ii, p. 204; Macleay, Aust. Cat. i, p. 226.

*Hoplonotus polyommatus*, Guich., Ann. Soc. Linn. Maine-et-Loire ix, Ichthyol.

*Hab.*—Coasts of South and West Australia; Tasmania; Port Jackson. *Flying Gurnard* of the fishermen. Grows to 15 inches long.

## CATAPHRACTI.

## DACTYLOPTERUS ORIENTALIS.

Cuv. and Val. iv, p. 134, pl. 76; Rich., Ichthyol. China, p. 218; Schleg., Faun. Japon. Poiss., p. 37, pl. 15A; Günth., Cat. ii, p. 222, Proc. Zool. Soc. 1871, p. 663, and Fische d. Sudsee, p. 169; Day, Fishes of India, p. 279, pl. 60, f. 6; Macleay, Aust. Cat. i, p. 227.

*Dactylopterus japonicus*, Bleek., Japan, p. 396.

*chirophthalmus*, Bleek., Nat. Tyds. Ned. Ind. 1854, iv, p. 494; Günth., Cat. ii, p. 223 (*young*).

*Hab.*—Indian, Malayan, Japanese, Australian, and South Seas; Port Jackson. Grows to a foot in length.

## PEGASIDÆ.

## PEGASIDÆ.

## PEGASUS DRACONIS.

Linn., Syst. Nat. i, p. 418; Bl., t. 109, ff. 1, 2; Günth., Cat. viii, p. 147; Day, Fishes of India, p. 280, pl. 61, f. 1.

*Pegasus volans*, Lacép. ii, p. 83 (not Linné).

— *draco*, Swains., Fishes ii, p. 332; Günth., Fishes of Zanz., p. 138.

*Hab.*—Indian and Malayan seas; Port Jackson. Specimen measures 2 inches.

The single specimen from Port Jackson in the Australian Museum agrees pretty well with the species to which I have referred it, except that it has only eight pectoral rays; should further examination disclose other differences sufficient to authorize its specific separation, I would propose *pauciradiatus* as a suitable name.

## GOBIIFORMES.

## GOBIDÆ.

## GOBIUS ALBOPUNCTATUS.

Cuv. & Val. xii, p. 57; Günth., Cat. iii, p. 25, Fische d. Sudsee, p. 172, pl. 110, f. A., and Voy. Challenger Shore Fishes, p. 28; Kner, Voy. Novara Fische, p. 174; Day, Fishes of India, p. 294, pl. 63, f. 7; Macleay, Proc. Linn. Soc. N. S. Wales ii, p. 357, and Aust. Cat. i, p. 230.

*Gobius nebulopunctatus*, Rüpp., N. W. Fische, p. 139; Cuv. & Val. xii, p. 58.

— *punctillatus*, Rüpp., Atl. Fische, p. 138, and N. W. Fische, p. 138.

— *padangensis*, Bleek, Blenn. en Gob., p. 249.

*Hab.*—From the Red Sea, through the Indian and Malayan Seas to the Fiji and Sandwich Islands; north and east coasts of Australia; Port Jackson (Günther). Length, 4 inches.

## GOBIUS BREVIFFLIS.

*Gobius caninus*, Steind., Sitzgsber. Ak. Wiss. Wien 1867, lvi, p. 313 (not Cuv. or Günth.).

— *breviflis*, Day, Proc. Zool. Soc. 1867, p. 940.

? — *krefftii*, Steind, Verh. z. b. Ges. Wien 1867, p. 326.

*Hab.*—Indian and Malayan Seas; Port Jackson (Günther). Length, 4 inches.

## GOBIUS FRENATUS.

Günth., Cat. iii, p. 39; Kner, Voy. Novara Fische, p. 174; Macleay, Aust. Cat. i, p. 231.

*Hab.*—Port Jackson (Kner). Length, 4 inches.

## GOBIUS BIFRENATUS.

Kner, Voy. Novara Fische, p. 177, t. 7, f. 3; Klunz., Sitzgsber. Ak. Wiss. Wien lxxx, Abth. i, p. 383; Macleay, Aust. Cat. i, p. 232.

*Gobius bassensis*, Casteln., Proc. Zool. Soc. Vict. i, p. 123.

*Hab.*—Coasts of Victoria and New South Wales; Port Jackson. Length, 5 inches.

## GOBIUS SEMIFRENATUS.

Macleay, Aust. Cat. i, p. 233.

*Hab.*—Port Jackson.

## GOBIUS BUCCATUS.

Cuv. & Val. xii, p. 60; Günth., Cat. iii, p. 14; Macleay, Aust. Cat. i, p. 236.

*Hab.*—Port Jackson (Macleay).

## GOBIUS FLAVIDUS.

Macleay, Aust. Cat. i, p. 237.

*Hab.*—Port Jackson. Length, 1½ in.

## GOBIUS DEPRESSUS.

Ramsay & Ogilby, Proc. Linn. Soc. N.S. Wales xi, (in press).

*Hab.*—Port Jackson. Length, 3.25 inches.

## GOBIUS GOBIOIDES.

*Gobius cristatus*, Macleay, Aust. Cat. i, p. 245 (not Day).

*Hab.*—Port Jackson, abundant (Macleay); Richmond River, common (Ogilby); numerous examples have been brought from the latter locality to the Australian Museum by Mr. F. Temperley. Length, 5 inches.

The name *cristatus* having been given to an Indian Goby by Dr. Day in 1873 (v. Fishes of India, p. 291), it became necessary to change the name of the Australian fish; and in giving it the above specific name I have been guided by its very strong dentition and the obliquity of its mouth, which gives it a strong outward resemblance to the fishes of that genus.

## ELEOTRIS MOGURNDA.

Rich., Voy. Erebus & Terror Fishes, p. 4, pl. 2, ff. 1, 2; Günth., Cat. iii, p. 3; Macleay, Aust. Cat. i, p. 252.

*Hab.*—Port Essington; Clarence River (Aust. Mus.) Length, 4 inches.

## ELEOTRIS AUSTRALIS.

Kreffft, Proc. Zool. Soc. 1864, p. 183; Casteln., Proc. Linn. Soc. N.S. Wales iii, p. 384; Macleay, Aust. Cat. i, p. 252.

*Hab.*—Rivers and creeks of the eastern watershed of New South Wales. Length, 4 inches.

## ELEOTRIS COXII.

Kreffft, Proc. Zool. Soc. 1864, p. 183; Macleay, Aust. Cat. i, p. 253.

*Hab.*—Rivers of the eastern watershed of New South Wales. *Gudgeon* of the colonists. Length, 5 inches.

ELEOTRIS

## ELEOTRIS GRANDICEPS.

Krefft, Proc. Zool. Soc. 1864, p. 183; Macleay, Aust. Cat. i, p. 253.  
*Hab.*—Eastern rivers of New South Wales. Length, 3 inches.

## ELEOTRIS GYMNOCEPHALUS.

Steind., Sitzgsber. Ak. Wiss. Wien 1866, liii, p. 453, pl. 2, f. 3; Günth., Ann. Nat. Hist. 1867, (3) xx,  
 p. 62.  
*Hab.*—Hawkesbury River (Günther, Krefft).

## ELEOTRIS COMPRESSA.

Krefft, Proc. Zool. Soc. 1864, p. 184; Bleek., Arch. Néerl. x, p. 147; Macleay, Aust. Cat. i, p. 254.  
*Eleotris brevirostris*, Steind.  
*Hab.*—Port Denison; Clarence River. Length, 3½ inches.

## ELEOTRIS OXYCEPHALA.

Schleg., Faun. Japon. Poiss., p. 150, pl. 77, ff. 4, 5; Günth., Cat. iii, p. 115; Kner., Voy. Novara Fische,  
 p. 185; Macleay, Aust. Cat. i, p. 257.  
*Eleotris cantherius*, Rich., Ichthyol. China, p. 209.  
*Hab.*—Chinese and Japanese seas; Port Jackson (Kner). Length, 6 inches.

## ELEOTRIS MASTERSII.

Macleay, Aust. Cat. i, p. 257.  
*Hab.*—Rope's Creek (Macleay).

## ELEOTRIS STRIATA.

*Eleotris striatus*, Steind., Sitzgsber. Ak. Wiss. Wien 1866, liii, p. 452.  
*Hab.*—New South Wales.

## ELEOTRIS RICHARDSONII.

Steind., Sitzgsber. Ak. Wiss. Wien 1866, liii, p. 455.  
*Hab.*—New South Wales.

## GOBIOIDES PURPURASCENS.

*Leme purpurascens*, De Vis, Proc. Linn. Soc. N.S. Wales ix, p. 698.  
*Hab.*—Brisbane River (De Vis); Clarence River (Ogilby). Length, 7 inches.  
 The Australian Museum possesses a single specimen of a fish which was found by Mr. T. Temperley buried in mud on the bank of the Clarence River near its mouth. Having been dried before being placed in spirits it is impossible now to describe it, and as it appears to agree fairly well with De Vis's species, I have placed it provisionally under that heading, until an opportunity shall occur of comparing it with his type. I am unable to find sufficient differences to warrant the separation of *Leme* from *Gobioides*.

## ARISTEUS FLUVIATILIS.

Casteln., Proc. Linn. Soc. N.S. Wales iii, p. 141.  
*Hab.*—Murrumbidgee River; Rope's Creek. Length, 3½ inches.

## ARISTEUS LINEATUS.

Macleay, Aust. Cat. i, p. 261.  
*Hab.*—Richmond River. Length, 3 inches.

## CALLIONYMIDÆ.

## CALLIONYMUS CALAUROPOMUS.

Rich., Voy. Erebus and Terror Fishes, p. 10, pl. 7, ff. 4, 5; Günth., Cat. iii, p. 147; Macleay, Aust.  
 Cat. i, p. 262.  
*Hab.*—Coasts of Australia; Port Jackson, common. Length, 11 inches.

## CALLIONYMUS PAPILIO.

Günth., Ann. Nat. Hist. 1864, (3) xiv, p. 197; Macleay, Aust. Cat. i, p. 262.  
*Callionymus ocellifer*, Casteln., Proc. Zool. Soc. Vict. ii, p. 49.  
*Hab.*—Melbourne (Günther); Port Jackson (Aust. Mus.). Length, 5 inches.

## CALLIONYMUS CURVICORNIS.

Cuv. & Val. xii, p. 298; Günth., Cat. iii, p. 145.  
*Callionymus japonicus*, Cuv. & Val. xii, p. 299 (not Houtt.)  
 ——— *valenciennesii*, Schleg., Faun. Japon. Poiss., p. 153, pl. 78, f. 3.  
 ——— *punctatus* (Langsd.), Rich., Ichthyol. China, p. 210.  
 ——— *calcaratus*, Macleay, Aust. Cat. i, p. 263; Ogilby, Proc. Linn. Soc. N. S. Wales x, p. 121.  
*Hab.*—Chinese and Japanese seas; Port Jackson. Length, 9 inches.

## CALLIONYMUS MACLEAYI.

*Callionymus lateralis*, Macleay, Aust. Cat. i, p. 263 (not Richardson).  
*Hab.*—Port Jackson. Length, under 3 inches.  
 Richardson having previously called an Indian fish *lateralis*, I have much pleasure in naming the present species after its discoverer.

## CALLIONYMUS LUNATUS.

Schleg., Faun. Japon. Poiss., p. 155, pl. 78, f. 4; Günth., Cat. iii, p. 146, and Voy. Challenger Shore  
 Fishes, pp. 28 and 67; Macleay, Aust. Cat. App., p. 35.  
*Hab.*—Japanese seas; Port Jackson (Günther). Length, 8 inches.

## CALLIONYMUS PHASIS.

Günth., Voy. Challenger Shore Fishes, p. 28, pl. 15, f. C; Macleay, Aust. Cat. App., p. 35.  
*Hab.*—Twofold Bay, 120 fathoms. Length, 4 inches.

## BLENNIIFORMES.

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## TRICHONOTIDÆ.

## HEMEROCÆTES HASWELLI.

Ramsay, Proc. Linn. Soc. N. S. Wales vi, p. 575.

*Hab.*—North Head, Port Jackson, in 10 fathoms. Length, 2½ inches.

## BLENNIIDÆ.

## BLENNIUS TASMANIANUS.

Rich., Trans. Zool. Soc. iii, p. 129; Günth., Cat. iii, p. 214; Macleay, Aust. Cat. ii, p. 3; Günth., Voy. Challenger Shore Fishes, p. 28.

*Hab.*—Tasmania; Port Jackson (Günther). *Lempriere's Blenny*. Length, 5 inches.

## BLENNIUS UNICORNIS.

Casteln., Proc. Linn. Soc. N. S. Wales iii, p. 384.

*Hab.*—Port Jackson. Length, 2 inches. Said to feed upon the living oysters.

## BLENNIUS CASTANEUS.

Macleay, Aust. Cat. ii, p. 5.

*Hab.*—Port Jackson (Macl. Mus.)

## PETROSCIRTES VARIABILIS.

Cant., Cat., p. 200; Günth., Cat. iii, p. 234; Day, Fishes of India, p. 327, pl. 69, f. 7; Macleay, Aust. Cat. ii, p. 6.

*Hab.*—Coasts of India and the Malay Archipelago; Port Jackson (Günther). Length, 4 inches.

## PETROSCIRTES ANOLIS.

*Blennechis anolius*, Cuv. & Val. xi, p. 288.

*Petroscirtes anolis*, Günth., Cat. iii, p. 238; Macleay, Aust. Cat. ii, p. 6.

*Hab.*—Port Jackson. Length, 2 inches.

## PETROSCIRTES SOLORENSIS.

Bleek., Solor, p. 81; Günth., Cat. iii, p. 235; Kner, Voy. Novara Fische, p. 196; Macleay, Aust. Cat. ii, p. 7.

*Hab.*—Sea of Lawajong; Sydney (Kner).

## PETROSCIRTES MACLEAYI.

*Petroscirtes fasciolatus*, Macleay, Aust. Cat. ii, p. 8 (*not Ehrenb. or Cuv. and Val.*)

*Hab.*—Port Jackson. Length, 3 inches.

Cuv. & Val. having given the specific name of *fasciolatus* to a *Petroscirtes* (*Blennechis*) from the Red Sea, I am reluctantly obliged to re-name our Port Jackson species, but in doing so I take the opportunity of calling it after the talented author of the Descriptive Catalogue of Australian Fishes, in which work it is first differentiated.

## PETROSCIRTES GUTTATUS.

Macleay, Aust. Cat. ii, p. 9.

*Hab.*—Port Jackson. Length, 3 inches.

## PETROSCIRTES ROTUNDICEPS.

Macleay, Aust. Cat. ii, p. 9.

*Hab.*—Port Jackson. Length, 3 inches.

## PETROSCIRTES CRISTICEPS.

Macleay, Aust. Cat. ii, p. 9.

*Hab.*—Port Jackson (Macleay); Clarence River (Ogilby). A single specimen brought down by Mr. T. Temperley. Length, 3 inches.

## PETROSCIRTES WILSONI.

Macleay, Proc. Linn. Soc. N. S. Wales ix, p. 171.

*Hab.*—Port Jackson. Length, 2½ inches.

## LEPIDOBLENNIUS GEMINATUS.

Macleay, Aust. Cat. ii, p. 13.

*Hab.*—Port Jackson, common in rock-pools; Port Hacking; Jervis Bay. Length, 5 inches.

## PETRAITES HEPTÆOLUS.

Ogilby, Proc. Linn. Soc. N. S. Wales x, p. 225.

*Hab.*—Port Jackson. Length, 3½ inches.

## CRISTICEPS NASUTUS.

Günth., Cat. iii, p. 273; Macleay, Aust. Cat. ii, p. 18.

*Hab.*—New South Wales (Günther). Length, nearly 2 inches.

## CRISTICEPS FASCIATUS.

Macleay, Aust. Cat. ii, p. 19.

*Hab.*—Port Jackson.

## CRISTICEPS MACLEAYI.

Casteln., Proc. Linn. Soc. N. S. Wales iii, p. 385.

*Hab.*—Port Jackson, common. Length, 7 inches.

## CRISTICEPS AURANTIACUS.

Casteln., Proc. Linn. Soc. N. S. Wales iii, p. 386.  
*Hab.*—Port Jackson; Kiama. Length, 9 inches.

## CRISTICEPS PICTUS.

Macleay, Aust. Cat. ii, p. 25.  
*Hab.*—Port Jackson. Length, 3 inches.

## CRISTICEPS ARGYROPLEURA.

Kner, Voy. Novara Fische, p. 199, t. 7. f. 4; Macleay, Aust. Cat. ii, p. 25.  
*Hab.*—Port Jackson, common. Length, 4 inches.

TRIPTERYGIUM *sp.*

Günth., Voy. Challenger Shore Fishes, p. 28.  
*Hab.*—Port Jackson.

## STICHARJUM DORSALE.

Günth., Ann. Nat. Hist. 1867, (3) xx, p. 63; Macleay, Aust. Cat. ii, p. 29.  
*Hab.*—? Port Jackson (Günther.) Length, 2½ inches.

## PATECUS FRONTO.

Rich., Ann. Nat. Hist. 1844, xiv, p. 280, and Voy. Erebus and Terror Fishes, p. 20, pl. 13; Günth., Cat. iii, p. 292, and Study of Fishes, f. 227; Macleay, Aust. Cat. ii, p. 30.  
*Hab.*—Australian seas; Port Jackson; Richmond River. Length, 9 inches.

## PATECUS MACULATUS.

Günth., Cat. ii, p. 292; Casteln., Proc. Linn. Soc. N. S. Wales ii, p. 231; Macleay, Aust. Cat. ii, p. 31.  
*Hab.*—West Australia; Port Jackson (Kreffl.)

## MUGILIFORMES.

## SPHYRÆNIDÆ.

## SPHYRÆNA NOVÆ-HOLLANDIÆ.

Günth., Cat. ii, p. 335; Macleay, Aust. Cat. ii, p. 32.  
*Hab.*—Coasts of Victoria and New South Wales. Attains to 25 inches in length. *Pike* of Port Jackson.

## SPHYRÆNA OBTUSATA.

Cuv. & Val. iii, p. 350; Schleg., Faun. Japon. Poiss, p. 33, pl. 13, f. 2; Günth., Cat. ii, p. 339, and Fische d. Sudsee, p. 211, pl. 119, f. B.; Kner, Voy. Novara Fische, p. 140; Klunz., Verh. z. b. Ges. Wien 1870, p. 820; Day, Fishes of India, p. 343, pl. 71, f. 5; Macleay, Aust. Cat. ii, p. 34.

*Sphyræna flavicauda*, Rüpp., N. W. Fische, p. 100, t. 25, f. 3.

*Hab.*—From the Red Sea through those of India and the Malay Archipelago to Japan and Australia; Port Jackson, common. *Pike* of the fishermen. Grows to 20 inches long.

## ATHERINIDÆ.

## ATHERINA LACUNOSA.

Forst., Descr. Anim. p. 298; Bl. Schn., p. 112; Günth., Fische d. Sudsee, p. 213, pl. 118, f. E (*not Bleek*).  
*Atherina pinguis*, Lacép. v., p. 372, pl. 11, f. 1; Günth., Cat. iii, p. 399; Klunz., Fische d. Roth. Meer., p. 833; Day, Fishes of India, p. 344; All. & Macl., Proc. Linn. Soc. N. S. Wales i, p. 340; Macleay, Aust. Cat. ii, p. 38.

———— *affinis*, Benn., Proc. Zool. Soc. 1831, i, p. 166.

———— *pectoralis*, Cuv. & Val. x, p. 447.

———— *forskali*, Rüpp., N. W. Fische, p. 132, t. 33, f. 1; Günth., Cat. iii, p. 397; Day, Fishes of India, p. 345, pl. 71, f. 4; Macleay, Proc. Linn. Soc. N. S. Wales vii, p. 362.

*Hab.*—East African, Indian, Malayau, Australian, and South Seas; New South Wales coast, abundant. *Hardhead* of Sydney. Grows to a length of 6 inches; an excellent breakfast fish.

## ATHERINA SIGNIFER.

*Pseudomugil signifera*, Kner, Voy. Novara Fische, p. 275, pl. 13, f. 5, a and b.

*Atherina signata*, Günth., Ann. Nat. Hist. 1867, (3) xx, p. 64; Macleay, Aust. Cat. ii, p. 40

*Hab.*—Cape York (Günther); Sydney (Kner). Length, 1½ in.

## ATHERINICHTHYS JACKSONIANA.

*Atherina jacksoniana*, Quoy & Gaim., Voy. Uranie Zool., p. 333; Cuv. & Val. x, p. 461.

*Atherinichthys jacksoniana*, Günth., Cat. iii, p. 402; Macleay, Aust. Cat. ii, p. 41.

*Hab.*—Tasmania; Port Jackson. Length, 4½ inches.

## ATHERINICHTHYS DUBOULAYI.

Casteln., Proc. Linn. Soc. N. S. Wales iii, p. 143.

*Hab.*—Richmond River. Length rather over 3 inches.

## NEMATOCENTRIS NIGRANS.

*Atherina nigrans*, Rich., Ann. Nat. Hist. 1843, xi, p. 180.

*Atherinichthys nigrans*, Günth., Cat. iii, p. 406.

*Nematocentris splendida*, Peters, Monatsber. Ak. Wiss. Berl. 1866 (July), p. 516.

*Strabo nigrofasciatus*, Kner & Steind., Sitzgsber. Ak. Wiss. Wien 1866 (Oct.), p. 372, f. 10 (*immature*).

*Nematocentris*

*Nematocentris nigrans*, Günth., Ann. Nat. Hist. 1867, (3) xx, p. 65.

*Hab.*—Fresh waters of North Australia; Clarence and Severn Rivers, N. S. Wales. Length, 5 inches.

#### MUGILIDÆ.

##### MUGIL GRANDIS.

Casteln., Proc. Linn. Soc. N. S. Wales iii, p. 386; Macleay, op. cit. iv, p. 412; Tenison-Woods, Fisheries of N. S. Wales, p. 71, pl. 30.

*Hab.*—From Brisbane to the Gippsland Lakes, common. *Sea Mullet* of the Sydney market. Length up to 2 feet. An excellent food fish.

##### MUGIL DOBULA.

Günth., Cat. iii, p. 420, and Fische d. Sudsee p. 214, pl. 120, f. A; Casteln., Proc. Linn. Soc. N. S. Wales iii, p. 387, Macleay, op. cit. iv, p. 415, and viii, p. 208.

*Hab.*—Coasts of New South Wales and Queensland, entering fresh waters, common; Aneiteum; Sandwich Islands. *Hard-gut Mullet* of Sydney. Length up to 15 inches. An excellent food fish.

##### MUGIL OEUR.

*Mugil œur*, Forsk., p. 74; Rüpp., N. W. Fische, p. 131.

——— *cephalotus*, Cuv. & Val. xi, p. 110; Cant., Ann. Nat. Hist. 1842, ix, p. 284; Eyd. & Soul., Voy. Bonite Zool. i, p. 175, pl. 4, f. 4; Günth., Cat. iii, p. 419; Kner, Voy. Novara Fische, p. 224; Macleay, Proc. Linn. Soc. N. S. Wales iv, p. 416.

——— *japonicus*, Schleg., Faun. Japon. Poiss., p. 134, pl. 72, f. 1; Rich., Ichthyol. China, p. 247.

——— *œur*, Klunz., Fische d. Roth. Meer., p. 829; Day, Fishes of India, p. 353, pl. 75, f. 3; Steind., Denk. Ak. Wien xlv, p. 40.

*Hab.*—From the Red Sea through those of India to China, Japan, and Australia; Sydney (Kner). Length up to 3 feet.

##### MUGIL ARGENTEUS.

Quoy. & Gaim., Voy. Uranie Poiss., p. 338, pl. 59, f. 3; Günth., Cat. iii, p. 424, and Fische d. Sudsee, p. 214; Macleay, Proc. Linn. Soc. N. S. Wales iv, p. 417.

*Mugil ferrandi*, Cuv. & Val. xi, p. 142.

*Hab.*—S. Australia; Fitzroy River; Port Jackson (Günther); Richmond River (Aust. Mus.). Length up to 12 inches.

##### MUGIL LONGIMANUS.

Günth., Cat. iii, p. 428; Steind., Denk. Ak. Wien xli, p. 5.

*Hab.*—East Indian Archipelago; Port Jackson (Steindachner).

##### MUGIL BREVICEPS.

Steind., Sitzgsber. Ak. Wiss. Wien 1866, liii, p. 459, t. 1, f. 1.

*Hab.*—Port Jackson.

##### MUGIL AUSTRALIS.

Steind., Denk. Ak. Wien xli, p. 5.

*Hab.*—Port Jackson.

##### MUGIL PERONII.

Cuv. & Val. xi, p. 138; Günth., Cat. iii, p. 452; Casteln., Proc. Zool. Soc. Vict. ii, p. 151, and Proc. Linn. Soc. N. S. Wales iii, p. 387; Macleay, op. cit. iv, p. 421.

*Hab.*—Coasts of Victoria, New South Wales, and Queensland, common. *Flat-tail Mullet* of Sydney market. Length up to 12 inches. An excellent fish for the table.

##### MUGIL COMPRESSUS.

Günth., Cat. iii, p. 451, and Fische d. Sudsee, pl. 123, f. A; Macleay, Proc. Linn. Soc. N. S. Wales iv, p. 421, and viii, p. 269.

*Hab.*—New South Wales (Günther); Port Darwin (Macleay); Richmond River (Ogilby). Length up to 1 foot.

##### MUGIL PETTARDI.

Casteln., Res. on the Fishes of Aust., p. 32; Macleay, Proc. Linn. Soc. N. S. Wales iv., p. 422.

*Hab.*—Richmond River, common. *Richmond Mullet*. Length up to 15 inches. Of excellent quality for the table.

I have omitted *Mugil crenidens*, Kner (Voy. Novara Fische, p. 229), because he gives the locality merely as New Holland (not Sydney, as stated by the Hon. Wm. Macleay, Proc. Linn. Soc. N. S. Wales iv, p. 424), which is much too vague.

##### MYXUS ELONGATUS.

Günth., Cat. iii, p. 466; Kner, Voy. Novara Fische, p. 230; Macleay, Proc. Linn. Soc. N. S. Wales iv, p. 426.

*Hab.*—Coasts of Victoria and New South Wales. *Sand Mullet* and *Tallegalla* of the fishermen. Length up to 12 inches. Little esteemed as an article of food.

### GASTROSTEIFORMES.

#### FISTULARIIDÆ.

##### FISTULARIA SERBATA.

*Fistularia tabaccaria*, White, Voy. N. S. Wales, p. 296, f. 2; Bl., t. 387, ff. 2, 3.

——— *serrata*, Cuv. Règne Anim.; Günth., Cat. iii, p. 533, and Voy. Challenger Shore Fishes, p. 68, pl. 32, f. C; Kner, Voy. Novara Fische, p. 238; Day, Fishes of India, p. 360, pl. 76, f. 3; Casteln., Proc. Linn. Soc. N. S. Wales iii, p. 388; Macleay, op. cit. viii, p. 270, and Aust. Cat. ii, p. 49.

——— *immaculata*, Cuv., Règne Anim.; Rich., Ichthyol. China, p. 247; Schleg, Faun. Japon. Poiss., p. 320.

*Fistularia*

*Fistularia commersonii*, Rüpp., N. W. Fische, p. 142.

*Hab.*—From the east coast of Africa through the Indian seas to China and Australia; Bermudas; Port Jackson, common. *Pipe-fish* of the Sydney fishermen. Grows to 5 feet in length.

FISTULARIA DEPRESSA.

Günth., Voy. Challenger Shore Fishes, p. 69, pl. 32, f. D.

*Hab.*—From the east coast of Africa through all the Indian seas to China and Australia; Fiji Islands; Coast of California; New South Wales (Günther). Grows to 5 feet in length.

CENTRISCIFORMES.

CENTRISCIDÆ.

CENTRISCUS GRACILIS.

Lowe, Proc. Zool. Soc. 1839, p. 86, and Trans. Zool. Soc. iii, p. 12; Günth., Cat. iii, p. 521; Macleay, Aust. Cat. App., p. 42.

*Hab.*—Madeira; West coast of Africa; Chinese and Japanese seas; Port Jackson. Length of specimen rather over 4 inches. Our example belongs to the short-spined form, var. *japonicus*, Günth.

GOBIESOCIFORMES.

GOBIESOCIDÆ.

DIPLOCREPIS COSTATUS.

Ogilby, Proc. Linn. Soc. N. S. Wales x, p. 270.

*Hab.*—Port Jackson. Length up to 2½ inches.

CREPIDOGASTER TASMANIENSIS.

Günth., Cat. iii, p. 507; Kner, Voy. Novara Fische, p. 277; Macleay, Aust. Cat. ii, p. 53.

*Hab.*—Tasmania; Sydney (Kner). Length 2.15 inches.

CHANNIFORMES.

OPHIOCEPHALIDÆ.

OPHIOCEPHALUS STRIATUS.

Bloch, t. 359; Cuv. & Val. vii, p. 417, pls. 202 and 206; Günth., Cat. iii, p. 474, and Study of Fishes, f. 234; Kner, Voy. Novara Fische, p. 234; Day, Fishes of India, p. 366 (*stom. & œœc. pyl. figd.*); Bleek., Atl. Ichthyol. Oph., t. 3, f. 1; Macleay, Aust. Cat. ii, p. 54.

*Hab.*—Fresh waters of India, Burmah, China and the Philippines; Sydney (Kner). Attains to the length of 3 feet.

LABYRINTHIBRANCHII.

LABYRINTHICI.

POLYACANTHUS CUPANUS.

Cuv. & Val. vii, p. 357; Günth., Cat. iii, p. 381; Kner, Voy. Novara Fische, p. 218; Day, Fishes of India, p. 371, pl. 78, f. 4.

*Hab.*—Coasts of India; Sydney (Kner). Length up to 3 inches.

TÆNIIFORMES.

TRACHYPTERUS JACKSONENSIS.

*Regalecus jacksonensis*, Ramsay, Proc. Linn. Soc. N. S. Wales v, p. 631, pl. 20.

*Hab.*—Coast of New South Wales; Port Jackson. *Southern Ribbon-fish*. Largest specimen 7 feet. Closely allied to *Trachypterus arcticus*.

ACANTHOPTERYGII PHARYNGOGNATHI.

POMACENTRIDÆ.

POMACENTRUS UNIFASCIATUS.

Steind., Sitzsber. Ak. Wiss. Wien lvi, p. 326; Kner, op. cit. lviii, pp. 31 & 348, t. 8, f. 24.

*Hab.*—Fiji, (Kner); Port Jackson (Steindachner).

POMACENTRUS DOLII.

Macleay, Aust. Cat. ii, p. 65, pl. 1, f. 1.

*Hab.*—Port Jackson. Length up to 4 inches. Lives in large shells, such as those of *Dolium variegatum*.

PARMA MICROLEPIS.

Günth., Cat. iv, p. 57; Macleay, Aust. Cat. ii, p. 69.

*Hab.*—Port Jackson; Botany Bay. Length up to 6 inches.

PARMA SQUAMIPINNIS.

Günth., Cat. iv, p. 58; Macleay, Aust. Cat. ii, p. 69.

*Gluphidodon australis*, Steind., Sitzsber. Ak. Wiss. Wien lvi, p. 328.

*Hab.*—Port Jackson. Length 8 inches.

## HELIASTES HYPSILEPIS.

Günth., Ann. Nat. Hist. 1867, (3) xx, p. 66; Casteln., Proc. Linn. Soc. N. S. Wales iii, p. 388; Macleay, Aust. Cat. ii, p. 71.

*Hab.*—Port Jackson. Length 6.50 inches.

## HELIASTES IMMACULATUS.

Ogilby, Proc. Linn. Soc. N. S. Wales x, p. 446.

*Hab.*—Port Jackson. Length up to 6 inches.

## LABRIDÆ.

## HETEROCHÆROPS VIRIDIS.

Steind., Sitzgsber. Ak. Wiss. Wien 1866, liii, p. 461, pl. 5, f. 3.

*Hab.*—Port Jackson.

## TROCHOCOPUS UNICOLOR.

Günth., Ann. Nat. Hist. 1876, (4) xvii, p. 398; Macleay, Aust. Cat. ii, p. 76.

*Hab.*—Port Jackson (Günther). Length of specimen 14.50 inches.

## COSSYPHUS UNIMACULATUS.

Günth., Cat. iv, p. 109; Casteln., Proc. Linn. Soc. N. S. Wales iii, p. 389; Macleay, Aust. Cat. ii, p. 77; Tenison-Woods, Fisheries of New South Wales, p. 75, pl. 32.

*Hab.*—New South Wales coast; Port Jackson, common. *Pig-fish* of the Sydney market. Attains a length of 18 inches. An excellent table-fish.

## COSSYPHUS GOULDII.

*Labrus gouldii*, Rich., Ann. Nat. Hist. 1843, xi, p. 353.

*Cossyphus vel Lachnolaimus gouldii*, Rich., Voy. Erebus & Terror Fishes, p. 132.

*Cossyphus gouldii*, Rich., Ann. Nat. Hist. 1851, (2) vii, p. 288, and Proc. Zool. Soc. 1850, p. 72, pl. 3, f. 3; Macleay, Aust. Cat. ii, p. 78; Tenison-Woods, Fisheries of N. S. Wales, p. 74, pl. 31.

*Hab.*—Western Australia; Port Jackson, common. *Blue Groper* of the fishermen. Attains a length of 40 inches. A good table fish. Though it seems impossible to specifically separate our common Blue Groper from the fish described by Sir John Richardson as *Cossyphus gouldii*, it should nevertheless be borne in mind that our fish invariably has a strong posterior canine tooth at each angle of the mouth, and that the fishes, though common at each of the localities mentioned, have not hitherto been recorded from intermediate localities.

*Cossyphus vulpinus*, Rich., has been included in Castelnau's list (Proc. Linn. Soc. N. S. Wales iii, p. 354), and again in the Report on the Fisheries of New South Wales, App. E, p. 54, but no proof of its occurrence is adduced.

## LABRICHTHYS CELIDOTUS.

*Labrus celidotus*, Forst., Descr. Anim. ed. Licht, p. 133; Bl. Schn., p. 265; Rich., Voy. Erebus and Terror Fishes, p. 53, pl. 31, ff. 1—5.

——— *pacilopleura*, Cuv. & Val. xiii, p. 95.

*Sparus notatus*, Solander, MS.

*Julis* (?) *notatus*, Rich., Ann. Nat. Hist. 1843, xi, p. 425.

*Labrichthys celidota*, Günth., Cat. iv, p. 113, & Ann. Nat. Hist. 1876, (4) xvii, p. 398; Macleay, Aust. Cat. ii, p. 78.

*Hab.*—Coasts of Australia and New Zealand; Botany Bay.

## LABRICHTHYS LATICLAVIUS.

*Labrus laticlavus*, Rich., Proc. Zool. Soc. 1839, p. 99, & Trans. Zool. Soc. iii, p. 139, & Voy. Erebus & Terror Fishes, p. 128, pl. 56, ff. 3—6.

*Labrichthys laticlavus*, Günth., Cat. iv, p. 115, and Ann. Nat. Hist. 1867, (3) xx, p. 66; Macleay, Aust. Cat. ii, p. 80.

*Hab.*—Coasts of Tasmania; King George's Sound; Port Jackson, common. Length up to a foot.

## LABRICHTHYS LUCULENTUS.

*Labrus luculentus*, Rich., Voy. Erebus & Terror Fishes, p. 130.

*Labrichthys luculenta*, Günth., Cat. iv, p. 116; Macleay, Aust. Cat. ii, p. 80.

*Hab.*—East and west coasts of Australia; Norfolk Island; Port Jackson. Length 6 inches.

## LABRICHTHYS PARILUS.

*Tautoga parila*, Rich., Proc. Zool. Soc. 1850, p. 70, & Ann. Nat. Hist. 1851, (2) vii, p. 286.

*Labrichthys parila*, Günth., Cat. iv, p. 117; Casteln., Proc. Linn. Soc. N. S. Wales iii, p. 389; Macleay, Aust. Cat. ii, p. 81.

*Hab.*—West Australia; Port Jackson (Castelnau). Length up to 8 inches.

## LABRICHTHYS GYMNOGENIS.

Günth., Cat. iv, p. 117, and Ann. Nat. Hist. 1867, (3) xx, p. 66; Steind., Sitzgsber. Ak. Wiss. Wien lvi, p. 342; Casteln., Proc. Linn. Soc. N. S. Wales iii, p. 389; Macleay, Aust. Cat. ii, p. 82.

*Hab.*—Port Jackson, common. Length up to a foot.

## LABRICHTHYS NIGROMARGINATUS.

Macleay, Proc. Linn. Soc. N. S. Wales iii, p. 35, pl. 3, f. 3.

*Hab.*—Port Jackson. Length up to a foot.

## LABRICHTHYS DORSALIS.

Macleay, Aust. Cat. ii, p. 87.

*Hab.*—Port Jackson. Length 7 inches.

## LABRICHTHYS LABIOSUS.

Macleay, Aust. Cat. ii, p. 88.  
*Hab.*—Port Jackson.

## LABRICHTHYS MELANURUS.

Macleay, Aust. Cat. ii, p. 88, pl. 1, f. 2.  
*Hab.*—Port Jackson. Length 6 inches.

## PLATYGLOSSUS TRIMACULATUS.

*Julis trimaculata*, Quoy & Gaim., Voy. Astrolabe Zool. ii, p. 705, pl. 20, f. 2; Cuv. & Val. xiii, p. 452.  
*Julis spilurus*, Bleek., Banda i, p. 252.  
*Güntheria trimaculata*, Bleek., Atl. Ichthyol. Labr., p. 138, t. 32, f. 1.  
*PlatyGLOSSUS trimaculatus*, Günth., Cat. iv, p. 153; Kner, Voy. Novara Fische, p. 255; Macleay, Proc. Linn. Soc. N. S. Wales viii, p. 273.  
*Hab.*—Sea of Vanicolo; East Indian Archipelago; South-east New Guinea (Macleay); Sydney (Kner). Length up to 5 inches.

## NOVACULA JACKSONIENSIS.

Ramsay, Proc. Linn. Soc. N. S. Wales vi, p. 198.  
*Hab.*—Port Jackson. Example immature.

## CORIS LINEOLATA.

*Julis lineolata*, Cuv. & Val. xiii, p. 436.  
 ——— *cyanogramma*, Rich., Ann. Nat. Hist. 1851, (2) vii, p. 289, and Proc. Zool. Soc. 1850, p. 73.  
*Ophthalmolepis lineolata*, Bleek., Proc. Zool. Soc. 1861, p. 413; Kner, Voy. Novara Fische, p. 258, pl. 11, f. 1.  
*Coris lineolata*, Günth., Cat. iv, p. 206; Casteln., Proc. Linn. Soc. N. S. Wales iii, p. 390.  
*Hab.*—Australian coasts; Port Jackson, common. *Maori* of the New South Wales coast. Grows to 15 inches in length. Said to be fair eating.

## CORIS SEMIOINCTA.

Ramsay, Proc. Linn. Soc. N. S. Wales vii, p. 301.  
*Hab.*—Lord Howe's Island; Broken Bay.

## CORIS REX.

Ramsay and Ogilby, Proc. Linn. Soc. N. S. Wales x, (*in press*).  
*Hab.*—Bondi, N. S. Wales. Length 16.50 inches.

## PSEUDOSCARUS OCTODON.

Bleek., Atl. Ichthyol. Scar., p. 33, t. 13, f. 2; Günth., Cat. iv, p. 234; Kner, Voy. Novara Fische, p. 262.  
*Hab.*—Buton (Bleeker); Sydney (Kner). Length up to 9.50 inches.

## HETEROSCARUS FILAMENTOSUS.

Casteln., Proc. Zool. Soc. Vict. i, p. 245, & ii, p. 74; Macleay, Aust. Cat. ii, p. 104.  
*Hab.*—South Australia; Port Jackson. Length up to 7 inches.

## HETEROSCARUS CASTELNAUI.

Macleay, Proc. Linn. Soc. N. S. Wales iii, p. 36, pl. 5, f. 2.  
*Hab.*—Port Jackson. *Rainbow-fish* at Sydney. Length up to 9 inches. Very closely allied to the preceding species; perhaps the female of it.

## ODAX BALTEATUS.

Cuv. & Val. xiv, p. 303; Günth., Cat. iv, p. 240; Macleay, Aust. Cat. ii, p. 106.  
*Odax algensis*, Rich., Proc. Zool. Soc. 1840, p. 26, and Trans. Zool. Soc. iii, p. 148.  
*Hab.*—Tasmania; Port Jackson. *Kelp-fish* of Tasmania.

## ODAX SEMIFASCIATUS.

Cuv. & Val. xiv, p. 299, pl. 407; Günth., Cat. iv, p. 241; Casteln., Proc. Linn. Soc. N. S. Wales iii, p. 390; Macleay, Aust. Cat. ii, p. 107.  
*Hab.*—Port Jackson, common. *Rock Whiting* of the Sydney market. Grows to the length of 15 inches. A poor food-fish.

## ODAX RICHARDSONII.

*Odax pusillus*, Cuv. & Val. xiv, pl. 408 (*not Forst*).  
 ——— *richardsonii*, Günth., Cat. iv, p. 241, and Ann. Nat. Hist. 1867, (3) xx, p. 66; Casteln., Proc. Zool. Soc. Vict. i, p. 152; Macleay, Aust. Cat. ii, p. 107.  
 ——— *hyrtlüi*, Steind., Sitzgsber. Ak. Wiss. Wien 1866, liii, p. 464.  
*Hab.*—Port Phillip; Tasmania (Aust. Mus.); New South Wales (Günther). The *Stranger* at Melbourne. Attains a length of 15 inches.

## ODAX BRUNNEUS.

Macleay, Aust. Cat. ii, p. 109.  
*Hab.*—Port Jackson. Length 3.50 inches.

## ODAX OBSCURUS.

Casteln., Proc. Zool. Soc. Vict. i, p. 154, and Proc. Linn. Soc. N. S. Wales iii, p. 391; Macleay, Aust. Cat. ii, p. 108.  
*Hab.*—Port Phillip & Port Jackson (Castelnau).

## OLISTHEROPS

## OLISTHEROPS BRUNNEUS.

Macleay, Proc. Linn. Soc. N. S. Wales iii, p. 36, pl. 5, f. 1.

*Hab.*—Port Jackson. *Herring-cod* at Sydney. Length up to 18 inches. In a fresh state the males of this species correspond exactly with Sir John Richardson's description of *O. cyanomelas*, except that I have never seen the blue pectoral streak which he describes, and more especially all our examples have from 56 to 59 scales in the lateral line; in fact if fifty-eight were read instead of forty-eight in Richardson's description it would be impossible to separate the two forms.

## ANACANTHINI.

## GADOPSIDÆ.

## GADOPSIS MARMORATUS.

Rich., Voy. Erebus & Terror Fishes, p. 122, pl. 59, ff. 6-11; Günth., Cat. iv, p. 318; Macleay, Aust. Cat. ii, p. 112.

*Hab.*—Fresh waters of Tasmania, South Australia, Victoria, and New South Wales. Prof. M'Coy (Prodr. Zool. Vict. dec. iii, pl. 27, f. 2) has described a *Gadopsis* from the Yarra, which he names *G. gracilis*, and a second from the Bunyip River, Gippsland, under the name of *G. gibbosus*. The differences between these and the typical form appear to be slight, and only such as might be expected in a species of such wide range, and which exists under such different conditions of life and diversities of climate. The Hon. Wm. Macleay also mentions a *Gadopsis* (Proc. Linn. Soc. N. S. Wales x, p. 267) which is more elongate than *G. marmoratus*, and which is probably the same form which Prof. M'Coy describes as *G. gracilis*; it came from the Little River, near Yass, New South Wales.

## Gadoidei.

## GADIDÆ.

## LOTELLA FULIGINOSA.

Günth., Cat. iv, p. 347; Macleay, Aust. Cat. ii, p. 114.

*Hab.*—Port Jackson, (Castelnau) *vide* Macleay. Count Castelnau gives no description of the fish which he includes in his list as *L. rubiginosa*, Günth., and I doubt the propriety of continuing to keep it in the New South Wales catalogue, the more so since Castelnau may have had in his mind the *Gadus rubiginosus* of Solander's MS., which is probably our *Pseudophycis bachus*.

## LOTELLA CALLARIAS.

Günth., Ann. Nat. Hist. 1863, (3) xi, p. 116; Casteln., Proc. Linn. Soc. N. S. Wales iii, p. 391; M'Coy, Prodr. Zool. Vict. dec. ii, pl. 19; Macleay, Aust. Cat. ii, p. 114.

*Lotella schuettii*, Steind., Sitzgsber. Ak. Wiss. Wien 1866, liii, p. 456.

*Hab.*—Port Phillip; Port Jackson (Castelnau). *Small-scaled Rock-cod*. Attains to the length of 24 inches. Not much esteemed for the table.

## LOTELLA LIMBATA.

*Lotella marginata*, Macleay, Aust. Cat. ii, p. 114; Tenison-Woods, Fisheries of N. S. Wales, p. 76, pl. 23 (*low. fig.*)

*Hab.*—Port Jackson. *Beardy* of the Sydney Market. Length up to 20 inches. Dr. Günther (Ann. Nat. Hist. 1878, (5) ii, p. 19) having given the specific name of *marginata* to a *Lotella* obtained by the Challenger Expedition, off the south-western coast of South America, I am obliged to change the name of our species, and I have selected in its place a name which conveys the same meaning as that under which the species was originally described by the Hon. Wm. Macleay.

## LOTELLA GRANDIS.

Ramsay, Proc. Linn. Soc. N. S. Wales v, p. 462.

*Hab.*—Wollongong.

## PSEUDOPHYCIS BACHUS.

*Gadus bacchus*, Forst., Descr. Anim. ed. Licht., p. 120.

*Enchelyopus bacchus*, Bl. Schn., p. 53.

*Lota breviuscula*, Rich., Voy. Erebus & Terror Fishes, p. 61, pl. 38, f. 1.

*Lotella bacchus*, Günth., Cat. iv, p. 347; Parker, Trans. N. Zeal. Inst. xv, p. 234, pl. 33.

*Pseudophycis breviusculus*, Günth., Cat. iv, p. 350; Ramsay, Proc. Linn. Soc. N. S. Wales vi, p. 717.

——— *bacchus*, Günth., Voy. Challenger Shore Fishes, p. 28, and Study of Fishes, p. 542, f. 248.

*Hab.*—New Zealand; coast of New South Wales; Twofold Bay (Günther); Port Jackson, Ramsay. *Red cod* of New Zealand.

## Pleuronectoidei.

## PLEURONECTIDÆ.

## PSEUDORHOMBUS RUSSELLII.

*Platessa russellii*, Gray & Hardw., Ill. Ind. Zool., t. 94, f. 2; Cant., Cat. Mal. Fishes, p. 214.

*Rhombus lentiginosus*, Rich., Ann. Nat. Hist. 1843, xi, p. 495.

*Platessa chrysoptera*, Rich., Ichthyol. China, p. 278.

*Rhombus arsius*, Bleek., Beng. en Hind., p. 76.

*Pseudorhombus russellii*, Günth., Cat. iv, p. 424; Kner, Voy. Novara Fische, p. 283; Bleek., Atl. Ichthyol. Pleuronect., p. 6, t. 233, f. 2; Casteln., Proc. Linn. Soc. N. S. Wales iii, p. 391; Macleay, op. cit. ii, p. 362, and Aust. Cat. ii, p. 124; Tenison-Woods, Fisheries of N. S. Wales, p. 76, pl. 33.

——— *arsius*, Günth., Cat. iv, p. 426; Day, Fishes of India, p. 423, pl. 91, f. 5.

*Teratorhombus excisiceps*, Macleay, Aust. Cat. ii, p. 126 (*malformation*).

*Hab.*—From the east coast of Africa through the Indian seas to Australia; Port Jackson, common in summer. *Flounder* of Port Jackson. Attains to the length of 15 inches. A moderate fish for the table.

## PSEUDORHOMBUS

## PSEUDORHOMBUS MULTIMACULATUS.

Günth., Cat. iv, p. 427; Macleay, Aust. Cat. ii, p. 125.

*Hab.*—Coast of New South Wales, common. *Flounder* of Port Jackson; not distinguished from the preceding. Grows to 12 inches in length. A moderate table fish.

## RHOMBOIDICHTHYS SPINICEPS.

Macleay, Aust. Cat. ii, p. 127.

*Hab.*—Port Jackson. Length 4.50 inches.

## LOPHONECTES GALLUS.

Günth., Voy. Challenger Shore Fishes, p. 29, pl. 15, f. B. (*very bad*).

*Lophorhombus cristatus*, Macleay, Proc. Linn. Soc. N. S. Wales vii, p. 14.

*Hab.*—Port Jackson. Length up to 7 inches. In Dr. Günther's figure the fish is colored on the wrong side, the short first dorsal ray is omitted, and there is a separation between the elongate and short rays of that fin, which is purely imaginary.

## AMMOTRETIS ADSPERSUS.

*Ammotretis rostratus*, var. *adpersus*, Kner, Voy. Novara Fische, p. 286, t. 13, f. 4.

——— *zonatus*, Macleay, Proc. Linn. Soc. N. S. Wales vii, p. 367.

——— *macleayi*, Ogilby, Proc. Linn. Soc. N. S. Wales x, p. 121.

*Rhombosolea bassensis*, Casteln., Proc. Zool. Soc. Vict. i, p. 167.

*Hab.*—Coasts of New South Wales and Victoria. Attains to the length of 10 inches.

It is probable that this species will prove to be identical with the *Ammotretis rostratus* of Dr. Günther, but his specimen must have been abnormally elongate, if the comparative measurement of height given in the Catalogue of Fishes, vol. iv, p. 458, is correct. Should further examination prove their identity, the range of the fish would be increased by Tasmania, whence it was originally described, and New Zealand, from which it has been recorded by Hutton, (Trans. N. Zeal. Inst. viii, p. 215), who had previously (op. cit. v, p. 267, pl. 11) described an *A. guentheri* from the same place. The Australian Museum is fortunate in possessing the type specimen of Count Castelnau's *Rhombosolea bassensis*, labelled in his own handwriting, and it is undoubtedly this species.

## LEOPS PARVICEPS.

Günth., Voy. Challenger Shore Fishes, p. 29, pl. 15, f. A.

*Hab.*—Twofold Bay, 120 fathoms (?) Length, to 5.50 inches.

## RHOMBOSOLEA LEPORINA.

Günth., Cat. iv, p. 460; Kner, Voy. Novara Fische, p. 287; Hutton, Trans. N. Zeal. Inst. v, p. 268, pls. 11, 12; Macleay, Aust. Cat. ii, p. 130.

*Hab.*—Sydney (Kner). Length, up to 8 inches.

*Rhombosolea fiesoides*, Günth., is included in Castelnau's list (Proc. Linn. Soc. N. S. Wales iii, p. 354), but no authority is given.

## SOLEA MICROCEPHALA.

Günth., Cat. iv, p. 466; Kner, Voy. Novara Fische, p. 288; Macleay, Aust. Cat. ii, p. 135.

*Hab.*—New South Wales coast; Port Jackson, common. Length, up to 8 inches.

## SOLEA MACLEAYANA.

Ramsay, Proc. Linn. Soc. N. S. Wales v, p. 462.

*Hab.*—Port Jackson. Length, up to 7 inches.

## SOLEA FLUVIATILIS.

Ramsay, Proc. Linn. Soc. N. S. Wales vii, p. 111.

*Hab.*—Hunter River, fresh water. Length, 3.60 inches.

## SOLEA LINEATA.

Ramsay, Proc. Linn. Soc. N. S. Wales vii, p. 406.

*Hab.*—Port Stephens. Length, 2.75 inches.

## SOLEA HUMILIS.

Cant., Cat. Mal. Fishes, p. 219; Günth., Cat. iv, p. 471; Kner, Voy. Novara Fische, p. 288.

*Solea maculata*, Bleek., Verhand. Bat. Genootsch. xxiv, Pleuronect., p. 17.

*Hab.*—Seas of Java and Penang; Sydney (Kner). Length, up to 4 inches.

## ACHIRUS PAVONINUS.

Lacép. iv, pp. 658, 661; Bleek., Atl. Ichthyol. Pleuronect., p. 24, pl. 241, f. 1; Day, Fishes of India, p. 427, pl. 93, f. 2.

*Pleuronectes pavoninus*, Shaw, Zool. iv, p. 310.

*Pardachirus pavoninus*, Günth., Cat. iv, p. 479; Macleay, Proc. Linn. Soc. N. S. Wales i, p. 347, and Aust. Cat. ii, p. 136.

*Solea (Pardachirus) pavonina*, Steind., Fische Sing. 1870, p. 570.

*Hab.*—Malay Archipelago; Australian coasts; Port Jackson. Length, up to 6 inches.

## SYNAPTURA QUAGGA.

*Aesopia quagga*, Kaup, Wieg. Arch. 1858, p. 98.

*Synaptura quagga*, Günth., Cat. iv, p. 485; Casteln., Proc. Linn. Soc. N. S. Wales iii, p. 392; Macleay, Aust. Cat. ii, p. 136.

*Hab.*—Chinese seas; Sydney, Brisbane, and Swan River (Castelnau). Length, up to 6 inches.

SYNAPTURA

## SYNAPTURA NIGRA.

Macleay, Proc. Linn. Soc. N. S. Wales v, p. 49; Tenison-Woods, Fisheries of N. S. Wales, p. 77.

*Hab.*—Estuaries of the New South Wales coast. *Sole* of the Sydney market. Attains to the length of 10 inches. An excellent table-fish.

## SYNAPTURA FASCIATA.

Macleay, Proc. Linn. Soc. N. S. Wales vii, p. 14.

*Hab.*—Port Jackson. Length, up to 8 inches.

## PLAGUSIA UNICOLOR.

Macleay, Aust. Cat. ii, p. 138.

*Hab.*—Port Jackson. *Lemon Sole* of the fishermen. Length, up to 10 inches.

## PHYSOSTOMI.

## SILURIDÆ.

## HOMALOPTERÆ.

## PLOTOSINA.

## PLOTOSUS ARAB.

*Silurus arab*, Forsk., Deser. Anim. xvi, no. 36.

*Platystacus anguillaris*, Bl. viii, p. 61, t. 373, f. 1.

*Plotosus anguillaris*, Lacép. v, p. 130, pl. 3, f. 2; Rüpp., N. W. Fische, p. 76; Günth., Cat. v, p. 24; Macleay, Aust. Cat. ii, p. 139.

——— *ikapor*, Less. & Garn., Voy. Coquille Zool. ii, p. 132, pl. 31, f. 3.

——— *lineatus*, Cuv. & Val. xv, p. 412; Rich., Ichthyol. China, p. 286; Schleg., Faun. Japon. Poiss., p. 228, pl. 104, f. 3.

——— *arab*, Bleek., Atl. Ichthyol. Silur., p. 98, t. 95, f. 2; Kner, Voy. Novara Fische, p. 300; Day, Fishes of India, p. 483, pl. 112, f. 4.

*Hab.*—From the east coast of Africa through the Indian Seas to Japan and Polynesia; coasts of North Australia and Queensland; Clarence River (Ogilby); a small specimen forwarded by Mr. T. Temperley.

## COPIDOGLANIS TANDANUS.

*Plotosus tandanus*, Mitch., Exp. into Int. of Australia, ed. 2, vol. i, p. 95, pl. 6, f. 2.

*Copidoglanis tandanus*, Günth., Cat. v, p. 26; Klunz., S.B. Ak. Wien lxxx, Abth. i, p. 410; Macleay, Aust. Cat. ii, p. 141, and Proc. Linn. Soc. N. S. Wales viii, p. 208; Tenison-Woods, Fisheries of N. S. Wales, p. 105.

*Hab.*—Rivers of New South Wales. *Fresh-water Cat-fish*. Length, up to 3 feet.

## COPIDOGLANIS OBSCURUS.

Günth., Cat. v, p. 26.

*Hab.*—Port Jackson (Krofft).

## CNIDOGLANIS MEGASTOMA.

*Plotosus megastomus*, Rich., Voy. Erebus & Terror Fishes, p. 31, pl. 21, ff. 1-3.

*Cnidoglanis megastoma*, Günth., Cat. v, p. 27, and Study of Fishes, f. 258; Casteln., Proc. Linn. Soc. N. S. Wales iii, p. 392; Macleay, Aust. Cat. ii, p. 144; Tenison-Woods, Fisheries of N. S. Wales, p. 81.

*Charoplotosus decemfiliis*, Kner, Voy. Novara Fische, p. 300, pl. 13, f. 1 (an *Plotosus limbatus*, Cuv. & Val. xv, p. 422).

*Hab.*—Coast of New South Wales; Port Jackson, common. The *Cat-fish* of Sydney. Attains a length of 30 inches. Though the flesh of this fish is excellent, there is a prejudice against it, which makes it unsaleable, except at a nominal price to foreign sailors and Chinese.

## CNIDOGLANIS LEPTURUS.

Günth., Cat. v, p. 28; Casteln., Proc. Linn. Soc. N. S. Wales iii, p. 393; Macleay, Aust. Cat. ii, p. 145.

*Hab.*—Port Jackson. Length, up to 18 inches.

## PROTEROPTERÆ.

## ARIINA.

## ARIUS AUSTRALIS.

Günth., Proc. Zool. Soc. 1867, p. 103 (*fig. of head*), and Study of Fishes, f. 261; Casteln., Proc. Linn. Soc. N. S. Wales iii, p. 50; Macleay, Aust. Cat. ii, p. 149.

*Hab.*—Hunter and Richmond Rivers (Günther); Norman River (Castelnau). Length, up to 18 inches.

## ARIUS THALASSINUS.

*Bagrus thalassinus*, Rüpp., N. W. Fische, p. 75, pl. 20, f. 2.

*Arius nasutus*, Cuv. & Val. xv, p. 60.

*Netuma nasuta*, Bleek., Atl. Ichthyol. Silur., t. 61.

——— *thalassina*, Bleek., l.c., t. 28.

*Arius thalassinus*, Günth., Cat. v, p. 139; Kner, Voy. Novara Fische, p. 310; Day, Fishes of India, p. 463, pls. 104, f. 4, and 106, f. 1; All. & MacL., Proc. Linn. Soc. N. S. Wales i, p. 348; Macleay, Aust. Cat. ii, p. 148, and Proc. Linn. Soc. N. S. Wales viii, p. 209.

*Hab.*—From the east coast of Africa through all the Indian and Malayan seas to the east coast of Australia; Port Jackson. Grows to a large size.

## SCOPELIDÆ.

## SAURUS MYOPS.

*Salmo foetens*, Bloch., t. 384, f. 2; Bl. Schn., p. 404 (not Linn.)

——— *myops*, Forst., Descr. Anim., p. 412.

*Saurus limbatus*, Eyd. & Soul., Voy. Bonite Poiss., p. 100, t. vii, f. 3.

——— *myops*, Cuv., Règ. Anim.; Cuv. & Val. xxii, p. 485; Bleek., Atl. Ichthyol. Saurida, t. 2, f. 3; Günth., Cat. v, p. 398; Day, Fishes of India, p. 504, pl. 117, f. 5; Macleay, Aust. Cat. ii, p. 153.

——— *trachinus*, Schleg., Faun. Japon. Poiss., p. 231, pl. 106, f. 2.

*Hab.*—Tropical seas; Port Jackson. Grows to the length of a foot.

## SAURUS NEBULOSUS.

*Dentex nebulosus* (Solander), Cuv. & Val. xxii, p. 506.

*Saurus gracilis*, Quoy & Gaim., Voy. Uranie, p. 222.

*Saurida nebulosa*, Cuv. & Val. xxii, p. 504, t. 648; Bleek., Atl. Ichthyol. Saurida, t. 1, f. 1; Günth., Cat. v, p. 399; Kner, Voy. Novara Fische, p. 316; Day, Fishes of India, p. 505; Macleay, Aust. Cat. ii, p. 154.

*Hab.*—East African, Indian, Malayan, and Australian seas; Port Jackson. Length, up to 8 inches.

## SAURUS AUSTRALIS.

*Saurida australis*, Casteln., Proc. Linn. Soc. N. S. Wales iii, p. 393.

*Hab.*—Port Jackson. Length, 14 inches.

## SAURUS TRUCULENTUS.

*Saurida truculenta*, Macleay, Aust. Cat. ii, p. 155.

*Hab.*—Port Jackson. Length, 20 inches.

## SAURUS FEROX.

*Saurida ferox*, Ramsay, Proc. Linn. Soc. N. S. Wales viii, p. 177.

*Hab.*—Port Jackson.

Count Castelnau includes *Saurus undosquamis*, Rich., in his list of Port Jackson fishes (Proc. Linn. Soc. N. S. Wales, iii, p. 355), but without giving any proof of its occurrence, and as a mere catalogue name I unhesitatingly omit it from the New South Wales Fauna.

## AULOPUS PURPURISSATUS.

Rich., Ic. Pisc., p. 6, pl. 2, f. 3 (very bad); Günth., Cat. v, p. 403; McCoy, Prodr. Zool. Vict. dec. vi, pls. 54, 55; Macleay, Aust. Cat. ii, p. 157; Tenison-Woods, Fisheries of N. S. Wales, p. 82, pl. 35.

*Aulopus milesii*, Cuv. & Val. xxii, p. 519, pl. 650.

*Hab.*—Coasts of Victoria and New South Wales. *Sergeant Baker* at Sydney. Attains to the length of 2 feet. One of the best food fishes of the colony. One of the characters of this genus, as given in the British Museum Catalogue, is "Pyloric appendages few in number"; this will have to be omitted, as our southern species have these organs in very large numbers, up to 130 in a specimen examined lately.

## CHLOROPHTHALMUS NIGRIPINNIS.

Günth., Ann. Nat. Hist. 1878, (5) ii, p. 182.

*Hab.*—Twofold Bay, 120 fathoms.

## PLAGYODUS FEROX.

*Alepisaurus ferox*, Lowe, Trans. Zool. Soc. i, pl. 19, and p. 395, pl. 59; Cuv. & Val. xx, p. 529; Johnson, Ann. Nat. Hist. 1862, (3) x, p. 317.

? ——— Rich., Voy. Erebus and Terror Fishes, p. 34, pl. 22, ff. 1-4.

*Alepidosaurus ferox*, Günth., Cat. v, p. 421; Macleay, Aust. Cat. ii, p. 162.

*Plagyodus ferox*, Günth., Ann. Nat. Hist. 1867, (3) xix, p. 185, and Study of Fishes, p. 586, f. 270.

*Hab.*—Atlantic Ocean; Tasmania (Richardson); Port Jackson (Kreffl). Attains a length of 5 feet.

## CYPRINIDÆ.

## CYPRININA.

## CARASSIUS VULGARIS.

*Cyprinus carassius*, Linn., Syst. Nat. i, p. 526; Cuv. & Val. xvi, p. 82, pl. 459.

*Carassius vulgaris*, Nordm. in Demid. Voy. Russ. Mer. iii, p. 479; Günth., Cat. vii, p. 29, and Study of Fishes, p. 591; Houghton, Brit. Fresh-water Fishes, p. 19; Day, Brit. Fishes ii, p. 164, pl. 130.

*Cyprinus gibelio*, Linn. Gmel., p. 1417.

*Hab.*—Europe and Siberia; introduced to many fresh-water lagunes and ponds of New South Wales; Botany swamps. Length up to 10 inches. Those which I have seen from this neighbourhood belong to var. *gibelio*; one received lately from the Nepean above Penrith is true *C. vulgaris*.

## LEUCISCINA.

## TINCA VULGARIS.

*Cyprinus tinca*, Linn., Syst. Nat. i, p. 526.

*Tinca vulgaris*, Cuv., Règ. Anim.; Cuv. & Val. xvi, p. 322, pl. 484; Günth., Cat. vii, p. 265, and Study of Fishes, p. 599, f. 274; Houghton, Brit. Fresh-water Fishes, p. 49; Day, Brit. Fishes ii, p. 188, pl. 134, f. 2.

*Hab.*—Fresh waters of Europe and Asia Minor; introduced into New South Wales. *Tench*. Grows to the weight of 5 pounds. A moderate fish for the table.

## SCOMBRESOCIDÆ.

## SCOMBRESOCIDÆ.

## BELONE FEROX.

Günth., Cat. vi, p. 242; Casteln., Proc. Linn. Soc. N. S. Wales ii, p. 239, and iii, p. 394; Macleay, Aust. Cat. ii, p. 176; Tenison-Woods, Fisheries of N. S. Wales, p. 83, pl. 36.  
*Hab.*—New South Wales, common. *Long Tom* of the Sydney fishermen.

## BELONE KREFFTII.

Günth., Cat. vi, p. 250; Casteln., Proc. Linn. Soc. N. S. Wales iii, p. 50; Macleay, op. cit. viii, p. 209, and Aust. Cat. ii, p. 178.  
*Hab.*—Rivers of Northern Queensland; Hunter River (Kreffft). Length up to 2 feet.

## BELONE MACLEAYANA.

*Belone gracilis*, Macleay, Aust. Cat. ii, p. 179.  
*Hab.*—Port Jackson. Length, 8 inches. I am again compelled to change Mr. Macleay's name, the same having been given previously to an Indian species by Schlegel, and to a Portuguese species by Lowe.

## SCOMBRESOX FORSTERI.

*Esox saurus*, Forst., Descr. Anim. ed. Licht., p. 143.  
*Scomberesox forsteri*, Cuv. & Val. xviii, p. 481.  
*Scomberesox forsteri*, Günth., Cat. vi, p. 258; Hutton, Fishes of N. Zeal., p. 53; Macleay, Aust. Cat. ii, p. 180.  
*Hab.*—New Zealand; Melbourne (Castelnau); Sydney (Macleay).

## HEMIRHAMPHUS INTERMEDIUS.

Cant., Ann. Nat. Hist. 1842, ix, p. 435; Rich., Ichthyol. China, p. 264; Macleay, Aust. Cat. ii, p. 181; Tenison-Woods, Fisheries of N. S. Wales, p. 84, pl. 37 (*up. fig.*)  
*Hemirhamphus melanochir*, Cuv. & Val. xix, p. 41; Castelnau, Proc. Linn. Soc. N. S. Wales iii, p. 394.  
*Hab.*—Seas of China, Australia, and New Zealand; Port Jackson, abundant. *Common Garfish* of the Sydney market. Grows to 18 inches in length. An excellent fish for the table.

## HEMIRHAMPHUS REGULARIS.

Günth., Cat. vi, p. 261; Casteln., Proc. Linn. Soc. N. S. Wales iii, p. 394; Macleay, Aust. Cat. ii, p. 181; Tenison-Woods, Fisheries of N. S. Wales, p. 84, pls. 37 (*low. fig.*) and 38.  
*Hab.*—Coasts of Australia; Port Jackson, common. *River Garfish*. Grows to the length of 12 inches. A good table-fish, but not equal to the preceding.

## HEMIRHAMPHUS ARGENTUS.

Benn., Whaling Voy. ii, p. 269; Casteln., Proc. Linn. Soc. N. S. Wales iii, p. 394.  
*Hemirhamphus breviceps*, Casteln., l. c. ii, p. 240.  
*Hab.*—Brisbane; Sydney (rare). Length up to 5 inches.  
 This is perhaps the young of *Hemirhamphus intermedius*.

## HEMIRHAMPHUS FAR.

*Esox far*, Forsk., Descr. Anim., No. 98.  
*Hemirhamphus far*, Rüpp., N. W. Fische, p. 74; Day, Fishes of India, p. 516, pl. 120, f. 3.  
*commersonii*, Cuv. & Val. xix, p. 28; Bleek., Atl. Ichthyol. Scombr., t. 6, f. 3; Günth., Cat. vi, p. 271; All. & Macl., Proc. Linn. Soc. N. S. Wales i, p. 350; Macleay, op. cit. vii, p. 593, and Aust. Cat., p. 183.  
*Hab.*—From the east coast of Africa through all the Indian and Malayan seas to the east coast of Australia; Port Jackson. Length up to 15 inches.

## HEMIRHAMPHUS AUSTRALIS.

Steind., Sitzgsber. Ak. Wiss. Wien 1866, liii, p. 471.  
*Hab.*—Port Jackson.

## ARRHAMPHUS SCLEROLEPIS.

Günth., Cat. vi, p. 277; Macleay, Proc. Linn. Soc. N. S. Wales ii, p. 364, and Aust. Cat. ii, p. 184.  
*Hemirhamphus krefftii*, Steind., Sitzgsber. Ak. Wiss. Wien 1867, lvi, p. 332, t. 1.  
*Hab.*—East coast of Australia; Port Jackson (Steindachner). Length up to 9 inches.

## EXOCEETUS MELANOCERCUS.

Ogilby, Proc. Linn. Soc. N. S. Wales x, p. 123.  
*Hab.*—Port Jackson. Length, 15-25 inches.

## ? EXOCOETUS UNICOLOR.

*Exocoetus unicolor*?, Cuv. & Val. xix, p. 97; Kner, Voy. Novara Fische, p. 325.  
*Hab.*—Sydney (Kner). Length, 8 inches.

## GALAXIIDÆ.

## GALAXIAS OLIDUS.

Günth., Cat. vi, p. 209; Macleay, Aust. Cat. ii, p. 166.  
*Hab.*—Rivers of New South Wales (Kreffft). Length up to 4 inches.

## GALAXIAS KREFFTII.

Günth., Cat. vi, p. 211; Macleay, Aust. Cat. ii, p. 167.  
*Hab.*—Rivers of New South Wales; Rope's Creek (Macleay). Length up to 6 inches.

GALAXIAS

## GALAXIAS SCRIBA.

Cuv. & Val. xviii, p. 347; Günth., Cat. vi, p. 212; Macleay, Aust. Cat. ii, p. 168.

*Hab.*—Port Jackson. Length, 3 inches.

## GALAXIAS PUNCTATUS.

Günth., Cat. vi, p. 212; Macleay, Aust. Cat. ii, p. 168.

*Hab.*—Eastern Creek. Length, 6.50 inches.

## GALAXIAS COXII.

Macleay, Proc. Linn. Soc. N. S. Wales v, p. 45.

*Hab.*—Streams on the uplands of Mount Wilson. Length, 7 inches.

## GALAXIAS PLANICEPS.

Macleay, Aust. Cat. ii, p. 169.

*Hab.*—Rankin's Lagoon, near Bathurst.

## GALAXIAS BONG-BONG.

Macleay, Aust. Cat. ii, p. 169.

*Hab.*—Moss Vale and rivers at Bong-bong. Length, 3 inches.

## GALAXIAS NEBULOSUS.

*Galaxias nebulosa*, Macleay, Aust. Cat. ii, p. 170.

*Hab.*—Long Bay, near Sydney. Length, 3 inches.

## GALAXIAS FINDLAYI.

Macleay, Proc. Linn. Soc. N. S. Wales vii, p. 107.

*Hab.*—Upland ponds of Mount Kosciusko. Length, 3 inches.

## GALAXIAS SCOTTII.

Kreffl, M.S. name.

*Hab.*—Ash Island, Hunter River. Length, 4.75 inches.

## SALMONIDÆ.

## SALMO FARIO.

Linn., Syst. Nat. i, p. 509; Günth., Cat. vi, p. 59; Houghton, Brit. Fresh-water Fishes ii, p. 111; Day, Brit. Fishes ii, p. 95, pls. 109, f. 3, 113, 114, and 116, f. 1.

*Hab.*—Temperate and colder parts of the northern hemisphere; introduced into New Zealand, Tasmania, Victoria, and New South Wales; streams of the National Park, 1885. The *Trout*. Grows to the weight of 20lbs. and over; I have seen a trout from Lough Neagh, Ireland, which weighed 28lbs., and Thompson (Nat. Hist. Ireland iv, p. 158) mentions having examined one of 36lbs. These belonged to var. *ferox*. Other forms of this most variable species have been separated as *nigripinnis*, *estuarinus*, *stomachicus*, *orcadensis*, *cornubiensis*, and so on; at this rate every stream and feeder of a stream might furnish us with a so-called species.

## RETROPINNA RICHARDSONII.

*Argentina retropinna*, Rich., Voy. Erebus & Terror Fishes, p. 121, pl. 52, ff. 1-3.

*Retropinna richardsonii*, Gill, Proc. Ac. Nat. Sc. Philad. 1862, p. 14; Günth., Cat. vi, p. 171; Hector, Trans. N. Zeal. Inst. iii, p. 133, pl. 18, f. 3; Macleay, Aust. Cat. ii, p. 164.

*Richardsonia retropinna*, Kner, Voy. Novara Fische, p. 318.

*Hab.*—Fresh waters of New Zealand and the Southern parts of Australia; Rope's Creek (Macleay). Length up to 4 inches.

## CLUPEIDÆ.

## CHATOËSSUS RICHARDSONII.

Casteln., Proc. Zool. Soc. Vict. ii, p. 144; Macleay, Proc. Linn. Soc. N. S. Wales iv, p. 369.

*Hab.*—Murray River and its tributaries. *Manur* and *Ka-ee-ra* of the Aborigines. Attains to the length of 14 inches. Of delicate flavour.

## CHATOËSSUS EREBI.

? *Chatoësus come*, Rich., Voy. Erebus and Terror Fishes, p. 62, pl. 38, ff. 7-10.

*Chatoëssus erebi*, Günth., Cat. vii, p. 407; Macleay, Proc. Linn. Soc. N. S. Wales iv, p. 368; Tenison-Woods, Fisheries of N. S. Wales, p. 106.

*Hab.*—Rivers of North and West Australia; Clarence and Namoi Rivers, New South Wales. *Bony Bream*; *Sardine* at Brisbane; *Perth Herring* of Swan River, West Australia.

## CLUPEA SAGAX.

Jenyns, Voy. Beagle Fishes, p. 134; Günth., Cat. vii, p. 443; Macleay, Proc. Linn. Soc. N. S. Wales iv, p. 371; Tenison-Woods, Fisheries of N. S. Wales, p. 86.

*Alosa melanosticta*, Cuv. & Val. xx, p. 444 (not Schleg.).

— *fimbriata*, Kner and Steind., Sitzgsber. Ak. Wiss. Wien 1867, liv, p. 386, t. 15.

*Hab.*—Pacific coasts of America; Japan; New Zealand; Tasmania; Victoria; New South Wales, abundant. *Maray* of the Port Jackson fishermen. Length, up to 8 inches. An excellent table-fish.

## CLUPEA SUNDAICA.

Bleek., Atl. Ichthyol. Clup., p. 105, pl. 271, f. 5; Macleay, Proc. Linn. Soc. N. S. Wales iv, p. 373; Tenison-Woods, Fisheries of N. S. Wales, p. 86.

*Hab.*—Java & Celebes (Bleeker); New South Wales, abundant. *Herring* of the Sydney fishermen. Length, up to 6 inches. A well-flavored fish.

## CLUPEA

## CLUPEA HYPSELOSOMA.

*Harengula hypselosoma*, Bleek., Nat. Tydschr. Ned. Ind. viii, 1855, p. 427.

*Clupea hypselosoma*, Günth., Cat. vii, p. 431; Macleay, Proc. Linn. Soc. N. S. Wales iv, p. 375; Bleek., Atl. Ichthyol. Clup. vi, p. 104, pl. 267, f. 2.

*Hab.*—Amboyna; Port Jackson, abundant. An excellent food fish.

## CLUPEA MOLUCCENSIS.

*Harengula moluccensis*, Bleek., Nat. Tydschr. Ned. Ind. iv, p. 609.

——— *kunzei*, Bleek., l. c. xii, p. 209.

*Clupea moluccensis*, Günth., Cat. vii, p. 427; Casteln., Proc. Linn. Soc. N. S. Wales iii, p. 395; Macleay op. cit. iv, p. 376; Bleek., Atl. Ichthyol. Clup. vi, p. 107, t. 263, ff. 1, 2.

*Hab.*—From Ceylon to the Malay Archipelago; Port Jackson (Castelnau).

## CLUPEA NOVÆ-HOLLANDIÆ.

*Meletta novæ-hollandiæ*, Cuv. & Val. xx, p. 376.

*Clupea novæ-hollandiæ*, Günth., Cat. vii, p. 431; Macleay, Proc. Linn. Soc. N. S. Wales iv, p. 378.

*Hab.*—Nepean River. *Nepean Herring*. Length, up to 8 inches. Of little value as a food fish.

## CLUPEA RICHMONDIA.

Macleay, Proc. Linn. Soc. N. S. Wales iv, p. 380.

*Hab.*—Richmond River. *Richmond Herring*. Length, under 5 inches.

## ETRUMEUS JACKSONIENSIS.

Macleay, Proc. Linn. Soc. N. S. Wales iii, p. 36, pl. 4, f. 1, & iv, p. 382.

*Hab.*—Coast of New South Wales; Port Jackson. Also called *Maray* by the fishermen. Said to be excellent for the table.

## ELOPS SAURUS.

Linn., Syst. Nat. i, p. 518; Bloch, t. 393, f. 1; Cuv. & Val. xix, p. 365; Bleek., Atl. Ichthyol. Clup. vi, p. 84, t. 218, f. 3; Kner, Voy. Novara Fische, p. 338; Günth., Cat. vii, p. 470; Day, Fishes of India, p. 649, pl. 166, f. 1; Casteln., Proc. Linn. Soc. N. S. Wales ii, p. 241; Macleay, op. cit. iv, p. 382; Günther, Study of Fishes, p. 661, f. 301.

*Argentina machnata*, Forsk., Descr. Anim., p. 68, No. 100; Linn. Gmel., p. 1395.

*Elops machnata*, Cuv. Reg. Anim.; Rüpp., N. W. Fische, pp. 80, 84; Rich., Voy. Erebus and Terror Fishes, p. 59, pl. 30, ff. 3-5, and Ichthyol. China, p. 310; Schleg., Faun. Japon. Poiss., p. 241, t. 109, f. 2.

——— *capensis*, Smith, Ill. Zool. S. Africa Fishes, pl. vii.

*Hab.*—From the east coast of Africa through all the Indian and Malayan seas, to the Australian coasts; Port Jackson, scarce. Grows to 3 feet in length. The flesh is of good quality.

## MEGALOPS CYPRINOIDES.

*Clupea cyprinoides*, Brouss., Ichthyol., t. ix.; Forst., Descr. Anim. ed. Licht., p. 296; Bl. Schn., p. 427.

*Megalops filamentosus*, Lacép. v, pp. 289, 290; Bleek., Atl. Ichthyol. Clup. vi, p. 86, t. 273.

——— *cyprinoides*, Swains., Fishes ii, p. 292; Günth., Cat. vii, p. 471; Day, Fishes of India, p. 650, pl. 159, f. 3; Macleay, Proc. Linn. Soc. N. S. Wales iv, p. 383, and viii, p. 210.

——— *setipinnis*, Rich., Ann. Nat. Hist. xi, p. 493, and Ichthyol. China, p. 310.

——— *indicus*, Cuv. & Val. xix, p. 388, pl. 542; Kner, Voy. Novara Fische, p. 339.

——— *macrophthalmus*, Bleek., l. c., p. 85, t. 273, f. 2.

——— *cuninga*, Bleek., l. c., p. 87, t. 274, f. 1.

*Hab.*—From the east coast of Africa, through all the Indian and Malayan seas, to Australia and Polynesia, entering fresh water. Hawkesbury River. Grows to the length of a foot. Of excellent flavor.

## CHANOS SALMONEUS.

*Mugil chanos*, Forst., Descr. Anim., p. 74, No. 110.

——— *salmoneus*, Bl. Schn., p. 121; Forst., Descr. Anim. ed. Licht., p. 299.

*Chanos arabicus*, Lacép. v, pp. 395, 396; Cuv. & Val. xix, p. 187.

——— *salmoneus*, Cuv. & Val. xix, p. 201; Günth., Cat. vii, p. 473; Bleek., Atl. Ichthyol. Clup. vi, p. 81, t. 272, f. 4; Day, Fishes of India, p. 651, pl. 166, f. 2; Macleay, Proc. Linn. Soc. N. S. Wales iv, p. 383, vii, p. 594, and viii, p. 210; Günth., Study of Fishes, p. 662, f. 302.

——— *orientalis*, Cuv. & Val. xix, p. 197; Kner, Voy. Novara Fische, p. 341.

*Hab.*—Indian and Pacific Oceans, entering fresh waters. Port Jackson (Castelnau). Grows to the length of 4 feet. An excellent fish for the table.

## CHIROCENTRIDÆ.

## CHIROCENTRUS DORAB.

*Clupea dorab*, Forsk., Descr. Anim., p. 72.

*Esox chirocentrus*, Lacép. v, p. 317, t. 8, f. 1.

*Chirocentrus dorab*, Rüpp., N. W. Fische, p. 81; Cuv. & Val. xix, p. 150, pl. 565; Rich., Ichthyol. China, p. 311; Bleek., Atl. Ichthyol. vi, p. 92, t. 271, f. 3; Kner, Voy. Novara Fische, p. 340; Günth., Cat. vii, p. 475; Day, Fishes of India, p. 652, pl. 166, f. 3; All. & Macl., Proc. Linn. Soc. N. S. Wales i, p. 351; Macleay, op. cit. vii, p. 594, viii, p. 210, & Aust. Cat. ii, p. 199.

——— *hypselosoma*, Bleek., Atl. Ichthyol. vi, p. 93, t. 269, f. 3.

*Hab.*—From the Indian seas to Japan and Australia; Port Jackson. Grows to the length of 12 feet (Day); 3 feet (Günther). Of little value as food.

## SYMBRANCHIDÆ.

## CHILOBRANCHUS RUFUS.

Macleay, Aust. Cat. ii, p. 202.

*Hab.*—Tasmania; Port Jackson, common. Length, up to 3.50 inches.

## MURÆNIDÆ.

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## ANGUILLA REINHARDTII.

Steind., Sitzgsber. Ak. Wiss. Wien 1867, iv, p. 15; Günth., Cat. viii, p. 27; Macleay, Aust. Cat. ii, p. 203, and Proc. Linn. Soc. N. S. Wales viii, p. 210.

*Hab.*—North and east coasts of Australia; Port Jackson; Hawkesbury and Richmond Rivers. Grows to the length of 30 inches.

## ANGUILLA AUSTRALIS.

Rich., Trans. Zool. Soc. iii, p. 157, & Voy. Erebus and Terror Fishes, p. 112, pl. 45, ff. 1-5; Jenyns, Voy. Beagle Fishes, p. 142; Bleek., Atl. Ichthyol. Muræn., p. 12, t. 7, f. 1; Günth., Cat. viii, p. 36; Macleay, Aust. Cat. ii, p. 203; Tenison-Woods, Fisheries of N. S. Wales, p. 88, pl. 39.

*Hab.*—Timor; New Zealand; Auckland Islands; Tasmania; rivers of the eastern watershed and coasts of Victoria and New South Wales. The *Australian eel*. A good fish for the table.

## CONGER LABIATUS.

Casteln., Proc. Linn. Soc. N. S. Wales iii, p. 396.

*Hab.*—Port Jackson. Grows to 3 feet in length.

## CONGROMURÆNA HABENATA.

*Congrus habenatus*, Rich., Voy. Erebus and Terror Fishes, p. 109, pl. 50, ff. 1-5.

*Congromuræna habenata*, Kaup, Apodes, p. 108, f. 72; Günth., Cat. viii, p. 42; Macleay, Aust. Cat. ii, p. 206.

? *Ophisoma habenata*, Kner, Voy. Novara Fische, p. 374, t. 13, f. 2.

*Hab.*—New Zealand; Melbourne, rare; a single specimen cast up on Bondi Beach, N. S. Wales. Length, 12.70 inches.

## MURÆNESOX CINEREUS.

*Muræna cinerea*, Forsk., Descr. Anim., pp. 10 and 22.

——— *bagio*, Haan, Buch., Fish. Ganges, pp. 24, 364.

*Ophisurus rostratus*, Quoy & Gaim., Voy. Freyc. Zool., p. 242, pl. 51, f. 1.

*Conger oxyrhynchus*, Byd. & Soul., Voy. Bonite i, p. 203, pl. ix, f. 2.

*Congrus tricuspidatus*, Rich., Voy. Sulphur Fishes, p. 105, pl. 51, f. 2, Ichthyol. China, p. 312, and Voy. Erebus and Terror Fishes, p. 110.

*Conger hamo*, Schleg., Faun. Japon. Poiss., p. 262, pl. 114, f. 2; Rich., Voy. Erebus and Terror Fishes, p. 111.

*Murænesox bagio*, Peters, Wieg. Arch. 1855, p. 270; Kaup, Apodes, p. 116, pl. xiv, f. 73; Bleek., Atl. Ichthyol. Muræn. iv, p. 24, t. 170, f. 2; Kner, Voy. Novara Fische, p. 372; Casteln. Proc. Linn. Soc. N. S. Wales ii, p. 244, and iii, p. 395.

——— *cinereus*, Günth., Cat. viii, p. 46; Day, Fishes of India, p. 662, pl. 168, f. 4; Macleay, Aust. Cat. ii, p. 206.

*Hab.*—From the Red Sea through those of India to Japan and Australia; Port Jackson; Hawkesbury River. *Silver Eel* of the colonists. Grows to the length of 3 feet.

## ? MYROPHIS AUSTRALIS.

Casteln., Proc. Linn. Soc. N. S. Wales iii, p. 396.

*Hab.*—Port Jackson. Length, 34 inches.

## MURÆNICHTHYS AUSTRALIS.

Macleay, Aust. Cat. ii, p. 208.

*Hab.*—Lane Cove, Port Jackson. Length, 10 inches.

## ? MURÆNICHTHYS GYMNOTUS.

*Murænicthys gymnotus*, Bleek, Act. Soc. Sc. Indo-Nederl. ii, Amboina, viii, p. 90, and Atl. Ichthyol. Muræn., p. 33, pl. 6, f. 3; Günth., Cat. viii, p. 53, and ? Voy. Challenger Shore Fishes, p. 30.

*Hab.*—Amboina; Port Jackson (Günther). Length of type, 6 inches.

## OPHICHTHYS SERPENS.

*Muræna serpens*, Linn., Syst. Nat. i, p. 425.

*Ophisurus serpens*, Lacép. ii, p. 198; Schleg., Faun. Japon. Poiss., p. 264, pl. 115, f. 1; Rich., Voy. Erebus and Terror Fishes, p. 106; Kaup, Apodes, p. 7.

*Leptorhynchus capensis*, Smith, Ill. Zool. S. Afr. Pisc., pl. 6.

*Ophichthys serpens*, Günth., Cat. viii, p. 65; Macleay, Aust. Cat. ii, p. 209.

*Ophisurus novæ-zealandiæ*, Hector, Trans. N. Zeal. Inst. 1870, ii, p. 34, pl. 3.

*Hab.*—Eastern Atlantic; Mediterranean; Japan; Australia; Lane Cove, Port Jackson (Macleay);

## MURÆNA UNDULATA.

*Murænophis undulata*, Lacép. v., pp. 629, 644.

*Muræna cinerascens*, Rüpp., Atl. Fische, p. 120; Günth., Cat. viii, p. 123.

——— *cancellata*, Rich., Voy. Erebus and Terror Fishes, p. 87, pl. 46, ff. 1-5.

——— *valenciennii*, Byd. & Soul., Voy. Bonite Poiss., p. 207, t. viii, f. 1.

*Gymnothorax cancellatus*, Bleek., Atl. Ichthyol. Muræn. iv, p. 93, tt. 176, f. 3, 177, f. 2, and 183, f. 1; Kner, Voy. Novara Fische, p. 384.

*Muræna undulata*, Günth., Cat. viii, p. 110; Day, Fishes of India, p. 671, pl. 171, f. 5 (*young*), and 173, f. 2 (*adult*); Macleay, Aust. Cat. ii, p. 213.

*Hab.*—Indian and Pacific Oceans; Port Jackson.

## MURÆNA AFRA.

*Gymnothorax afer*, Bloch, t. 417.

*Muræna lineopinnis & prasina*, Rich., Voy. Erebus and Terror Fishes, pp. 89, 93.

*Gymnothorax boschi & monochrous*, Bleek, Atl. Ichthyol. Muræn. iv, pp. 105, 106, tt. 190, f. 3, and 191, f. 2.

— *jacksoniensis*, Bleek, Verst. en Medel. Ak. Wet. Amst. 1863, xv, p. 450.

*Muræna afra*, Günth., Cat. viii, p. 123; Day, Fishes of India, p. 671; Steind. Denk. Ak. Wien xlv, p. 49; Macleay, Aust. Cat., p. 217.

*Hab.*—Tropical parts of the Atlantic and Indian Oceans; Australian coasts; Port Jackson, common. *Green Eel* of the Sydney Market. Grows to 30 inches long.

## MURÆNA PICTA.

Ahl, de Mur. et Ophich. in Thunb. Diss. iii, p. 6, t. 2, f. 2; Günth., Fish. Zanz., p. 126, & Cat. viii, p. 116, & Study of Fishes, f. 306; Day, Fishes of India, p. 672, pl. 172, f. 4; Macleay, Aust. Cat. ii, p. 215.

*Gymnothorax pictus*, Bl. Schn., p. 529; Bleek., Atl. Ichthyol. Muræn. iv, p. 87, tt. 170, ff. 3, 4, 172, f. 3, 173, f. 3 & 189, f. 3; Kner., Voy. Novara Fische, p. 384.

*Muræna variegata*, Quoy & Gaim., Voy. Uranic Zool., p. 246, t. lii, f. 1.

— *siderea*, Rich., Voy. Erebus and Terror Fishes, p. 84, pl. 48, ff. 1-5; Casteln, Proc. Linn. Soc. N. S. Wales iii, p. 396; Macleay, op. cit. vii, p. 594.

*Hab.*—Indian and Pacific Oceans; Australian coasts; Port Jackson. Grows to 30 inches in length.

## MURÆNA NEBULOSA.

Ahl, de Mur. et Ophich., p. 5, t. 1, f. 2; Günth., Cat. viii, p. 130; Day, Fishes of India, p. 673, pl. 172, f. 2; Macleay, Aust. Cat. ii, p. 218.

*Echidna variegata*, Forst., Descr. Anim. ed Licht., p. 181; Bleek., Atl. Ichthyol. Muræn. iv, p. 80, t. 168, f. 2.

*Muræna ophis*, Rüpp., Atl. Fische, p. 116, t. 29, f. 2; Rich., Voy. Erebus and Terror Fishes, p. 93.

— *variegata*, Rich., l.c., p. 94, pl. 47, ff. 11-16.

*Hab.*—Indian and Pacific Oceans; Torres Straits (Macleay); Port Jackson (Krefft). Attains to a length of 5 feet.

## LOPHOBRANCHII.

## SYNGNATHIDÆ.

## SYNGNATHINA.

## SYNGNATHIUS MARGARETIFER.

Peters, Monatsber. Ak. Wiss. Berlin 1868, p. 457; Günth., Cat. viii, p. 171; Macleay, Aust. Cat. ii, p. 225.

*Hab.*—Port Jackson.

## SYNGNATHUS TIGRIS.

Casteln., Proc. Linn. Soc. N. S. Wales iii, p. 397.

*Hab.*—Port Jackson. Length, 12 inches.

## SYNGNATHUS CINCTUS.

Ramsay, Proc. Linn. Soc. N. S. Wales vii, p. 111.

*Hab.*—Port Jackson.

## SYNGNATHUS SUPEROLIARIS.

Günth., Voy. Challenger Shore Fishes, p. 30; Macleay, Aust. Cat. App., p. 60.

*Hab.*—Port Jackson. Length, 6.75 inches.

## NANNOCAMPUS RUBER.

Ramsay and Ogilby, Proc. Linn. Soc. N. S. Wales x, (*in press.*)

*Hab.*—Port Jackson.

## UROCAMPUS CABINIROSTRIS.

Casteln., Proc. Zool. Soc. Vict. 1872, i, p. 200; Macleay, Aust. Cat. ii, p. 230.

*Urocampus cælorhynchus*, Günth., Fische d. Sudsee 1873, ii, p. 103, and Voy. Challenger Shore Fishes, p. 30.

*Hab.*—Port Phillip (Castelnau); Port Jackson (Günther). Length, 3.50 inches.

## STIGMATOPHORA ARGUS.

*Syngnathus argus*, Rich., Proc. Zool. Soc. 1840, p. 29, and Trans. Zool. Soc. iii, p. 183, pl. 7, f. 2.

*Stigmatophora argus*, Kaup, Lophobr., p. 53; Günth., Cat. viii, p. 189; Macleay, Aust. Cat. ii, p. 233.

*Hab.*—New Guinea; Tasmania; Port Jackson, common. Length, up to 7 inches.

## STIGMATOPHORA NIGRA.

Kaup, Lophobr., p. 53; Günth., Cat. viii, p. 190; Macleay, Aust. Cat. ii, p. 233.

*Hab.*—Port Phillip; Port Jackson. Length, up to 5 inches.

## HIPPOCAMPINA.

## SOLENOGNATHUS SPINOSISSIMUS.

Günth., Cat. viii, p. 195; Macleay, Aust. Cat. ii, p. 237.

*Hab.*—Tasmania; Port Jackson (Aust. Mus.) Length 15 inches.

## SOLENOGNATHUS FASCIATUS.

Günth., Voy. Challenger Shore Fishes, p. 30, pl. 14, f. B; Macleay, Aust. Cat. App., p. 61.

*Hab.*—Twofold Bay, 120 fathoms. Length 12 inches.

## PHYLLOPTERYX

## PHYLLOPTERYX FOLIATUS.

*Syngnathus foliatus*, Shaw, Gen. Zool. v, p. 456, pl. 180.

*Phyllopteryx foliatus*, Kaup, Lophobr., p. 21; Günth., Proc. Zool. Soc. 1865, p. 327, pl. 14, and Cat. viii, p. 196; M'Coy, Prodr. Zool. Vict. dec. vii, pl. 65, f. 1; Macleay, Aust. Cat. ii, p. 237.

*Hab.*—Tasmania; South coast of Australia; Port Jackson. Length up to 14 inches.

## HIPPOCAMPUS NOVE-HOLLANDIÆ.

Steind., Sitzgsber. Ak. Wiss. Wien 1866, liii, p. 474, t. 1, f. 2; Günth., Cat. viii, p. 201; Macleay, Aust. Cat. ii, p. 241.

*Hab.*—South coast of Australia; Port Jackson, common. *Long-snouted Sea-horse*. Length up to 4.50 inches.

## HIPPOCAMPUS BREVICEPS.

Peters, Monatsber. Ak. Wiss. Berlin 1869, p. 710; Günth., Cat. viii, p. 200; Macleay, Aust. Cat. ii, p. 241.

*Hab.*—Tasmania; South coast of Australia; Port Jackson. *Short-snouted Sea-horse*. Length up to 3 inches.

## PLECTOGNATHI.

## SCLERODERMI.

## BALISTINA.

## BALISTES MACULATUS.

Linn. Gmel. i, p. 1468; Bloch, t. 151; Bleek, Atl. Ichthyol. v, p. 122, t. 218, f. 4; Kner, Voy. Novara Fische, p. 401; Günth., Cat. viii, p. 213; Day, Fishes of India, p. 687, pl. 176, f. 3, & Brit. Fishes ii, p. 268, pl. 146.

*Balistes ocellatus*, Gray & Hardw., Ill. Ind. Zool.; Bleek., Atl. Ichthyol. v, p. 121, t. 218, f. 2.

*Hab.*—Tropical and sub-tropical regions of the Atlantic and Indian Oceans, extending into the Pacific; Sydney, (Kner). *Spotted Filefish*. Grows to the length of 16 inches.

## BALISTES VIDUA.

Rich., Voy. Sulphur Fishes, p. 128, pl. 59, ff. 9, 10; Günth., Cat. viii, p. 216.

*Melichthys vidua*, Bleek., Atl. Ichthyol. v, p. 109, t. 217, f. 2.

*Hab.*—Indian Archipelago and Pacific; Port Jackson (Aust. Mus.) Mr. Ramsay thinks that there are grave doubts as to the authenticity of the locality assigned to this specimen, as it is said to have been presented by Mr. J. Macgillivray, all of whose fishes came from the South Sea Islands.

Quoy & Gaimard (Voy. Uranie Poiss., p. 209) describe a *Balistes jacksonianus* from Sydney, but the species has not been recognized since; nevertheless Count Castelnau includes it in his catalogue of Port Jackson fishes without any comment (Proc. Linn. Soc. N. S. Wales iii, p. 356).

## MONACANTHUS HIPPOCREPIS.

*Balistes hippocrepis*, Quoy & Gaim., Voy. Uranie Poiss., p. 212.

*Aleuterius variabilis*, Rich., Voy. Erebus & Terror Fishes, p. 67, pl. 53, f. 1—7.

*Monacanthus hippocrepis*, Holl., Ann. Sc. Nat. 1854, ii, p. 338; Steind., Sitzgsber. Ak. Wiss. Wien 1868, lvii, p. 1002; Günth. Cat. viii, p. 246; Casteln., Proc. Linn. Soc. N. S. Wales iii, p. 399.

*Hab.*—South Australia; New South Wales coast, common. Length up to 17 inches.

## MONACANTHUS CONVEXIROSTRIS.

Günth., Cat. viii, p. 248; Macleay, Aust. Cat. ii, p. 248.

*Hab.*—New Zealand; Tasmania; Port Jackson. Length 10 inches.

## MONACANTHUS TRACHYLEPIS.

Günth., Cat. viii, p. 248; Macleay, Aust. Cat. ii, p. 249; Klunz., S.B. Ak. Wien lxxx, Abth. i, p. 422.

*Hab.*—Broken Bay; Port Jackson. Length 14 inches.

## MONACANTHUS GUENTHERI.

Macleay, Aust. Cat. ii, p. 250.

*Monacanthus peronii*, Günth., Cat. viii, p. 249.

*Hab.*—Tasmania; South coast of Australia; Port Jackson. Length 10 inches.

## MONACANTHUS SPILOMELANURUS.

*Balistes spilomelanurus*, Quoy & Gaim., Voy. Uranie Poiss., p. 217.

*Aleuterius paragaudatus*, Rich., Voy. Erebus & Terror Fishes, p. 66, pl. 39, ff. 1—4; Holl., Ann. Sc. Nat. 1854, ii, p. 357.

*Monacanthus spilomelanurus*, Günth., Cat. viii, p. 250; Macleay, Aust. Cat. ii, p. 251.

*Hab.*—South and west coasts of Australia; Tasmania; New South Wales. Length 8 inches.

## MONACANTHUS MACULOSUS.

*Aleuterius maculosus*, Rich., Proc. Zool. Soc. 1840, and Trans. Zool. Soc. iii, p. 170, and Voy. Erebus & Terror Fishes, p. 67, pl. 39, ff. 5—7; Hollard, Ann. Sc. Nat. 1854, ii, p. 359.

*Monacanthus maculosus*, Macleay, Aust. Cat. ii, p. 252.

*Hab.*—Tasmania; New South Wales; Port Jackson (Macleay). Length 5 inches.

## MONACANTHUS CASTELNAU.

Macleay, Aust. Cat. ii, p. 252.

*Monacanthus peronii*, Casteln., Proc. Linn. Soc. N. S. Wales iii, p. 398.

*Hab.*—Port Jackson.

## MONACANTHUS FREYCINETI.

- Balistes freycineti*, Cuv. in Quoy & Gaim., Voy. Uranie Poiss., p. 213.  
*Monacanthus freycineti*, Holl., Ann. Sc. Nat. 1854, ii, p. 336, pl. 12, f. 3.  
*Hab.*—New South Wales (Macleay).

## MONACANTHUS MOSAICUS.

- Ramsay and Ogilby, Proc. Linn. Soc. N. S. Wales xi, (*in press*).  
*Hab.*—Port Jackson. Largest specimen 4 $\frac{3}{4}$  inches.

## MONACANTHUS PRASINUS.

- Casteln., Proc. Zool. Soc. Vict. i, p. 205, & Proc. Linn. Soc. N. S. Wales iii, p. 400; Macleay, Aust. Cat. ii, p. 254.  
*Hab.*—Port Phillip; Port Jackson. Length 2.50 inches.

## MONACANTHUS MARGARITIFER.

- Casteln., Proc. Linn. Soc. N. S. Wales ii, p. 80; Macleay, Aust. Cat. ii, p. 256.  
*Hab.*—West and south coasts of Australia; Port Jackson. Length 6 inches.

## MONACANTHUS CHINENSIS.

- Balistes chinensis*, Bloch, ii, p. 29, pl. 52, f. 1.  
*Monacanthus chinensis*, Cuv., Règ. Anim.; Bleek., Atl. Ichthyol. v, p. 125, pl. 222, f. 2; Günth., Cat. viii, p. 236; Kner, Voy. Novara Fische, p. 395; Steind., Sitzgsber. Ak. Wiss. Wien 1866, liii, p. 476; Macleay, Aust. Cat. ii, p. 358.  
 ——— *geographicus*, Cuv., Règ. Anim.; Casteln., Res. Fishes Aust., p. 50.  
*Hab.*—From China to the north coast of Australia; Sydney, (Kner). Length 9 inches.

## MONACANTHUS MEGALURUS.

- Rich., Ic. Pisc., p. 5, pl. 1, f. 3; Günth., Cat. viii, p. 237; Casteln., Proc. Linn. Soc. N. S. Wales iii, p. 398; Macleay, op. cit. vii, p. 596, and Aust. Cat. ii, p. 259.  
*Monacanthus chinensis*, Rich., Voy. Erebus and Terror Fishes, p. 64, pl. 40, ff. 3, 4; Holland, Ann. Sc. Nat. 1854, ii, p. 346.  
*Hab.*—Australian seas; Port Jackson, abundant. Length, 12 inches.

## MONACANTHUS TOMENTOSUS.

- Balistes tomentosus*, Linn., Syst. Nat. i, p. 405.  
*Monacanthus tomentosus*, Cuv., Règ. Anim.; Bleek., Atl. Ichthyol. v, p. 127, tt. 220, f. 1, and 229, f. 1; Günth., Cat. viii, p. 238; Macleay, Aust. Cat. ii, p. 259.  
*Hab.*—Endeavour River (Macleay); Port Jackson (Kreffit). Length, 5 inches.

## MONACANTHUS SULCATUS.

- Holl., Ann. Sc. Nat. 1854, ii, p. 363, pl. 14, f. 3 (*not good*); Günth., Cat. viii, p. 239; Macleay, Aust. Cat. ii, p. 260.  
*Monacanthus isogramma*, Bleek., Atl. Ichthyol. v, p. 123, pl. 222, f. 1.  
*Hab.*—From the Chinese to the Australian seas; east coast (Kreffit). Length, 3.50 inches.

## MONACANTHUS GRANULATUS.

- Balistes granulatus*, White, Voy. N. S. Wales, p. 295, pl. (p. 254), f. 2.  
*Monacanthus granulatus*, Rich., Voy. Erebus and Terror Fishes, p. 63, pl. 40, ff. 1, 2 (*not good*); Steind., Sitzgsber., Ak. Wiss. Wien 1866, liii, p. 476; Casteln., Proc. Linn. Soc. N. S. Wales iii, p. 398; Macleay, Aust. Cat. ii, p. 260.  
 ——— *granulosus*, Günth., Cat. viii, p. 243.  
*Hab.*—Coast of New South Wales; Port Jackson, common. Length, 9 inches.

## MONACANTHUS RUDIS.

- Rich., Trans. Zool. Soc. iii, p. 166, and Voy. Erebus and Terror Fishes, p. 65, pl. 40, ff. 7, 8; Günth., Cat. viii, p. 244; Casteln., Proc. Linn. Soc. N. S. Wales iii, p. 399; Macleay, Aust. Cat. ii, p. 261.  
*Hab.*—Tasmania; Port Jackson. Length, 10 inches.

## MONACANTHUS AYRAUDI.

- Balistes ayraudi*, Quoy & Gaim., Voy. Uranie Poiss., p. 216, pl. 47, f. 2.  
*Aluterus volutinus*, Jenyns, Voy. Beagle Fishes, p. 157.  
*Monacanthus vittatus* (Solander), Rich., Voy. Erebus and Terror Fishes, p. 66; Steind., Sitzgsber. Ak. Wiss. Wien 1866, liii, p. 476, and 1867, lvi, p. 335.  
 ——— *frauenfeldii*, Kner, Voy. Novara Fische, p. 397.  
 ——— *ayraudi*, Günth., Cat. viii, p. 244; Casteln., Proc. Linn. Soc. N. S. Wales iii, p. 397; Macleay, Aust. Cat. ii, p. 262; Tenison-Woods, Fisheries of N. S. Wales, p. 89, pl. 40.  
*Hab.*—Australian coasts; Port Jackson, common. The *Leather-jacket*. Attains the length of 18 inches. An excellent food-fish, though but little eaten through prejudice against its looks.

## MONACANTHUS PENICILLIGERUS.

- Cuv., Règ. Anim.; Holl., Ann. Sc. Nat. 1854, ii, p. 350, pl. 13, f. 2; Günth., Cat. viii, p. 245; Macleay, Aust. Cat. ii, p. 263.  
*Monacanthus spinosissimus*, Quoy & Gaim., Voy. Uranie Poiss., p. 211, pl. 45, ff. 3-8.  
*Chatodermis penicilligerus*, Bleek., Atl. Ichthyol. v, p. 129, pl. 221, f. 3.  
*Hab.*—Malay Archipelago; north and east coasts of Australia; Port Jackson (Kreffit). Length, 10 inches.

## MONACANTHUS TROSSULUS.

*Aleuterius trossulus*, Rich., Voy. Erebus and Terror Fishes, p. 68, pl. 40, ff. 5, 6; Holl., Ann. Sc. Nat. 1855, iv, p. 6, pl. 1, f. 1.

*Monacanthus trossulus*, Günth., Cat. viii, p. 234; Macleay, Aust. Cat. ii, p. 264.

*Hab.*—West Australia; Victoria; Port Jackson, common. Length, 3 inches.

## MONACANTHUS OCULATUS.

Günth., Cat. viii, p. 235; Macleay, Aust. Cat. ii, p. 265.

*Hab.*—South Australia; Port Jackson. Length, 1.50 in.

## MONACANTHUS MACULICAUDA.

*Monacanthus macrurus*, Macleay, Aust. Cat. ii, p. 266.

*Hab.*—Port Jackson. Length, 7 inches. The name *macrurus* is preoccupied by Bleeker for a *Monacanthus* from the Malay Archipelago, and I have therefore substituted a name which has reference to the distinctive tail-markings of the species.

## OSTRACIONTINA.

## OSTRACION CONCATENATUS.

Bloch, t. 131; Holl., Ann. Sc. Nat. 1857, vii, p. 155; Günth., Cat. viii, p. 259; Macleay, Aust. Cat. ii, p. 268.

*Ostracion bicuspis*, Smith, Ill. Zool. S. Afr. Pisc., pl. 18.

*Hab.*—Cape seas; Chinese seas; Port Jackson, common. Length, 10 inches.

## OSTRACION DIAPHANUS.

Bloch Schn., p. 501; Holl., Ann. Sc. Nat. 1857, vii, p. 157; Günth., Cat. viii, p. 264; Macleay, Aust. Cat. ii, p. 269.

*Ostracion brevicornis*, Schleg., Faun. Japon. Poiss., p. 297, t. 130, f. 3.

*Acanthostracion cornutus*, Bleek., Atl. Ichthyol. Ostrac., p. 33, tt. 2, f. 2, and 4, f. 3.

*Hab.*—From the Cape seas to Japan and Australia; Port Jackson. Length, 8.50 in.

## OSTRACION CORNUTUS.

Linn. Syst. Nat. i, p. 409; Bloch, t. 133; Schleg., Faun. Japon. Poiss., p. 299, t. 131, f. 4; Bleek., Atl. Ichthyol. v, p. 33, t. 202, f. 2 (*young*), and t. 204, f. 3 (*adult*); Holl., Ann. Sc. Nat. 1857, vii, p. 158; Günth., Cat. viii, p. 265; Day, Fishes of India, p. 697, pl. 176, f. 4; Macleay, Aust. Cat. ii, p. 270.

*Ostracion arcus*, Bl. Schn., p. 502; Bleek., Atl. Ichthyol. v, p. 35, t. 202, f. 3 (*adult*) and t. 204, f. 4 (*young*).

*Hab.*—Indian Ocean and Archipelago to Micronesia; north and east coasts of Australia; Port Jackson. Length 14 inches.

## OSTRACION LENTICULARIS.

Rich., Proc. Zool. Soc. 1841, p. 21, and Trans. Zool. Soc. iii, p. 158; Casteln., Proc. Linn. Soc. N. S. Wales iii, p. 400; Macleay, Aust. Cat. ii, p. 271.

*Aracana lenticularis*, Günth., Cat. viii, p. 268.

*Hab.*—South coast of Australia; Port Jackson, common. Length, 12 inches.

## GYMNODONTES.

## TETRODONTINA.

## TETRODON LAEVIGATUS.

Linn., Syst. Nat. i, p. 411; Günth., Cat. viii, p. 274; Macleay, Aust. Cat. ii, p. 272, and Proc. Linn. Soc. N. S. Wales viii, p. 211.

? *Tetrodon inermis*, Schleg., Faun. Japon. Poiss., p. 278, pl. 122, f. 2.

*Hab.*—Atlantic coasts of Tropical America; Japan; Australia; Port Jackson. Length to 18 inches.

## TETRODON SCELERATUS.

(Forst.) Linn. Gmel. i, p. 1444; Günth., Cat. viii, p. 276; Day, Fishes of India, p. 701; All. & Maccl., Proc. Linn. Soc. N. S. Wales i, p. 357; Macleay, op. cit. viii, p. 280, and Aust. Cat. ii, p. 273.

*Tetrodon argenteus*, Lacép., Ann. Mus. d'Hist. Nat. 1804, iv, p. 211, t. 58, f. 2; Schleg., Faun. Japon. Poiss., p. 275, t. 121, f. 2; Bleek., Atl. Ichthyol. v, p. 64, t. 209, f. 1.

*Tetraodon bicolor*, Brev., Not. Japan. Fish., p. 283.

*Hab.*—East coast of Africa to Japan and Polynesia; S. Australia; Port Jackson (Aust. Mus.) Length up to 30 inches.

## TETRODON HYPSELOGENION.

*Tetraodon honckenii*, Rüpp., Atl. Fische, p. 65, t. 17, f. 2 (*not Bloch*).

——— *hypselogenion*, Bleek., Atl. Ichthyol. v, p. 61, t. 213, f. 5; Günth., Cat. viii, p. 277; Day, Fishes of India, p. 702, pl. 183, f. 5; Macleay, Aust. Cat. ii, p. 273.

*Hab.*—From the east coast of Africa to the Malay Archipelago and Australia; Fiji Islands; Port Jackson, common. Length 6 inches.

## TETRODON HAMILTONII.

Rich., Voy. Erebus & Terror Fishes, p. 63, pl. 39, ff. 10, 11; Günth., Cat. viii, p. 280; Kner., Voy. Novara Fische, p. 409; Macleay, Aust. Cat. ii, p. 274; Tenison-Woods, Fisheries of N. S. Wales, p. 90.

*Hab.*—Port Jackson. *Toado* of Sydney Fishermen. Length 5.50 inches.

## TETRODON RICHEL.

Freminv., Nouv. Bull. Philom. ii, p. 250, pl. 4, f. 2; Bleek., Atl. Ichthyol. Gymnod., p. 61, pl. 9, f. 3; Günth., Cat. viii, p. 285; Kner, Voy. Novara Fische, p. 407; Macleay, Aust. Cat. ii, p. 275.

*Hab.*—New Zealand; Tasmania; South Australia; Sydney (Kner). Length, 11 inches.

TETRODON

## TETRODON IMMACULATUS.

- Bl. Schn., p. 507; Günth., Cat. viii, p. 291; Day, Fishes of India, p. 703, pl. 183, f. 4.  
*Crayracion immaculatus*, Bleek., Atl. Ichthyol. Gymnod., p. 75, t. 7, f. 1.  
*Tetrodon virgatus*, Rich., Voy. Erebus & Terror Fishes, p. 62, pl. 39, ff. 8, 9, and Voy. Herald Zool. p. 163, pl. 28, ff. 6-8; All. & Macl., Proc. Linn. Soc. N. S. Wales i, p. 356; Macleay, Aust. Cat. ii, p. 275.  
*Hab.*—From the Red Sea to Australia and Polynesia; Port Jackson. Length 12 inches.

## TETRODON HISPIDUS.

- Lacép. i, p. 487, t. 24, f. 2; Rich., Voy. Samarang Fishes, p. 17, pl. 9, ff. 3, 4; Günth., Cat. viii, p. 297; Day, Fishes of India, p. 706, pl. 183, f. 2; Macleay, Aust. Cat. ii, p. 277.  
*Tetrodon laterna*, Rich., Voy. Sulphur Zool., p. 124, pl. 61, f. 2, and Ichthyol. China, p. 199; Günth., Fish. Zanz., p. 131.  
*Crayracion implutus*, Bleek., Atl. Ichthyol. Gymnod., p. 71.  
 ——— *laterna*, Bleek., l. c., t. 1, f. 3.  
*Hab.*—From the Red Sea through the Indian and Malayan Seas to Australia; Port Jackson. Length 20 inches.

## TETRODON FIRMAMENTUM.

- Schleg., Faun. Japon. Poiss., p. 280, pl. 126, f. 2; Günth., Cat. viii, p. 299; Macleay, Aust. Cat. ii, p. 277.  
*Hab.*—Japan; Port Jackson (Macleay). Length 12 inches.

## TETRODON STELLATUS.

- Bl. Schn., p. 503; Günth., Cat. viii, p. 294.  
*Tetrodon lineatus*, Schleg., Faun. Japon. Poiss., p. 287, pl. 125, f. 2; Kner., Voy. Novara Fische, p. 409; Macleay, Aust. Cat. ii, p. 278.  
*Crayracion stellatus*, Bleek., Atl. Ichthyol. Gymnod., p. 73, t. 5, f. 2.  
 ——— *lineatus*, Bleek., l. c., p. 70, pls. 2, f. 1, and 8, f. 1.  
 ——— *astrotania*, Bleek., l. c., p. 69, pl. 10, f. 2.  
*Hab.*—Indian and Pacific Oceans; Port Jackson. Length, 2 feet.

## TETRODON ERYTHROLÆNIA.

- Bleek., Nat. Tyds. Ned. Ind. v, p. 174; Günth., Cat. viii, p. 298; Kner, Voy. Novara Fische, p. 408.  
*Crayracion erythrolænia*, Bleek., Atl. Ichthyol. Gymnod., p. 68, pl. 10, f. 4.  
*Hab.*—Rivers of Celebes and Amboina; Sydney (Kner).

## TETRODON AMABILIS.

- Casteln., Proc. Linn. Soc. N. S. Wales iii, p. 401.  
*Hab.*—Port Jackson. Length, 4.50 inches.

## DIDON HYSTRIX.

- Linn., Syst. Nat. i, p. 413; Günth., Cat. viii, p. 306; Day, Fishes of India, p. 708, pl. 179, f. 4; Macleay, Aust. Cat. ii, p. 279, and Proc. Linn. Soc. N. S. Wales viii, p. 280.  
*Hab.*—Tropical seas; Port Jackson (Castelnau). Length to 28 inches.

## DIDON MACULATUS.

- Didon novem-maculatus*, Cuv., Mem. Mus. Hist. Nat. iv, p. 136; Casteln., Proc. Linn. Soc. N. S. Wales iii, p. 401.  
 ——— *sex-maculatus*, Cuv., l. c., p. 136.  
 ——— *multi-maculatus*, Cuv., l. c., p. 136.  
 ——— *quadri-maculatus*, Cuv., l. c., p. 137.  
*Paradidon novem-maculatus*, Bleek., Atl. Ichthyol. Gymnod., p. 57, pl. 2, f. 3.  
 ——— *quadri-maculatus*, Bleek., l. c., p. 58, pl. 8, f. 2.  
*Didon maculatus*, Günth., Cat. viii, p. 307.  
*Atopomycterus bocagei*, Steind., Sitzgsber. Ak. Wiss. Wien 1866, liii, p. 477, pl. 6, f. 3.  
*Hab.*—Tropical seas; Port Jackson (Castelnau). Length, 1 foot.

## DICOTYLICHTHYS PUNCTULATUS.

- Kaup, Wieg. Arch. 1855, p. 230; Günth., Cat. viii, p. 315; Macleay, Aust. Cat. ii, p. 282.  
*Hab.*—Cape seas; Australia; coast of New South Wales, common. *Porcupine-fish*. Length, 12 inches.

## MOLINA.

## ORTHAGORISCUS MOLA.

- Tetrodon mola*, Linn., Syst. Nat. i, p. 412.  
*Orthagoriscus mola*, Bl. Schn., p. 519; Schleg., Faun. Japon. Poiss., p. 288, t. 127; Günth., Cat. viii, p. 317; Day, Brit. Fishes ii, p. 272, pl. 148.  
*Ostracion boops*, Rich., Voy. Erebus and Terror Fishes, p. 52, pl. 30, ff. 18-21; Günth., Cat. viii, p. 268 (*young*).  
*Orthagoriscus* (on the young of), Lütken, Ann. Nat. Hist. 1871, (4) viii, p. 320.  
*Hab.*—Temperate and tropical seas; Port Jackson; Port Stephens. *Sun-fish*. Length, 10 feet; height, 14 feet.

## LEPTOCARDII.

## CIRROSTOMI.

## BRANCHIOSTOMA BASSANUM.

- Günth., Voy. Alert Zool., p. 33.  
*Hab.*—Bass's Straits; Port Jackson (Aust. Mus.)

## APPENDIX B.

## COLONIAL AND INDIAN EXHIBITION, 1886.

CLASS III.—*Natural History Specimens.*

COMMISSIONERS FOR NEW SOUTH WALES FISHERIES, Sydney.—Edible Mollusca, Oysters.

(*Ostrea glomerata*, *O. virescens*, *O. subtrigona*, Sow., *O. mordax*, Gld., *O. edulis*, var. *purpurea*, Hanley.) A LARGE collection of oysters, in numerous varieties, and from beds in different localities. Most of these are natural beds, very few of them formed by artificial layings; all are under lease, and more or less under cultivation.

Owing to the supply of oysters, both on deep water-beds and on foreshores of the tidal waters of the Colony, having been either exhausted or greatly impaired by over-dredging or other causes, and with a view to afford extra encouragement to oyster-culture, it was found necessary to amend the Fisheries Act of 1881. Accordingly, in July, 1884, the Legislature passed an Act for the amendment of the Fisheries Act, 1881, the promotion of oyster-culture, and the regulation of oyster fisheries, known as the "Oyster Fisheries Act, 1884," the following short *resumé* of which may prove of interest:—Under the Act areas having a foreshore frontage of 2,000 lineal yards or under may be leased for oyster-culture for any term not exceeding fifteen years, at an annual rental of £1 for every 100 yards or part thereof. All oysters within the limits of any such leased area are the absolute property of the lessee, but are subject, when lifted, to a royalty of 3s. per bag (containing not more than three bushels). Oysters on Crown Lands or on any public oyster reserve are the property of the Crown.

Heavy penalties are inflicted under the Act for oyster-stealing from leased areas or from Crown Lands; also for burning live oysters anywhere for the purpose of converting the shells into lime.

The Act provides for inspectorial supervision of leased areas, so that should it be reported by an Inspector that a lessee is so stripping his leased area of oysters, or otherwise mismanaging it, as to threaten its destruction as an oyster-bearing area, the Governor may, on the recommendation of the Commissioners, declare the lease of such lessee to be forfeited.

Provision is also made for the closing of oyster-beds on Crown Lands for any term not exceeding three years.

Any lease may be renewed from time to time, on the application of the lessee during the twelfth year, if the Commissioners report that the area leased is fairly stocked with oysters, and has been properly worked in accordance with conditions of the lease and the regulations.

Liberal provision is made for leaseholders for oyster-culture to gather spat, brood, and ware of oysters from public oyster reserves or from Crown Lands for the purpose of stocking their leased areas.

No oyster which can be passed through a metal ring having a clear inside diameter of  $1\frac{1}{2}$  inch are marketable. Any person exposing any such for sale is liable to a fine.

The Act contains numerous other clauses and regulations, framed with a view of affording the utmost encouragement and protection to all engaged in oyster-culture; and as instancing the increasing attention that is being paid to this industry, the following statistics are given:—Up to the 31st December, 1885, 1,400 applications to lease areas for oyster-culture had been lodged with the Commissioners of Fisheries, the total foreshore frontage of these areas being close on 500 miles. 550 applications for areas, representing a total foreshore frontage of about 160 miles, had, on the recommendation of the Commissioners, been approved by the Governor, and the leases issued. About 300 applications for areas, representing a total foreshore frontage of about 200 miles, were disallowed by the Commissioners on the ground of those areas having been either previously applied for or set apart for public oyster reserves, hauling-grounds for fishing-nets, or for other public purposes. The remaining number of applications are being speedily dealt with.

Large public oyster reserves have been proclaimed, including all the foreshores of Port Jackson, all the foreshores at George's River, facing the National Park, and numerous areas in other districts along the coast.

The following collection from 100 different beds and localities is exhibited, to show the numerous forms which our *Ostrea glomerata* assumes in various places, and the great wealth which it is hoped will be developed under the present legislation and administration, and by the proper cultivation of the oyster-beds in New South Wales.

Recent experiments tend to prove that the so-called rock-oyster of our shores, which is left dry by every tide, is only a variety of the drift-oyster, and when taken from the rocks at low tides and laid in beds always covered by the sea they thrive well; and although oysters may thrive on natural beds of mud and sand, whenever these beds are over-dredged the animals become diseased by the infiltration of the mud into the shell. Steamer traffic over the shallow-water beds of the Hunter River, formerly so prolific, has almost completely destroyed them. The black mud stirred up by the steamer traffic has infiltrated into the shell; the oyster, unable to get rid of it, has deposited a layer of nacre over it, inside which a worm breeds and eventually kills the animal. So bad is it that one of the largest leaseholders on the river contemplates throwing up all his areas, and the Commissioners have under consideration the closing of the whole river against oyster-dredging, with the view to make an attempt to cleanse the beds. It is thought that this might be successfully done in the event of a very heavy and prolonged flood occurring on the river. That natural oyster-beds can and are, in fact, being destroyed daily by over-dredging, and by traffic when situated in shallow waters, in other countries, as well as in Australia, must be patent to any one who has taken the trouble personally to examine into the subject. It is also clear from the numerous specimens exhibited from our waters that the depth up to 10 or 15 feet is not material, although the best oysters are obtained from the shallowest beds, and are grown on a rough, shelly, gravelly, or stony bottom. The most highly prized in New South Wales are those from the rocks or beds where the fresh and salt water mingles at certain seasons of the year—for instance, at the estuaries of the river and vicinity of fresh-water creeks. It may prove interesting to learn that, from the personal observation of many persons experienced in oyster-culture here, it has been ascertained that there is no fixed season at which the oyster in New South Wales appears to spawn. They spawn at different seasons in nearly every district, the time being apparently greatly affected by the temperature of the water; indeed it is said that in some districts they spawn twice a year.

The

The value of oysters in Sydney is from 4s. to 10s. per bushel, and they are retailed at from 6d. to 1s. per dozen. The Melbourne market is largely supplied from New South Wales, the very best oysters bringing as high as from £2 10s. to £4 the 3-bushel bag in Melbourne.

Further information on this subject may be gained from the reports of the Royal Commission on the Oyster Fisheries of New South Wales, 1877, 1880, &c., and the "Proceedings of the Linnean Society of New South Wales" for the last few years (1881 to 1884), where several interesting papers will be found on the subject by Dr. J. C. Cox, M.D., F.L.S., the Rev. J. E. Tennison-Woods, F.L.S., Mr. John Brazier, C.M.Z.S., and Mr. E. P. Ramsay's Report, in Exhibition Catalogue of International Fisheries, London, 1883.

#### *Hunter River Oysters.*

1. From Mosquito Channel; taken off the foreshore; hard mud bottom; dry at low tide.
2. From Mosquito Channel; growing on cobbler's pegs and mangroves; dry at low tide.
3. From F. T. Gibbon's Bed, Mosquito Channel; 100 yards long, 4 to 8 yards wide; hard mud bottom; part becomes dry at low water.
4. From Andralaki's Bed, Mosquito Channel; 50 yards long, 4 to 8 yards wide; stiff mud bottom; depth of water, from 1 to 10 feet.
5. Rock Oysters growing on stones laid along the bank of Mosquito Channel.
6. Rock Oysters from the main channel.
7. From Eastern Spectacle Island, Sandy Island, and Goat Island. Taken off the foreshore; bottom, mud, sand, and shells; part becomes dry at low water.
8. Rock Oysters, growing on ballast stones discharged from a ship at the Bluff Head.
9. Rock Oysters from Spit Island.
10. From F. J. Gibbon's Bed, Spit Island; 60 yards long, 4 to 8 yards wide; soft mud bottom; depth of water, 1 to 5 feet.

#### *Hawkesbury River Oysters.*

11. From Browera Creek. Natural Dredge Oysters; length of bed, 10 miles, about 10 yards wide from low-water mark; depth of water, 5 to 12 feet; bottom, shelly and rocky.
12. From Browera Creek. Rock Oysters; dry at low tide.
13. From Mooney Mooney Creek. Rock Oysters; dry at low tide.
14. From Mooney Mooney Creek. Cultivated Rock Oysters. These were laid down about ten months ago on a shelly bottom in 1 foot of water at low tide; about three months old when laid down.
15. From Mooney Mooney Creek. Cultivated Rock Oysters. These were laid down about ten months ago on an artificial wooden bottom, in the middle of a very soft mud flat; completely dry at low tide.
16. From Mooney Mooney Creek. The very best large Rock Oysters; found along a rocky foreshore several miles long; about 10 yards wide, and the greater part dry at low tide. These are very scarce, and bring the highest price in the market when obtainable.

#### *Port Stephens Oysters.*

17. Rock Oysters from the Reserve at North Arm; dry at low tide. These could be greatly improved by being laid in deeper water.
18. From Bundobah Creek, North Arm; growing on patches of hard ground and roots of mangroves; dry at low tide.
19. Rock Oysters from Farm Cove; dry at low tide.
20. Rock Oysters from Barom Point Reef, North Arm. A rocky spit, running about 100 yards seawards; dry at low tide.
21. From Karuah River. Dredged off "Joass' Bed"; 50 yards long, 10 yards wide; depth of water, 4 to 6 feet; bottom, hard shell.
22. From Karnah River. Dredged off "Engel's Bed"; 100 yards long, 20 yards wide; depth of water, 6 to 8 feet; bottom, soft pipeclay and mud.
23. From Karuah River. Dredged from Griffen's Bed"; 30 yards long, 10 yards wide; 2 to 14 feet water; bottom, shells and stones.
24. From Serpent River. Dredged from "Engel's Bed"; 300 yards long, 13 yards wide; depth of water, 3 to 18 feet; bottom, pebbles and shells.

#### *Cape Hawke Oysters*

25. Rock Oysters from Coomba, at the entrance to Wallis' Lake; depth of water, 3 feet at low tide.
26. From the Broadwater, Wollombi River; depth of water, 3 feet at low tide; bottom, soft mud.
27. From the foreshores of Swan Bay; dry at low tide; bottom, mud and shells.
28. Cultivated Oysters from the entrance to Wollombi River. Taken from cobbler's pegs and mangroves, and laid down about eight months; depth of water, 2 feet at low tide; bottom, soft mud; very small when laid down.
29. Cultivated Oysters from the entrance to Wollombi River. Taken from cobbler's pegs and mangroves, and laid down about three months; depth of water, 2 feet at low tide; bottom, soft mud.
30. Cultivated Oysters from Twin Island. Taken from cobbler's pegs and mangroves, and laid down about six months; depth of water, 2 feet at low tide; bottom, soft shells and mud.

#### *Manning River Oysters.*

31. Cultivated Oysters from Cathai Creek. Taken off the foreshores, and laid down about two years in 3 feet of water at low tide; bottom, sand and mud.
32. Cultivated Oysters from Scott's Creek. Taken off the foreshores, and laid down about eighteen months in 2 feet of water at low tide; bottom, rocks and gravel.
33. Cultivated Oysters from Suthcy Bay, Scott's Creek. Taken off the foreshores, and laid down about two years in 3 feet of water at low tide; bottom, rocks and sand.
34. Cultivated Oysters from Oyster Reach. Taken off the foreshores, and laid down about three years in 3 feet of water at low tide; bottom, rocky.

35. Cultivated Oysters from South Channel. Taken off the foreshores; laid down about six months in 2 feet of water at low tide; bottom, rocks and gravel.
36. From South Channel. Dredged from "Layton's Bed"; 250 yards long, 10 yards wide; depth of water, 6 to 15 feet; bottom, rocky.

*Camden Haven Oysters.*

37. Cultivated Oysters. Taken off the foreshores; laid down about twelve months in 3 feet of water at low tide; bottom, sand and mud.
38. Cultivated Oysters. Taken off the foreshores; laid down about six months in 4 feet of water at low tide; bottom, sand and mud.
39. Taken off the foreshores; dry at low tide; bottom, sandy.
40. Taken off the foreshores; dry at low tide; bottom, sandy and shelly.

*Clarence River Oysters.*

41. From the "House Bed"; depth of water, 4 to 12 feet; bottom, silt, covered with mud.
42. From the "Mud Patch Bed"; area, about  $1\frac{1}{2}$  acre; depth of water, 3 to 10 feet; bottom, soft mud and shell.
43. From "Brodie's Bed"; area, about 3 acres; depth of water, 3 to 10 feet; bottom, silt, covered with shell.
44. From "Dick's Bed"; area, about 2 acres; depth of water, 3 to 8 feet; bottom, silt, covered with shell.

*Evans River Oysters.*

45. Rock Oysters from "Iron Gates"; a narrow rocky channel in the river, through which the tide passes with great rapidity.

*Richmond River Oysters.*

46. Taken from 7 to 10 feet of water; bottom, hard clay, thickly covered with shells.
47. Taken from the "Upper Bed"; depth of water, 7 feet; bottom, hard blue clay, covered with shells.
48. Taken from the "Lower Bed"; depth of water, 3 feet; bottom, shell and silt.

*Brunswick River Oysters.*

49. Rock Oysters, from the foreshore; dry at low tide.

*Tweed River Oysters.*

50. From Terranora waters, off "No. 6 Bed"; depth of water, 2 feet; bottom, stones and dead shells.
51. From Terranora waters, off "No. 7 Bed"; depth of water, 4 feet; bottom, mud.

*George's River Oysters.*

52. Mud Oysters; procured by a diver in 40 feet of water.
53. Rock Oysters (deep water); procured by a diver in 40 feet of water.
54. Rock Oysters; taken off the rocks between high and low water.
55. Rock Oysters; procured by a diver in 20 feet of water.
56. From Port Hacking; taken off the foreshores between high and low water; bottom, mud and sand.

*Shoalhaven River Oysters.*

57. Rock Oysters from Curley's Bay; dry at low tide.
58. Cultivated Oysters from Curley's Bay; laid down about fifteen months in 4 feet water at high tide; dry at low tide; bottom, rocky.
59. Oysters from the foreshores of Saltpan Creek; dry at low tide; bottom, muddy.
60. Cultivated Oysters from Saltpan Creek; laid down about six months in 4 feet water at high tide; dry at low tide; bottom, muddy.
61. Rock Oysters from "No. 1 Bed," Broughton Creek; 200 yards long; 10 yards wide; depth of water, 8 to 14 feet.
62. Cultivated Oysters from "No. 2 Bed," Broughton Creek; 150 yards long, 25 yards wide; depth of water, 2 to 11 feet; bottom, rocky. Taken from the foreshores of Berry's Creek; laid down about five months.
63. Rock Oysters from "No. 3 Bed," Broughton Creek; 100 yards long, 18 yards wide; depth of water, 6 to 10 feet.
64. Rock Oysters from "No. 4 Bed," Broughton Creek; 200 yards long, 20 yards wide; depth of water, 4 to 12 feet.
65. Rock Oysters from Broughton Creek; off a heap of ballast stones discharged from a ship; dry at low tide.
66. From Berry's Creek; off a muddy foreshore; dry at low water.

*Crookhaven River Oysters.*

67. Cultivated Oysters from "No. 1 Bed," H. Woodward's; 350 yards long; 30 yards wide; depth of water, 3 to 13 feet; bottom, rocky; laid down about six months.
68. Rock Oysters from "The Dyke"; dry at low water.
69. Rock Oysters from "Nos. 2, 3, and 5 Beds"; each bed is about 100 yards long, 10 yards wide; depth of water, 6 to 10 feet.

*Jervis Bay Oysters.*

70. From Bherrewerre Creek; dredged from "Bryce's Bed"; 200 yards long; 25 yards wide; depth of water, 4 to 9 feet; bottom, rocky.
71. Rock Oysters from Flat Rock Creek; depth of water, 2 feet.
72. From Currumbene Creek. Cultivated Oysters from "No. 1 Bed," G. Haiser's; 150 yards long; 20 yards wide; depth of water, 3 to 12 feet; taken off foreshores; laid down about six months.
73. From Currumbene Creek. Dredged from "No. 1 Bed," G. Haiser's; 200 yards long; 20 yards wide; depth of water, 2 to 15 feet; bottom, rocky.

74. From Moona Creek. Taken off the foreshores; dry at low tide; bottom, sand and mud.  
 75. Mud Oysters from the "Hole in the Wall"; a bed 600 yards long; 400 yards wide; depth of water, 20 to 30 feet.

*Clyde River Oysters.*

76. Rock Oysters from "Big Island Bed"; 1 mile long; 100 yards wide; depth of water, 20 to 40 feet.  
 77. Rock Oysters from "Schnapper Point Bed"; 300 yards long; 150 yards wide; depth of water, 10 to 20 feet.  
 78. Oysters taken off the mangroves; dry at low tide.  
 79. Cultivated Oysters from the "Old Bed"; 300 yards long; 150 yards wide; depth of water, 3 to 20 feet; taken off the mangroves, and laid down for six months.  
 80. Cultivated Oysters from the "Chinaman's Point Bed"; 300 yards long; 50 yards wide; depth of water, 2 to 20 feet; taken off the mangroves and laid down for four months.  
 81. Rock Oysters from between high and low water; age, about eighteen months.  
 82. Rock Oysters from between high and low water on the Bold Shore, facing the "Bold Shore Bed." This bed is 1,000 yards long; 12 yards wide; depth of water, 3 to 15 feet.  
 83. Cultivated Oysters from Budd's Island; taken off the mangroves and laid down about eight months in 2 feet of water at low tide; bottom, hard mud.  
 84. Rock Oysters.

*Lake Durras Oysters.*

85. Sample from 6 feet of water; bottom, shingly.  
 86. Mud Oysters; depth of water, 4 feet.

*Meruya River Oysters.*

87. Rock Oysters; depth of water, 3 to 10 feet.

*Pambula River Oysters.*

88. Rock Oysters; depth of water, 1 to 12 feet.  
 89. Cultivated Oysters; taken off the foreshore rocks, and laid down about twelve months in 3 feet of water at low tide.

*Bermagui River Oysters.*

90. Rock Oysters; taken off the rocks from high-water mark to 2 feet below low-tide mark.  
 91. Oysters taken off the mangroves; dry at low tide.

*Cuttagee Lake Oysters.*

92. Rock Oysters; depth of water, 2 feet at low tide.

*Nelson Lake Oysters.*

93. Oysters collected from small pieces of wood, and growing on whelks.

*Wapengo Lake Oysters.*

94. Oysters growing on whelks on a sandpit.

*Keat's River Oysters.*

95. Rock Oysters; from the foreshores between high and low tide.

*Womboyne River Oysters.*

96. Rock Oysters.

*Port Jackson Oysters.*

97. Mud Oysters; from Woolloomooloo Bay and Parramatta River. [*Specimens of natural Oyster growth.*]  
 98. Oysters growing on boots, bottles, &c.; from A. Philp's leased beds at Palmer's Island, Clarence River.  
 99. A large piece of rock with oysters growing naturally thereon; taken from Botany Bay.  
 100. Cluster of Oysters, showing growth and size from spat to three, six, twelve, and twenty months; from H. Woodward's "Lake Bed," Clarence River.

**CLASS 85.—Preserved Fish.**

COMMISSIONERS FOR NEW SOUTH WALES FISHERIES.—Fish prepared for food.

These exhibits have been prepared to the order of the Commissioners of Fisheries for New South Wales by two of the principal Meat-preserving Companies of New South Wales.

Most of the fish were preserved during the months of July and August, 1885, having been purchased under the supervision of an officer of the Fisheries Department.

The fresh fish comprise many of the best known food fishes, of which the mullet, bream, blackfish, and eel appear to be best adapted for this mode of preserving.

In smoked fish, whiting and eels are exhibited.

The oysters were specially selected from beds on the Clarence River and at Cape Hawke.

Crayfish, tinned and sun-dried, and tinned prawns, are also exhibited.

Fish tinned for food, prepared at the works of the Sydney Meat-preserving Company (Limited), Rookwood.

Smoked Fish:—

Whiting (*Sillago bassensis*).

Eel (*Anguilla Australis*).

Fresh Fish:—

Grey Mullet (*Mugil grandis*).

Jewfish (*Sciama Antarctica*).

Tailor (*Temnodon saltator*).

Blackfish (*Girella tricuspidata*).

Fresh

Fresh Fish—*continued*.

- Schnapper (*Pagrus unicolor*).  
 Black Bream (*Chrysophrys Australis*).  
 Perch (*Lates colonorum*).  
 Nannagai (*Beryx affinis*).  
 Garfish (*Hemirhamphus regularis*).  
 Eel (*Anguilla Australis*).  
 Oysters (*Ostrea glomerata*).  
 Crayfish (*Palinurus hugeli*).

Fish tinned for Food, prepared at the works of Messrs. Walsh, Elliot, & Rennie, Bunnerong Works, Botany:—

## Smoked Fish:—

Whiting (*Sillago bassensis*).

## Fresh Fish:—

- Grey Mullet (*Mugil grandis*).  
 Jewfish (*Sciaena Antarctica*).  
 Black Bream (*Chrysophrys Australis*).  
 Whiting (*Sillago bassensis*).  
 Oysters (*Ostrea glomerata*).  
 Crayfish (*Palinurus hugeli*).  
 Prawns (*Pencœus esculentes*).  
 Sun-dried Fish for food:—  
 Crayfish (*Palinurus hugeli*).

CLASS 47.—*Oils*.

COMMISSIONERS FOR NEW SOUTH WALES FISHERIES, Phillip-street, Sydney.—Oils from Fish, other than edible purposes.

- |  |  |
|--|--|
| 1. The Sun-fish ( <i>Orthogoriscus</i> sp.)                                  | 7. "Blue Pointer" Shark ( <i>Lamna glauca</i> .)                     |
| 2. Sea-Mullet ( <i>Mugil grandis</i> , Castelnau.)                           | 8. "Grey Pointer" Shark ( <i>Carcharodon</i><br><i>rondoletii</i> .) |
| 3. Black Stinging Ray ( <i>Trygon pastinicia</i> .)                          | 9. "Hump Back" Whale.  |
| 4. Rayner's Shark ( <i>Galleocerdo Rayneri</i> .)                            | 10. "Black Fish" Whale.  |
| 5. Tiger Shark, or "Wobbigong" ( <i>Crossor-</i><br><i>thius varbatus</i> .) | 11. "Baleen Whale."  |
| 6. "Grey Nurse" Shark ( <i>Odontaspis Ameri-</i><br><i>canus</i> .)          | 12. Dugong ( <i>Halicore Australis</i> .)                            |

COMMISSIONERS FOR NEW SOUTH WALES FISHERIES, Sydney.—Models of Food Fishes.

- |  |   |
|--|---|
| 1. Blackfish ( <i>Girella tricuspidata</i> ).    | 7. Tailor ( <i>Temnodon saltator</i> ).         |
| 2. Black Bream ( <i>Chrysophrys Australis</i> ). | 8. Squire ( <i>Pagrus unicolor</i> ).           |
| 3. Carp (Sea) ( <i>Chilodactylus fuscus</i> ).   | 9. Mullet ( <i>Mugil grandis</i> ).             |
| 4. Tarwhine ( <i>Chrysophrys hasta</i> ).        | 10. Yellow-tail ( <i>Caranx trachurus</i> ).    |
| 5. Whiting ( <i>Sillago ciliata</i> ).           | 11. Trevalley ( <i>Caranx Georgianus</i> ).     |
| 6. Jewfish ( <i>Sciaena Antarctica</i> ).        | 12. Salmon Trout ( <i>Arripis truttaceus</i> ). |

COMMISSIONERS FOR NEW SOUTH WALES FISHERIES, Sydney.—Paintings of Australian Fish.

Crayfish .....	<i>Palinurus hugeli</i> .	Tailor .....	<i>Temnodon saltator</i> .
Teraglin .....	<i>Otolithus atelodus</i> .	Sea Mullet.....	<i>Mugil grandis</i> .
Long Tom.....	<i>Belone ferox</i> .	Morwong .....	<i>Chilodactylus macropterus</i> .
Blue Groper.....	<i>Cossyphus Gouldi</i> .	Flathead .....	<i>Platycephalus fuscus</i> .
Wirrah .....	<i>Plectropoma ocellatum</i> .	Schnapper.....	<i>Pagrus unicolor</i> .
Garfish .....	<i>Hemirhamphus</i> sp.	Blackfish .....	<i>Girella tricuspidata</i> .
Batfish .....	<i>Psettus argenteus</i> .	Drummer .....	<i>Girella elevata</i> .
Squire .....	<i>Pagrus unicolor</i> .		<i>Odax</i> sp.
Carp .....	<i>Chilodactylus fuscus</i> .		<i>Serranus</i> sp.
Maray .....	<i>Clupea Sundaica</i> .		<i>Labrichthys</i> sp.
White Trevally.....	<i>Caranx Georgianus</i> .		<i>Apogon fasciatus</i> .
Sergeant Baker.....	<i>Aulopus purpurissatus</i> .		<i>Chelmo truncatus</i> .
Perch.....	<i>Lates colonorum</i> .		<i>Heteroscarus filamentosus</i>
Tarwhine (2) .....	<i>Chrysophrys sarba</i> .		<i>Plectropoma nigrorubrum</i> .
Nannagai .....	<i>Beryx affinis</i> .		<i>Labrichthys laticlavus</i> .
Flounder .....	<i>Pseudorhombus Russelli</i> .		<i>Gerres</i> sp.
Sole .....	<i>Synaptura niger</i> .		<i>Coris lineolata</i> .
Mullet .....	<i>Mugil</i> sp.		<i>Carassius vulgaris</i> .
Trumpeter Whiting	<i>Sillago bassensis</i> .		<i>Cirrhitichthys aprinus</i> .
Pike .....	<i>Sphyræna obtusata</i> .		<i>Cossyphus</i> sp.
Mullet .....	<i>Mugil pettardi</i> .		<i>Caranx</i> sp.
Red Rock Cod .....	<i>Scorpaena cardinalis</i> .		<i>Caranx</i> sp.
Gurnard .....	<i>Trigla kumu</i> .		<i>Scatophagus multifasciatus</i> .
John Dory.....	<i>Zeus Australis</i> .		<i>Temnodon</i> sp.

1 Fishing-net from New Guinea.

CLASS 15a.—*Scientific Reports and Publications*.

COMMISSIONERS FOR NEW SOUTH WALES FISHERIES, Phillip-street, Sydney.—Catalogue of Australian Fishes, Mollusca, and Seals and Whales.

COMMISSIONERS FOR NEW SOUTH WALES FISHERIES, Phillip-street, Sydney.—Works on Ichthyology.

- Descriptive Catalogue of Australian Fishes. 2 vols. By the Hon. Wm. Macleay, F.L.S., M.L.C., &c.  
 Catalogue of Fishes of New South Wales, with their principal Synonyms. By J. Douglas-Ogilby,  
 Assistant Zoologist, Australian Museum, Sydney, N.S.W. Reports

Reports of the Royal Commission of Fisheries of New South Wales.  
Fisheries Act of New South Wales, 1881. By Alex. Oliver, Esq., M.A.  
Oyster Fisheries Act, 1884.

COMMISSIONERS FOR NEW SOUTH WALES FISHERIES (Assisted by Trustees of Australian Museum).  
[E. P. Ramsay, Curator.]—Australian Sponges.

Dr. Von Lendenfeld estimates the number of known species of Australian sponges at 350. Considering how little is known of the Australian Marine Invertebrates, compared with those of European seas, this number shows that there must be more species of sponges in Australian waters than in any other locality of similar extent.

Divided from the other continents by mostly deep, and for shallow-water sponges, unsurpassable oceans, Australia has a Spongo Fauna of its own. Only three or four European species have up till now been discovered in Australia.

The collection of sponges in the Australian Museum comprises nearly all Australian species, and will be found enumerated and described in the catalogues published by that Institution.

The species exhibited are described in that catalogue. They are few in number, for limit of space precluded a more extensive display.

#### CLASSIS SPONGIÆ.

##### I. SUBCLASSIS CALCAREA.

###### 1. Ordo Calcispongiæ.

###### II. Subordo Heterocæla.

##### Familia Syconidae—

1. *Grantessa sacca*, Lendenfeld, (in spirits), Port Jackson, N.S.W.
2. *Sycandra arborea*, Hæckel, (in spirits), Port Phillip, V.
3. *Sycandra Ramsayi*, Lendenfeld, (in spirits), Port Jackson, N.S.W.

##### Familia Leuconidae—

4. *Leucandra saccharata*, Hæckel, (in spirits), Port Jackson, N.S.W.
5. *Leucandra cataphracta*, Hæckel, (in spirits), Port Mollé, L.

###### 2. Ordo Hexactinellæ.

##### II. SUBCLASSIS NONCALCAREA.

###### 3. Ordo Chondrospongiæ.

##### Familia Papilionidae—

6. *Papillina panis*, Lendenfeld, (in spirits), Port Jackson, N.S.W.
7. *Raphyrus Hixsoni*, Lendenfeld, (dry), Port Jackson, N.S.W.

##### Familia Chondrosidae—

8. *Chondrilla Australiensis*, Carter, (in spirits), Port Phillip, V.
9. *Chondrilla secunda*, Lendenfeld, (in spirits), Port Phillip, V.

###### 4. Ordo Mymospongiæ.

###### 5. Ordo Halichondriæ.

##### Familia Spongillidae—

10. *Meyenia nigra*, Lendenfeld, (in spirits), Botany swamps, N.S.W.

##### Familia Fibrospongiidae—

11. *Renieropsis globosa*, Lendenfeld, (in spirits), Port Jackson, N.S.W.
12. *Pellina nubivunda*, Lendenfeld, (in spirits), Port Jackson, N.S.W.
13. *Vomerula Ridleyi*, Lendenfeld, (dry), Western Australia.

###### 6. Ordo Cornuspiculæ.

##### Familia Chalinidae—

14. *Syphanella digitata*, Lendenfeld, (in spirits), east coast of Australia, N.S.W.
15. *Syphnochalina typica*, Lendenfeld, (in spirits), Port Stephens, N.S.W.
16. *Llaplochalina dendrilla*, Lendenfeld, (in spirits), Port Jackson, N.S.W.
17. *Chalinissa communis*, Lendenfeld, (in spirits), Port Jackson, N.S.W.
18. *Dactylocholina Australis*, Lendenfeld, (in spirits), Port Phillip, V.
19. *Dactylocholina reticulata*, Lendenfeld, (in spirits), Port Jackson, N.S.W.

##### Familia Echispidæ—

20. *Clathria levis*, Lendenfeld, (in spirits), Port Jackson, N.S.W.
21. *Clathria paucispina*, Lendenfeld, (in spirits), Port Phillip, V.
22. *Clathria arbuscula*, Lendenfeld, (in spirits), Port Jackson, N.S.W.

###### 7. Ordo Ceraaspongiæ.

##### I. SUBORDO MICROCOMERÆ.

##### Familia Spongidae—

23. *Euspongia levis*, Lendenfeld (in spirits), Port Jackson, N.S.W.
24. *Aulena fabellum*, Lendenfeld, (in spirits) Port Jackson, N.S.W.
25. *Halmopsis Australis*, Lendenfeld, (in spirits), Port Jackson, N.S.W.
26. *Cacospongia Canalis*, Lendenfeld, (in spirits), Port Jackson, N.S.W.
27. *Cacospongia Australis*, var. *conulata*, Lendenfeld, (in spirits), Port Phillip, V.
28. *Halme laxa*, var. *digitata*, Lendenfeld, (in spirits), Port Jackson, N.S.W.
29. *Halme gigantea*, var. *intermedia*, Lendenfeld, (in spirits), Port Jackson, N.S.W.
30. *Halme gigantea*, var. *macrapora*, Lendenfeld, (in spirits), Port Jackson, N.S.W.

##### Familia Hircinidae—

31. *Hircinia digitata*, Lendenfeld, (in spirits), Port Jackson, N.S.W.
32. *Hircinia densa*, Lendenfeld, (in spirits), Port Jackson, N.S.W.
33. *Hircinia pocula*, Lendenfeld, (in spirits), Port Jackson, N.S.W.
34. *Hircinopsis pocula*, Lendenfeld, (in spirits), Port Jackson, N.S.W.
35. *Hircinopsis Australis*, Lendenfeld, (in spirits), Port Jackson, N.S.W.
36. *Hircinia gigantea*, Lendenfeld, (in spirits), Port Jackson, N.S.W.

## II. SUBORDO MACROCAMERAE.

*Familia Spongelidae*—

37. *Spongelia Australis*, Lendenfeld, (in spirits), Port Jackson, N.S.W.
38. *Spongelia Violacea*, Lendenfeld, (in spirits), Port Jackson, N.S.W.
39. *Dysidea tubaria*, Lendenfeld, (in spirits), Port Jackson, N.S.W.
40. *Dysidea corticata*, var. *tubaria*, Lendenfeld, (in spirits), Port Jackson, N.S.W.
41. *Dysidea squalida*, Lendenfeld, (in spirits), Port Jackson, N.S.W.

*Familia Aplysillidae*—

42. *Dendrilla cavernosa*, Lendenfeld, (in spirits), Port Jackson, N.S.W.
43. *Dendrilla tenella*, Lendenfeld, (in spirits), Port Jackson, N.S.W.
44. *Dendrilla rosea*, Lendenfeld, (in spirits), Port Jackson, N.S.W.
45. *Ianthella fiabelliformis*, Gray, (dry).

## DIVERSE SPECIMENS.

46. Crabs overgrown with sponges.

COMMISSIONERS FOR NEW SOUTH WALES FISHERIES, AND TRUSTEES OF THE AUSTRALIAN MUSEUM,  
Sydney.—Australian Fish in Alcohol.

## ACANTHOPTERYGII.

## PERCIDÆ.

1. *Lates colonorum*, Günth. Gippsland Lakes. 2 spec.
2. " " *curtus*, Casteln. Sydney Markets. 2 spec.
3. *Enoplosus armatus*, White. Port Jackson. 2 spec.
4. *Caprodon Schlegelii*, Günth ♂ & ♀. Port Jackson. 2 spec.
5. *Serranus daemeli*, Günth. Port Jackson.
6. *Plectropoma nigrorubrum*, C. & V. Port Jackson.
7. " *annulatum*, Günth. Port Jackson.
8. " *ocellatum*, Günth. Port Jackson.
9. *Lutianus fulviflamma*, Forsk. Fraser Island.
10. *Apogon fasciatus*, White. Port Jackson.
11. " " var? Port Jackson.
12. " *Guentheri*, Casteln. Port Jackson. 2 spec.
13. *Arripis salar*, Rich. Port Jackson. 4 spec.
14. *Oligorus Macquariensis*, C. & V. Richmond River. 2 spec.
15. *Therapon Cuvieri*, Bleek. Port Jackson. 6 spec.
16. " *percoides*, Günth. Gayndah. 2 spec.
17. *Gerres argyreus*, C. & V. Richmond River.
18. *Priacanthus macracanthus*, C. & V. Port Jackson.

## SQUAMIPINNES.

19. *Chelmo truncatus*, Kner. Port Jackson. 2 spec.
20. *Scorpius æquipinnis*, Rich. Port Jackson. 2 spec.
21. *Atypichthys strigatus*, Günth. Port Jackson.

## NANDIDÆ.

22. *Plesiops Bleckeri*, Günth. Port Hacking.

## MULLIDÆ.

23. *Hypeneus vlamingii*, C. & V. Port Jackson. 2 spec.
24. " *signatus*, Günth. Port Jackson. 2 spec.
25. " *porosus*, C. & V. Port Jackson. 3 spec.

## SPARIDÆ.

26. *Pachymetopon grande*, Günth. Port Jackson.
27. *Girella tricuspidata*, C. & V. Port Jackson. 2 spec.
28. " *simplex*, Rich. Port Jackson.
29. *Lethrinus chrysostomus*, Rich. Port Jackson.
30. *Haplodactylus lophodon*, Günth. Port Jackson.
31. *Pagrus unicolor*, C. & V. Port Jackson. 5 spec.
32. *Chrysophrys sarba*, Forsk. Port Jackson. 4 spec.
33. " *Australis*, Günth. Port Jackson. 2 spec.

## CIRRHITIDÆ.

34. *Chironemus marmoratus*, Günth. Port Jackson.
35. *Chilodactylus fuscus*, Casteln (ad. & jur.) Port Jackson. 2 spec.
36. *Latris Forsteri*, Casteln. Port Jackson.

## SCORPÆNIDÆ.

37. *Sebastes percoides*, Rich. Port Jackson.
38. *Scorpena cardinalis*, Rich. Port Jackson. 3 spec.
39. " *cruenta*, Rich. Port Jackson. 2 spec.
40. *Centropogon Australis*, White. Port Jackson. 3 spec.

## BERYCIDÆ.

41. *Trachichthys Jacksoniensis*, Macl. Port Jackson.
42. *Beryx affinis*, Günth. Port Jackson. 2 spec.

## CRYPTIDÆ.

43. *Pempheris compressus*, White. Port Jackson.

## SCLÆNIDÆ.

44. *Otolithus atelodus*, Günth. Port Jackson. 2 spec.

## ACANTHURIDÆ.

45. *Prionurus microlepidotus*, Lacép. Port Jackson.

CARANGIDÆ.

## CARANGIDÆ.

46. *Caranx trachurus*, Linn. Port Jackson. 2 spec.  
 47. " *georgianus*, C. & V. Port Jackson.  
 48. *Temnodon saltator*, Linn. Port Jackson. 4 spec.  
 49. *Psettus argenteus*, Linn. Port Jackson. 2 spec.

## CYTTIDÆ.

50. *Zeus Australis*, Rich. Port Jackson.

## SCOMBRIDÆ.

51. *Echeneis naucrates*, Linn. Clarence River.

## TRACHINIDÆ.

52. *Sillago bassensis*, C. & V. Port Jackson. 3 spec.  
 53. " *maculata*, Q. & G. Port Jackson.  
 54. *Opisthognathus Jacksoniensis*, Macl. Port Jackson.

## BATRACHIDÆ.

55. *Batrachus dubius*, White. Port Jackson. 3 spec.

## COTTIDÆ.

56. *Platycephalus Tasmanius*, Rich. Port Jackson.  
 57. " *fuscus*, C. & V. Port Jackson. 2 spec.  
 58. " *arenarius*, R. & O. Port Jackson.  
 59. *Lepidotrigla papilio*, C. & V. Port Jackson. 3 spec.  
 60. " *Mulhalli*, Macl. Port Jackson.  
 61. *Trigla kumu*, Q. & G. Port Jackson. 2 spec.

## GOBIDÆ.

62. *Gobius gobioides*, Ogilby. Clarence River. 2 spec.  
 63. *Eleotris Australis*, Krefft. Clarence River. 3 spec.  
 64. " sp. Manly Lagoon. 3 spec.  
 65. *Callionymus calauropomus*, Rich. Port Jackson. 5 spec.  
 66. " *curvicornis*, C. & V. Port Jackson.

## BLENNIIDÆ.

- 66a. *Lepidoblennius geminatus*, Macl. Port Jackson. 5 spec.  
 67. *Cristiceps aurantiacus*, Casteln. Port Jackson.  
 68. " *argyropleura*, Kner. Port Jackson.  
 69. " sp. Port Jackson.  
 70. *Petroscirtes cristiceps*, Macl. Clarence River.

## SPHYRÆNIDÆ.

71. *Sphyræna Novæ Hollandiæ*, Günth. Port Jackson.

## ATHERINIDÆ.

72. *Atherina pinguis*, Lacép. Port Hacking. 3 spec.

## MUGILIDÆ.

73. *Mugil grandis*, Casteln. Port Jackson.  
 74. " *waigiensis*, Q. & G. Fraser Island.  
 75. " *pettardi*, Cast. Port Jackson.  
 76. " *peronii*, C. & V. Port Jackson. 2 spec.  
 77. *Myxus elongatus*, Günth. Port Jackson. 2 spec.

## POMACENTRIDÆ.

78. *Parma squamipinnis*, Günth. Port Jackson. 3 spec.

## LABRIDÆ.

79. *Cossyphus unimaculatus*, Günth. Port Jackson.  
 80. " *Gouldi*, Rich. Port Jackson.  
 81. *Lrbrichthys laticlavus*, Rich. Port Jackson. 2 spec.  
 82. " *gymnogenis*, Günth. Port Jackson. 3 spec.  
 83. " *nigromarginatus*, Macl. Port Jackson.  
 84. *Coris lineolata*, C. & V. Port Jackson. 3 spec.  
 85. *Heteroscarus Castelnaui*, Macl. Port Jackson. 2 spec.  
 86. *Odax Richardsonii*, Günth, ♂ ♀. Port Jackson. 2 spec.  
 87. *Olistherops brunneus*, Macl., ♂ ♀. Port Jackson. 4 spec.

## ANACANTHINI.

## PLEURONECTIDÆ.

88. *Pseudorhombus Russellii*, Gray. Port Jackson. 5 spec.  
 89. " *multimaculatus*, Günth. Port Jackson. 6 spec.  
 90. *Ammotretis adspersus*, Kner. Port Jackson.  
 91. *Solca microcephala*, Günth. Port Jackson. 5 spec.  
 92. " *macleyana*, Rams. Port Jackson. 2 spec.  
 93. *Lophonectes gallus*, Günth. Port Jackson. 8 spec.  
 94. *Achirus pavoninus*, Lacép. Port Jackson. 2 spec.  
 95. *Synaptura nigra*, Macl. Port Jackson. 6 spec.  
 96. " *fasciata*, Macl. Port Jackson.

## PHYSOSTOMI.

## SILURIDÆ.

97. *Copidoglanus obscurus*, Günth. Port Jackson.  
 98. *Chidoglanis megastoma*, Rich. Port Jackson. 4 spec.  
 99. *Arius*, sp. Fraser Island, Q.

## SCOPELIDÆ.

## SCOPELIDÆ.

100. *Saurus myops*, C. & V. Port Jackson.  
101. *Aulopus purpurissatus*, Rich. Port Jackson. 2 spec.

## SCOMBRESOCIDÆ.

102. *Belone Ferox*, Günth. Port Jackson.  
103. *Hemirhamphus intermedius*, Cant. Port Jackson. 6 spec.  
104. „ *regularus*, Günth. Port Jackson. 5 spec.

## CYPRINIDÆ.

105. *Carassius vulgaris*, Nordm. Nepean River. (*Introduced.*)

## CLUPEIDÆ.

106. *Clupea hypselosoma*, Bleek. Port Jackson. 6 spec.  
107. „ *Novæ Hollandiæ*, C. & V. Hawkesbury River  
108. *Elops saurus*, Linn. Port Jackson.

## SYMBRANCHIIDÆ.

109. *Chilobranchnus rufus*, Macl. Port Jackson. 2 spec.

## MURÆNIDÆ.

110. *Anguilla Australis*, Rich. Hawkesbury River.  
111. *Muræna afra*, Bl. Port Jackson. 3 spec.

## PLECTOGNATHI.

## SCLERODERMI

112. *Monacanthus hippocrepis*, Q. & G. Port Jackson.  
113. „ *trachylepis*, Günth. Port Jackson.  
114. „ *megalurus*, Rich. Port Jackson. 4 spec.  
115. „ *ayraudi*, Q. & G. Port Jackson. 4 spec.  
116. „ *trossulus*, Rich.  
117. *Ostracion lenticularis*, Rich. Port Jackson. 2 spec.  
118. „ „ var. Port Jackson.  
119. „ *concatenatus*, Bl.

## GYMNODONTES.

120. *Tetodon hypselogonion*, Bleek. Port Jackson. 4 spec.  
121. *Dicotylichthys punctulatus*, Kaup. Port Jackson. 2 spec.

## CHONDROPTERYGII.

## CARCHARIDÆ.

122. *Zygæna Lecuwini*, Griff. ♂ & ♀ jun. Clarence R. 2 spec.

## NOTIDANIDÆ.

123. *Notidanus Indicus*, Cuv. Port Jackson.

## SCYLLIDÆ.

124. *Scyllium anale*, Ogilby. Port Jackson.  
125. *Chilosecyllium furvum*, Macl. Port Jackson.  
126. *Crossorhinus barbatus*, Linn. Port Jackson.

## HETERODONTIDÆ.

127. *Heterodontus Phillipi*, Bl. Port Jackson.  
128. „ *galeatus*, Günth. Port Jackson.

## RHINIDÆ.

129. *Rhina squatina*, Linn. Port Jackson.

## RHINOBATIDÆ.

130. *Rhinobatus Bougainvillei*, M. & H. Port Jackson.  
131. *Trygonorhina fasciata*, M. & H. Port Jackson. 2 spec.

## TRYGONIDÆ.

132. *Urolophus testaceus*, M. & H. Port Jackson. 2 spec.

## MYLIOBATIDÆ.

133. *Myliobatis Australis*, Macl. Port Jackson.

COMMISSIONERS FOR NEW SOUTH WALES FISHERIES AND TRUSTEES OF THE AUSTRALIAN MUSEUM,  
Sydney.—Stuffed Fishes.

1. *Serranus dæmeli*, Günth.
2. *Arripis salar*, Rich.
3. *Haplodactylus lophodon*, Günth.
4. *Pagrus unicolor*, C. & V.
5. *Chilodactylus fuscus*, Casteln.
6. „ *macropterus*, Rich.
7. *Prionurus microlepidotus*, Lacép.
8. *Caranx Georgianus*, C. & V.
9. *Temnodon saltator*, Linn.
10. *Oreynus* sp. (?)
11. *Mugil peronii*, C. & V.
12. *Cossyphus Gouldii*, Rich.
13. *Monacanthus ayraudi*, Q. & G.

## AUSTRALIAN MUSEUM (Trustees of) AND COMMISSIONERS FOR NEW SOUTH WALES FISHERIES.—Photographs of N.S.W. Fish.

PERCIDÆ.							
Lates colonorum ( <i>Günth.</i> ) ... ..	...	...	...	...	...	...	691
Enoplosus armatus ( <i>White</i> ) ... ..	...	...	...	...	...	...	51
Ncoanthias Guentheri ( <i>Cast.</i> ) ... ..	...	...	...	...	...	...	872
Serranus sp. ... ..	...	...	...	...	...	...	702
Plectropoma nigrorubrum ( <i>C. &amp; V.</i> ) ... ..	...	...	...	...	...	...	856
" annulatum ( <i>Günth.</i> ) ... ..	...	...	...	...	...	...	930
Glaucosoma scapulare ( <i>Rams.</i> ) ... ..	...	...	...	...	...	...	44
Therapon Cuvieri ( <i>Bleek</i> ) ... ..	...	...	...	...	...	...	899
" theraps ( <i>C. &amp; V.</i> ) ... ..	...	...	...	...	...	...	904
Arripis salar ( <i>Rich.</i> ) ... ..	...	...	...	...	...	...	591
Histioporus labiosus ( <i>Günth.</i> ) ... ..	...	...	...	...	...	...	685
SQUAMIPINNES.							
Chaetodon strigatus ( <i>C. &amp; V.</i> ) ... ..	...	...	...	...	...	...	693
Chelmo truncatus ( <i>Kner.</i> ) ... ..	...	...	...	...	...	...	784
Scorpius æquipinnis ( <i>Rich.</i> ) ... ..	...	...	...	...	...	...	651
Scatophagus argus ( <i>Linn.</i> ) ... ..	...	...	...	...	...	...	713
" multifasciatus ( <i>Rich.</i> ) ... ..	...	...	...	...	...	...	739
MULLIDÆ.							
Hypeneus vlamingi ( <i>C. &amp; V.</i> ) ... ..	...	...	...	...	...	...	667
SPARIDÆ.							
Pachymetopon grande ( <i>Günth.</i> ) ... ..	...	...	...	...	...	...	953
Girella simplex ( <i>Richards</i> ) ... ..	...	...	...	...	...	...	629
Haplodactylus lophodon ( <i>Günth.</i> ) ... ..	...	...	...	...	...	...	914
Pagrus unicolor ( <i>C. &amp; V.</i> ) ... ..	...	...	...	...	...	...	14
Chrysophrys sarba ( <i>Forsk.</i> ) ... ..	...	...	...	...	...	...	694
CIRRHITIDÆ.							
Chironemus marmoratus ( <i>Günth.</i> ) ... ..	...	...	...	...	...	...	915
Chilodactylus vittatus ( <i>Garr.</i> ) ... ..	...	...	...	...	...	...	699
" macropterus ( <i>Rich.</i> ) ... ..	...	...	...	...	...	...	711
" fuscus ( <i>Cast.</i> ) ... ..	...	...	...	...	...	...	912
Cirrhitichthys aprinus ( <i>C. &amp; V.</i> ) ... ..	...	...	...	...	...	...	913
BERYCIDÆ.							
Monocentris Japonicus ( <i>C. &amp; V.</i> ) ... ..	...	...	...	...	...	...	815
Trachichthys Australis ( <i>Shaw</i> ) ... ..	...	...	...	...	...	...	50
Beryx affinis ( <i>Günth.</i> ) ... ..	...	...	...	...	...	...	890
CYRTIDÆ.							
Pempheris compressus ( <i>White</i> ), upper; <i>P. lineatus</i> ( <i>Ogilby</i> ), lower ... ..	...	...	...	...	...	...	928
" macrolepis ( <i>Macl.</i> ) ... ..	...	...	...	...	...	...	32
ACANTHURIDÆ.							
Prionurus microlepidotus ( <i>Lacep.</i> ) ... ..	...	...	...	...	...	...	671
CARANGIDÆ.							
Caranx trachurus ( <i>Linn.</i> ) ... ..	...	...	...	...	...	...	893
" Georgianus ( <i>C. &amp; V.</i> ) ... ..	...	...	...	...	...	...	590
Temnodon saltator ( <i>Linn.</i> ) ... ..	...	...	...	...	...	...	652
Psettus argenteus ( <i>Linn.</i> ) ... ..	...	...	...	...	...	...	662
Platax teira ( <i>Forsk.</i> ) ... ..	...	...	...	...	...	...	683
CYTTIDÆ.							
Zeus Australis ( <i>Richards</i> ) ... ..	...	...	...	...	...	...	40
SCOMBRIDÆ.							
Scomber colias ( <i>Linn.</i> ) ... ..	...	...	...	...	...	...	653
Cybius commersonii ( <i>C. &amp; V.</i> ) ... ..	...	...	...	...	...	...	785
TRACHINIDÆ.							
Percis Coxii ( <i>Ramsay</i> ) ... ..	...	...	...	...	...	...	663
Sillago bassensis ( <i>C. &amp; V.</i> ) ... ..	...	...	...	...	...	...	892
PEDICULATI.							
Antennarius striatus ( <i>Shaw</i> ) ... ..	...	...	...	...	...	...	697
COTTIDÆ.							
Platycephalus arenarius ( <i>R. &amp; O.</i> ) ... ..	...	...	...	...	...	...	905
" cirronasus ( <i>Richards</i> ) ... ..	...	...	...	...	...	...	855
Lepidotrigla Mulhali ( <i>Macl.</i> ) ... ..	...	...	...	...	...	...	771
Trigla kumu ( <i>L. &amp; G.</i> ) ... ..	...	...	...	...	...	...	688
CALLIONYMIDÆ.							
Callionymus calauropomus ( <i>Richards</i> ) ... ..	...	...	...	...	...	...	615
" curvicornis ( <i>C. &amp; V.</i> ) ... ..	...	...	...	...	...	...	854
BLENNIIDÆ.							
Petroscirtes Wilsoni ( <i>Macl.</i> ) ... ..	...	...	...	...	...	...	895
Petraites heptaolus ( <i>Ogilby</i> ) ... ..	...	...	...	...	...	...	934
Cristiceps aurantiacus ( <i>Cast.</i> ) ... ..	...	...	...	...	...	...	774
" argyropleura ( <i>Kner.</i> ) ... ..	...	...	...	...	...	...	917

MUGILIDÆ.

	MUGILIDÆ.	
Mugil grandis (Cast.)...	...	648
	CENTRISCIDÆ.	
Centriscus gracilis (Lowe), var. japonicus (Günth)	...	906
	POMACENTRIDÆ.	
Parma squamipinnis (Günth.)	...	889
Heliastes immaculatus (Ogilby)	...	916
	LABRIDÆ.	
Cossyphus Gonldii (Richards.)	...	41
Labrichthys gymnogenis (Günth.)	...	703
Coris rex. (R. & O.)	...	963
Heteroscarus filamentosus (Cast.)	...	951
Odax Richardsonii (Günth.)	...	...
	PLEURONECTIDÆ.	
Pseudorhombus multimaculatus (Günth.)	...	602
Ammotretis adpersus (Kner.)	...	857
Lophonectes gallus (Günth)	...	730
Solea Macleayana (Ramsay)	...	56
Achirus pavoninus (Lacep.)	...	956
Synaptura nigra (Macle.)	...	594
Plagusia unicolor (Macle.)	...	962
	SCOPELIDÆ.	
Aulopus purpurissatus. (Richards)	...	898
	SCOMBRESOCIDÆ.	
Belone ferox (Günth.)	...	729
	CYPRINIDÆ.	
Carassius vulgaris (Nordm.)	...	952
Tinca vulgaris (Cuv.)	...	497
	CLUPEIDÆ.	
Clupea hypselosoma (Bleek.)	...	848
Etrumeus Jacksonensis (Macle.)	...	696
	MURENIDÆ.	
Anguilla Australis (Richards)	...	29
	SCLERODERMI.	
Monacanthus ayraudi (Q. & G.)	...	717
Ostracion lenticularis (Richards)	...	715
	GYMNODONTES.	
Tetrodon sceleratus (Linn.)	...	891
"    hispidus (Linn.)	...	896
Orthogoriscus mola (Linn.)	...	49
	SIRENIDÆ.	
Ceratodus Forsteri (Krefft)	...	2
	CARCHARIIDÆ.	
Zygæna Læuwini (Griff.), head	...	790
	SCYLLIIDÆ.	
Scyllium anale (Ogilby)	...	958
Chiloseyllium ocellatum (Linn.)	...	954
	HETERODONTIDÆ.	
Heterodontus zebra (Gray)	...	957
"    galcatus (Günth.)	...	950
	PRISTIOPHORIDÆ.	
Pristiophorus cirratus (Lath.)	...	786
	RHINIDÆ.	
Rhina squatina (Linn.)	...	39
	TRYGONIDÆ.	
Trygon pastinaca (Linn.)	...	627
Pteroplatea Australis (R. & O.)	...	955
	DICEROBATIDÆ.	
Ceratoptera Alfredi (Krefft)	...	16

AUSTRALIAN MUSEUM (Trustees of) AND COMMISSIONERS FOR NEW SOUTH WALES FISHERIES, Sydney.—  
Marine Mammalia.

The Dugong. *Halicore Australis*.  
Skeleton of a Dugong. *Halicore Australis*.  
Baleen sp. *Balæna Australis*.  
Tanned skin of a young Baleen Whale.  
Do skins of *Delphinus sp.*

## APPENDIX C.

COMMISSIONERS of Fisheries for New South Wales, 1885:—

James C. Cox, M.D., President.

E. P. Ramsay, F.R.S.E., &c. &c.,	Frederick Thomas, Esq.,
J. R. Hill, Esq.,	A. Oliver, Esq., M.A.

## Official Staff, 1885.

Lindsay G. Thompson, Secretary and Chief Inspector of Fisheries.

Edward J. Ellis, 1st Clerk.	J. D. Delany, Clerk.
J. F. O'Grady, Clerk.	W. A. Trengrouse, Draftsman.
C. D. St. Pinnock, ,,	L. G. Mann, ,,

W. Lannen, Messenger.

James Quinan, Inspector for Home Division of Fisheries.

Thomas Temperley, ,,	Northern	,,
George G. Benson ,,	Southern	,,

Andrew Gylar, Assistant Inspector of Fisheries,	Manning River.
Thomas Mulhall, ,,	Sydney.
Henry Curan, ,,	Newcastle.
Peter Smith, ,,	Hawkesbury River.
Charles Gordon, ,,	Shoalhaven.
J. C. White, ,,	Port Stephens.
William Boyd, ,,	Lake Macquarie.
John D. Grant, ,,	Botany and George's River.
Richard Seymour, Assistant Inspector of Fisheries,	Fish Market, Sydney.
W. N. Cain, ,,	Brisbane Water.
F. W. Smithers, ,,	Eden.
W. McGregor, Acting Assistant Inspector of Fisheries,	Tweed River.
Thomas Stewart, ,,	Bellinger River.
W. J. Whaites, ,,	Nambucca River.
John Jamieson, ,,	Macleay River.
A. H. Kendall, ,,	Cape Hawke.
H. W. C. Windeyer, ,,	Port Macquarie.
Thomas Laman, ,,	Port Stephens Heads.
A. T. Black, ,,	Broken Bay.
Bourne Russell, ,,	Twofold Bay.
Angus Sutherland, ,,	Moruya.
George Glading, Boatman,	Sydney.
Richard Hellings, ,,	,,
Frank Aldrich, ,,	Botany and George's River.
J. F. Hespo, ,,	Bateman's Bay.
D. W. Benson, ,,	Clarence River.

## Inland Waters.

Osborne Wilshire, Assistant Inspector of Fisheries, Deniliquin.

Senior-constable Nelson, Acting Inspector of Fisheries, Bungendore, Lake George.

## APPENDIX D.

RETURN showing the quantity of Fish exported from Moama to Melbourne during 1885.

		lbs.			lbs.
January .....	5,436	July .....	3,192		
February .....	1,536	August .....	3,976		
March .....	5,264	September .....	8,960		
April .....	5,040	October .....	15,344		
May .....	2,772	November .....	15,232		
June .....	2,184	December .....	4,816		

## APPENDIX E.

RETURN of the number of Bags of Oysters received at Sydney from various places on the coast during each month of the year 1885, and the amount of Royalty collected thereon at the Custom House.

Date.	Name of Place.	No. of Bags.	Total.	Amount of Royalty.	Total.	Date.	Name of Place.	No. of Bags.	Total.	Amount of Royalty.	Total.
1885.				£ s. d.	£ s. d.	1885.				£ s. d.	£ s. d.
Jan....	Port Stephens .....	357		53 11 0		Feb....	Port Stephens .....	410		61 10 0	
	Clyde River .....	339		50 17 0			Clarence River .....	159		23 17 0	
	Shoalhaven .....	204		30 12 0			Shoalhaven .....	129		19 7 0	
	Hawkesbury River..	163		24 9 0			Clyde River .....	110		16 10 0	
	Clarence River.....	149		22 7 0			Hawkesbury River.	101		15 3 0	
	Manning River.....	96		14 8 0			Moruya.....	53		7 19 0	
	Cape Hawke.....	28		4 4 0			Manning River.....	51		7 13 0	
	Pambula River.....	27		4 1 0			Laurieton .....	42		6 6 0	
	Laurieton .....	16		2 8 0			Cape Hawke.....	23		3 9 0	
	Moruya.....	15		2 5 0			Richmond River ..	12		1 16 0	
	Richmond River ...	9		1 7 0			George's River.....	11		1 13 0	
	Port Macquarie ...	8		1 4 0			Eden .....	8		1 4 0	
	Wagonga River ...	4		0 12 0			Brisbane Water ...	4		0 12 0	
			1,415		212 5 0				1,113		166 19 0

## APPENDIX E—continued.

Date.	Name of Place.	No. of Bags.	Total.	Amount of Royalty.	Total.	Date.	Name of Place.	No. of Bags.	Total.	Amount of Royalty.	Total.
1885.				£ s. d.	£ s. d.	1885.				£ s. d.	£ s. d.
Mar....	Port Stephens .....	408		61 4 0		Aug.	Georg's River.....	13		1 19 0	
	Clyde River .....	216		32 8 0		<i>contd.</i>	Laurieton .....	6		0 18 0	
	Shoalhaven .....	205		30 15 0			Shellharbour .....	5		0 15 0	
	Clarence River.....	195		29 5 0			Eden .....	4	749	0 12 0	112 7 0
	Hawkesbury River..	126		18 18 0		Sept...	Hawkesbury River..	240		36 0 0	
	Manning River.....	92		13 16 0			Clarence River.....	223		33 9 0	
	Moruya .....	38		5 14 0			Port Stephens .....	208		30 9 0	
	Laurieton .....	35		5 5 0			Shoalhaven .....	63		9 9 0	
	George's River.....	26		3 18 0			Cape Hawke.....	60		0 0 0	
	Pambula River.....	24		3 12 0			Moruya.....	60		9 0 0	
	Cape Hawke.....	13		1 19 0			Port Jackson.....	52		7 16 0	
	Milton .....	12		1 16 0			Clyde River.....	50		7 10 0	
	Brisbane Water ...	4		0 12 0			Manning River ...	21		3 3 0	
	Richmond River ...	2	1,306	0 6 0	209 8 0		Evans River.....	20		3 0 0	
April..	Clarence River.....	203		30 9 0			Laurieton .....	17		2 11 0	
	Port Stephens .....	187		28 1 0			Brisbane Water....	5		0 15 0	
	Hawkesbury River..	107		16 1 0			Shellharbour .....	4		0 12 0	
	Shoalhaven .....	96		14 8 0			Eden .....	3		0 9 0	
	Clyde River .....	62		9 6 0			Pambula River.....	2		0 6 0	
	George's River.....	51		7 13 0			Wagonga River....	3		0 9 0	
	Manning River.....	35		5 5 0					1,026	153 18 0	
	Moruya .....	32		4 16 0		Oct....	Hawkesbury River..	285		42 15 0	
	Laurieton .....	29		4 7 0			Port Stephens.....	199		29 17 0	
	Eden .....	24		3 12 0			Parramatta River..	174		26 2 0	
	Cape Hawke.....	13		1 19 0			Clarence River.....	86		12 18 0	
	Port Macquarie ...	13		1 19 0			Moruya .....	64		9 12 0	
	Brisbane Water ...	2	854	0 6 0	128 2 0		Moruya .....	56		8 8 0	
May...	Port Stephens .....	166		24 18 0			Shoalhaven .....	52		7 16 0	
	Clarence River.....	159		23 17 0			Clyde River .....	50		7 10 0	
	Clyde River .....	121		18 3 0			George's River.....	50		3 3 0	
	Hawkesbury River..	112		16 16 0			Manning River.....	21		3 0 0	
	Shoalhaven .....	103		15 9 0			Laurieton .....	20		3 0 0	
	Moruya .....	65		9 15 0			Brisbane Water....	19		2 17 0	
	Manning River ...	50		7 10 0			Cape Hawke.....	18		2 14 0	
	Bermagui River ...	27		4 1 0			Eden .....	13		1 19 0	
	George's River.....	25		3 15 0			Evans River.....	10		1 10 0	
	Laurieton .....	20		3 0 0			Bermagui .....	10		1 10 0	
	Eden .....	15		2 5 0			Wagonga River.....	3	1,080	0 9 0	162 0 0
	Shellharbour .....	12		1 16 0		Nov....	Port Stephens.....	277		41 11 0	
	Bodalla.....	5		0 15 0			Hawkesbury River..	259		38 17 0	
	Cape Hawke .....	3	883	0 9 0	132 9 0		Clyde River.....	164		24 12 0	
June...	Clarence River.....	177		26 11 0			Clarence River.....	7		23 11 0	
	Port Stephens .....	177		26 11 0			Parramatta River..	88		13 4 0	
	Clyde River .....	66		9 18 0			Manning River.....	72		10 16 0	
	Hawkesbury River..	54		8 2 0			Shoalhaven.....	53		8 14 0	
	Shoalhaven .....	51		7 13 0			Richmond River ...	50		7 10 0	
	George's River.....	30		4 10 0			Cape Hawke.....	41		6 3 0	
	Bermagui River ...	27		4 1 0			Moruya .....	35		5 5 0	
	Jervis Bay .....	21		3 3 0			George's River.....	30		4 10 0	
	Moruya .....	15		2 5 0			Eden .....	27		4 1 0	
	Shellharbour .....	14		2 2 0			Laurieton .....	24		3 12 0	
	Manning River .....	12		1 16 0			Brisbane Water....	17		2 11 0	
	Laurieton .....	10		1 10 0			Bellinger River...	15		2 5 0	
	Cape Hawke .....	7		1 1 0			Port Macquarie....	10		1 10 0	
	Pambula River ...	4		0 12 0			Wagonga River.....	7		1 0 0	
	Eden .....	4	669	0 12 0	100 7 0		Shellharbour.....	3	1,334	0 9 0	200 2 0
July...	Hawkesbury River..	183		27 9 0		Dec....	Hawkesbury River..	332		49 16 0	
	Port Stephens .....	171		25 13 0			Port Stephens.....	241		36 3 0	
	Clarence River.....	176		26 8 0			Shoalhaven.....	197		29 11 0	
	Shoalhaven .....	84		12 12 0			Clyde River.....	163		24 9 0	
	Eden .....	30		4 10 0			Clarence River.....	121		18 3 0	
	Clyde River .....	30		4 10 0			Parramatta River..	101		15 3 0	
	Moruya .....	24		3 12 0			Evans River .....	77		11 11 0	
	Port Macquarie ...	20		3 0 0			Manning River.....	69		10 7 0	
	Shellharbour .....	16		2 8 0			Cape Hawke.....	53		7 19 0	
	Cape Hawke.....	8		1 4 0			Brisbane Water....	40		6 0 0	
	Wagonga River ...	6		0 18 0			Bellinger River...	27		4 1 0	
	Jervis Bay .....	4		0 12 0			Eden .....	23		3 9 0	
	Manning River ...	2	754	0 6 0	113 2 0		Port Macquarie....	22		3 6 0	
Aug....	Hawkesbury River..	239		35 17 0			Moruya .....	20		3 0 0	
	Port Stephens .....	172		25 16 0			Wagonga River....	14		2 2 0	
	Clarence River.....	130		19 10 0			George's River.....	9		1 7 0	
	Shoalhaven .....	79		11 17 0			Laurieton .....	9		1 7 0	
	Clyde River .....	39		5 17 0			Pambula River.....	7		1 1 0	
	Moruya .....	38		5 14 0			Shellharbour.....	3	1,528	0 9 0	229 4 0
	Cape Hawke .....	24		3 12 0					12,801	1,920 3 0	

## APPENDIX F.

RETURN showing the Revenue derived under the Fisheries Act during the year 1885.

	£	s.	d.	£	s.	d.
Fishermen's licenses ... ..	518	@	0 10 0	259	0	0
Do ... ..	156	@	0 5 0	39	0	0
Fishing-boat licenses... ..	237	@	0 20 0	237	0	0
Do ... ..	58	@	0 10 0	29	0	0
Royalty on oysters raised from natural beds ... ..				1,920	3	0
Deposit on applications for leases for oyster culture ... ..				2,141	0	0
Sundries, including moieties of penalties, fines, and forfeitures recovered under Fisheries Act ... ..				363	1	0
				<b>£4,988</b>	<b>4</b>	<b>0</b>

## APPENDIX G.

SCHEDULE of Applications for Leases of Shore for Oyster Culture.

	Yds.			Yds.	
John Holdom	100	Serpent River, Port Stephens	George Haiser	300	Currambene Creek, Wollomia
Do	800	No. 1 Point, Port Stephens	George Emmanuel	200	Bermagoe River
W. H. Sharples	200	Farm Cove Creek, Port Stephens	Do	100	do
Richard R. Armstrong	900	Wobbigong Creek, Port Stephens	Do	200	do
Do	600	do do	John Ruprecht	200	Manning River
James Hunt	1,000	Corrie Creek, Myall River	Henry Thompson	200	Port Stephens
Walter Thomas Coonan	1,000	do do	H. K. Harrison	200	Twofold Bay
F. H. McIneth	200	Limeburners' Creek, Port Stephens	V. W. Seymour	200	Mooney Mooney, Hawkesbury River
Henry Woodward	500	Pelican Bay, Manning River	R. C. Rose	500	Newton Bay, Port Stephens
Peter Moore	500	Woniora, George's River	T. V. Want	300	Sutherland, Port Hacking
Joseph Southwell	500	Pelican Bay, Manning River	Thomas Hyde	600	Sutton, Port Stephens
James Evans	100	Pipeclay Creek, Karuah River	Do	300	Lemon-tree Point, Port Stephens
Do	200	Sawyer's Point, Port Stephens	Walter Foreman	100	Borang Lake
John A. Bettini	200	Cullendulla Creek, Clyde River	James Graham	100	Scott's Creek, Manning River
Do	200	Hawk's Nest, Clyde River	William Geo. Armstrong	300	Wobbigong Creek, Port Stephens
F. J. Fuller	400	Port Stephens	Laurens F. W. Armstrong	300	Corrie Bay, Port Stephens
Henry Woodward	300	Big Island, Clyde River	William McIntyre	300	Brisbane Water
Alexander Engel	300	Port Stephens	Thomas Walker	400	Parramatta River
John Severs	200	Pambula River	Jessie Campbell Browne	600	St. Ilbert's Isle, Brisbane Water
John Holdom	200	Port Stephens	Do	1,100	do do
Robert H. D. White	150	Salamander Bay, Port Stephens	W. H. Sharples & Matherson	100	Faene Cove, Port Stephens
James D. Joass	300	Wirrung Island, Port Stephens	Do	200	do do
Do	300	do do	Do	200	do do
Frederick J. Gibbins	500	Mooney Mooney Creek, Hawkesbury River	Do	100	do do
William Geo. Armstrong	400	Karuah River, Port Stephens	F. A. Griffen	100	Limeburner's Creek
Thomas Wilson	600	Greenwell Point, Crookhaven	R. H. D. White	100	Port Stephens
Patrick Caffrey	300	do do	W. E. Ireland	300	Goodwood Island, Clarence River
R. H. D. White	400	Connor's Bed, Karuah River	Walter Foreman	200	Horse Island, Tross Lake
Joseph Jenner	100	Moruya River	Do	200	do do
Samuel Lilley	1,200	Wallis Creek	R. C. Rose	500	Wirrung Island, Port Stephens
James Kinnaid	500	Port Stephens	George Witchard	470	South-west Arm, Port Hacking River
James Stanbury	300	Wollombolla, Crookhaven River	Do	400	Port Hacking
Samuel Lilley	500	Wallis Creek	Do	400	do
Do	250	Fame Cove, Port Stephens	Do	100	do
Do	250	do do	Do	500	do
William Ritchie and Henry A. Hoyer	1,000	Cuttagee Lake, Murrah	Do	200	do
Do	500	Dry River	George Haiser	200	Crookhaven River
R. C. Rose	600	Lake Channel, Clarence River	Henry Woodward	100	Berry's Creek, Shoalhaven River
James Graham	100	Gloucester, Manning River	Do	300	do do
George Wilcox	200	Cabbage-tree Island, Clarence River	William Shelley	100	Mullubula Point, Port Stephens
Henry Woodward	100	South Channel, Manning River	William Ringland	500	Cuttagee Lake
James Duncau	300	Port Stephens	Peter S. Newton	100	Manning River
Do	700	do	Albert Smart	200	Tross Lake
John and Alexander Eyles	400	Richmond River	James Graham	600	Scott's Creek, Manning River
Patrick Caffrey	600	Wollombolla, Shoalhaven	Mrs. Harriette Muston	1,000	Pendima Creek, Port Stephens
Robert Latta	300	East Nelligen, Clyde River	Beswick Bulmer	300	Low Island, Manning River
George Schmitzer	100	Manning River	Sydney H. Loten	600	Cabbage-trees Island, Manning River
Fred. J. Gibbins	300	East Bank, Raclmond River	George Schmitzer	200	Mitchell's Island, Manning River
Robert Latta	300	Clyde River	Henry Woodward	100	Berry's Creek, Shoalhaven River
Alex. Wolsley Bowman	400	Myall River, Port Stephens	Do	200	do do
George Dent, junr.	100	Currambene, Jervis Bay	Do	150	do do
Patrick Graham	100	Manning River	Peter Thos. Johnson	800	Munnimurra River
Henry Woodward	300	Karuah River	R. H. D. White	100	Port Stephens
Do	1,000	Mosquito Point, Port Stephens	Do	200	do
P. B. Bettini	100	Moruya River	Do	100	do
Do	200	do	Do	100	do
Do	100	do	George Emmanuel	200	Bermagoe River
Do	100	do	Do	200	do
James Graham	100	Low Island, Manning River	Mrs. Harriet Muston	400	Port Stephens
John Lonesborough	500	Wollombolla, Shoalhaven	Joseph Blanch	500	Myall River, Port Stephens
Henry Alderton	300	Port Stephens	Robert Hunter	400	South Side, Wopengo Lake
W. H. Wells	200	Bullock Island, Hunter River	Do	300	Wopengo Lake
William Wells	400	Port Stephens	William George Armstrong	500	North Arm, Port Stephens
Albert Smart	100	Tross Lake	Laarnes F. Armstrong	500	Karuah River
Peter S. Newton	100	Manning River	Do	800	Wirrung Island, Port Stephens
Joseph Haiser	400	Shoalhaven	William George Armstrong	100	North Arm, Port Stephens
			Richard R. Armstrong	100	Rocky Island, Port Stephens

## APPENDIX G—continued.

	Yds.			Yds.	
Richard R. Armstrong .....	100	Rocky Island, Port Stephens	William Lavington .....	400	Bownda Lake
Do .....	100	A flat bed, near Tahlee, Port Stephens	Do .....	400	do
M. M'Mahon .....	600	Brisbane Water	Alfred Rogers .....	1,500	Broken Bay
William John Mudford .....	100	Scott's Creek, Manning River	William Marsh .....	200	Bungle Creek
Heber Goring Loten .....	200	Cabbage-tree Island, Manning River	David Thompson .....	600	Taylor Bay
Do .....	100	do do	George Emmanuel .....	100	Bermagui River
John Holdom .....	100	Mangrove Island, Karuah River	Do .....	100	do
D. W. Benson .....	700	Woogoolga Creek	Do .....	400	do
Do .....	200	Bungle Creek	Do .....	200	do
Do .....	200	Woogoolga Creek	Do .....	100	do
Peter S. Newton .....	100	Pebean Bay, Manning River	Tancred de C. Armstrong .....	200	Port Stephens
John Hedding Hunt .....	100	North Creek, Richmond River	Isaac Dobbins .....	100	Scott's Creek
James Barclay .....	200	Clyde River	Joseph Southwell .....	200	Pelican Bay
Louis Lovett .....	500	Bungle Creek	A. P. Martin .....	400	Moonee Creek
John Bryer .....	400	Bherrewere River	Do .....	500	Boambee Creek
W. H. Wells .....	100	Dunne's Island, Hunter River	Do .....	400	do
John Baxter .....	500	Currarong Creek	Do .....	700	Moonee Creek
Do .....	500	do	Do .....	500	Boambee Creek
William Osburn .....	300	Mangrove Creek, Manning River	Robert H. D. White .....	300	Salamander Bay
Mrs. R. J. Bate .....	400	Karuah River, Port Stephens	Thomas Lewis .....	400	Woronora Point
John Ruprecht .....	100	Manning River	Archibald Nicolls .....	600	Mooney Creek
Christopher F. Schmidt .....	100	Clyde River	Frederick J. Gibbins .....	700	Camden Haven
Wm. Shelley .....	100	Port Stephens	Lyon J. Marks .....	500	Kogarah Bay
James Evans .....	200	Sawyers Point	Do .....	500	Lady Robinson's Beach
C. De Mestre .....	300	Kurrawong Creek	Joshua Mosley .....	100	George's River
A. M. Champion .....	2,000	Weigoolgala Creek	Fredek. J. Gibbins .....	400	do
C. De Mestre .....	100	Kurrawong Creek	Do .....	400	Hunter River
William Baxter .....	200	Currarong Creek	Hans Anderson .....	300	do
Do .....	200	do	Fredek. J. Gibbins .....	500	do
Joseph J. Lewis .....	200	Evans River	Hans Anderson .....	300	do
A. Gyler, junior .....	200	Scott's Creek	John A. Bettina .....	500	Clyde River
Peter Engstrom .....	300	Bermagui River	John Crumpton .....	500	Hawkesbury River
Do .....	200	do	John Gerald Cannon .....	500	do
Richard Flood .....	200	Myall River	John Wilson .....	100	Brisbane Water
John W. Bettini .....	400	Bateman's Bay	Do .....	100	do
Thomas Hyde .....	200	Port Stephens	George Connett .....	1,700	South Lake
John Fisher .....	300	Onions Point	J. M. Niebel .....	185	Middle Harbour
G. Haiser .....	150	Shoalhaven	Thomas O'Sullivan .....	83	Farramatta River
Do .....	200	do	Joseph Shephard, junr .....	100	George's River
Alexander Cautlay .....	100	Borang Lake	Hans Anderson .....	300	Hunter River
Samuel Holdom .....	200	Karuah River	William Engel .....	400	Swan Bay
Joseph Coote, senior .....	400	Minnunurra River	Stratis Andraulakis .....	300	Hunter River
Richard Ostern .....	300	Myall River	Do .....	600	do
John Cameron .....	300	Oxley Island	Peter Melvey .....	1,000	Browera Creek
John Noble .....	400	Long Bay	John Trainer .....	300	Hawkesbury River
Mrs. Jessie C. Brown .....	300	St. Hubert's Isle	William J. Bowles .....	500	do
James Marshall .....	300	Manning River	Archibald White .....	300	do
D. W. Benson .....	400	Woogoolga Creek	James Hickey .....	300	Corrigee Lake
James Hanley .....	100	Gore Bay	James Evens .....	200	Port Stephens
D. W. Benson .....	400	Bonville Creek	William Millard .....	200	Narrawillie Creek
Mrs. H. Muston .....	500	Port Stephens	James Dent .....	500	Jervis Bay
Fred. J. Gibbins .....	700	Clyde River	Fredek. J. Gibbins .....	500	Camden Haven
John Flett Louttit .....	100	Moruya River	Do .....	500	do
Gideon Mudford .....	100	Manning River	Robert Hardy .....	200	Brisbane Water
John Cobden Cain .....	100	Brisbane Water	Robert Latta .....	400	Clyde River
Manasseh Ward .....	300	Brisbane Water	Henrietta Shephard .....	100	George's River
James Hanly .....	100	Bellinger River	John Ward .....	200	Brisbane Water
Do .....	100	do	F. J. Fuller .....	400	Port Stephens
Do .....	100	do	George G. Gurr .....	1,200	George's River
George Rooke .....	700	Port Stephens	S. J. Shephard .....	100	do
Vincent William Seymour .....	200	Hawkesbury River	Henry Woodward .....	200	Clyde River
M. M'Mahon .....	300	Brisbane Water	Do .....	200	do
Alfred Rogers .....	500	Berowra Creek	F. H. Melmeth .....	200	Karuah River
John Dick .....	400	Ilstings River	Henry Woodward .....	1,500	Crookhaven River
Andrew Murphy .....	500	Brisbane Water	Thomas Riley .....	100	Cockle Creek
John G. Lund .....	200	Brunswick River	William James Cole .....	500	Berowra Creek
Do .....	200	do	S. Cole .....	500	do
J. R. Hill .....	350	Rose Bay	Richard Lloyd .....	800	do
Charles Brice .....	500	Wagonga River	John Milton .....	200	Clyde River
George Maunsell .....	200	do	William Milliard .....	200	Narrawillie Creek
Do .....	200	do	Do .....	200	do
Do .....	200	do	G. Dent, senr. .....	100	Flat Rock Creek
Do .....	200	do	Do .....	200	Caranua Creek
William Shelley .....	900	Port Stephens	John H. Hunt .....	100	Terranora Creek
John Longworth .....	200	Camden Haven	Do .....	100	do
George Schmitzer .....	100	Manning River	Do .....	100	do
Abram Windley .....	100	Tomago River	Do .....	100	do
Do .....	100	do	Do .....	100	do
Do .....	100	do	Do .....	100	do
Fredk. J. Gibbins .....	500	Hunter River	Do .....	100	do
Do .....	300	do	Do .....	200	do
Do .....	700	do	Archibald White .....	400	Hawkesbury River
Anderson Hans .....	900	do	S. Joseph Shephard .....	100	George's River
Abraham Emmett .....	300	Tuross Lake	Vincent William Seymour .....	200	Mooney Mooney Creek
Theodore T. Gurney .....	500	Middle Harbour	John Shephard .....	100	George's River
Do .....	450	do	Henry Woodward .....	500	Crookhaven River
Abraham Emmett .....	200	Tuross Lake	Do .....	100	Clarence River
Ernest Goring Loten .....	100	Manning River	James Ebens .....	200	Port Stephens
			Henry Woodward .....	400	Clyde River

APPENDIX G—continued.

	Yds.			Yds.	
Samuel Lilley.....	100	Port Stephens	John Comino .....	700	Bermagui River
John Lonesborough .....	200	Jervis Bay	Do .....	200	do
G. Haizer .....	300	do	Do .....	300	do
Do .....	400	do	Henry Engel .....	100	Serpentine River
Do .....	100	do	Do .....	100	do
James Barclay .....	200	Narrawillie Creek	R. H. D. White.....	700	Balbrook Cove
Do .....	200	do	Do .....	300	do
James William Cole .....	400	Browern Creek	Patrick Murray .....	100	Gosford
James Joass.....	800	Karuah River	Robert Blanch .....	100	Port Stephens
G. Selfe and S. J. Shephard	200	George's River	R. H. D. White.....	100	Salamander Bay
E. J. Coman .....	600	Wagonga River	James Marshall .....	200	Oxley
Martin Jordan .....	300	Hunter River	Walter Barnard and Thomas	1,450	Cann's Creek, Pittwater
Stratis Andraulakis .....	300	do	S. Huntly .....		
Henry Woodward .....	1,000	Ferningham's Island	Vincent William Seymour...	200	Mooney Creek
Peter Clow .....	200	Wagonga River	William Engel .....	100	Serpent River
William Lavington.....	100	Bega River	Do .....	200	do
Stratis Andraulakis .....	300	Hunter River	W. H. Sharples and R.	100	Port Stephens
Do .....	400	do	Matherson .....		
John H. Hunt .....	400	South Bellinger River	Donnell Demetrius .....	100	Wagonga River
Do .....	100	do	Alfred Rogers.....	300	Hawkesbury River
Do .....	400	do	William Smith .....	300	do
Do .....	300	do	G. Haizer .....	200	Currambene Creek
Henry Engel .....	200	Serpent River	A. Windley .....	100	Cullendulla Creek
Do .....	200	do	Peter Parke .....	400	Wooli Wooli River
Joseph Shephard, junr.....	100	Port Hacking	James Cran .....	100	Brisbane Water
Ellen Lloyd.....	200	Brisbane Water	Samuel R. Smart .....	100	Tuross Lake
Alexander Philp, senr.....	600	Lake Channel	Edward Rose .....	100	do
Henry Woodward .....	800	Crookhaven River	N. J. Cusack .....	100	Clarence River
A. Philp, junr.....	200	Lake Channel	Samuel Lilley.....	200	Port Stephens
John Paul .....	500	Quibray Bay	Do .....	500	Baroma Creek
Frederick J. Gibbins .....	800	Hunter River	Henry Woodward .....	1,200	Wollombi River
Samuel Lilley.....	100	Port Stephens	Do .....	1,100	do
R. H. D. White.....	100	do	Percy Wakefield .....	100	Nelson Lake
Demetrius Donnell.....	500	Wagonga River	Do .....	200	do
Thomas Mosley .....	100	George's River	Do .....	200	do
James Hanly .....	100	Bellinger River	Henry Woodward.....	400	Cape Hawke
Do .....	100	do	Do .....	500	Stinko Creek
Samuel Garrad .....	200	Narrawillie Creek	Do .....	400	Wallis Lake
Thomas William Garrad .....	200	do	Do .....	500	Stinko Creek
William Samuel Garrad .....	300	do	Frank Bertram .....	100	Evans River
Henry Woodward .....	300	Crookhaven River	William Smith .....	400	Mooney Creek
Do .....	100	do	Do .....	700	do
Frederick J. Gibbins.....	300	Clyde River	John Hedding Hunt.....	300	Terranora Creek
Do .....	300	do	Do .....	200	do
Do .....	1,000	do	Do .....	300	do
George Axam.....	200	Bettangabie Bay	Do .....	200	do
Do .....	300	do	Henry Thomson.....	500	Karuah River
Clive Belisario .....	800	Black Creek	Do .....	500	do
James Deamer .....	200	Dunn's Island	Vincent William Seymou	200	Mooney Creek
Vincent William Seymour...	200	Mooney Mooney Creek	Do .....	500	do
James Joass .....	400	Warring Island	Frank Parkyns .....	200	do
Francis Budd .....	200	Clyde River	Edwin Cain .....	200	Cullendulla Creek
Do .....	300	do	Peter Nelson .....	100	Brunswick River
David Tuck.....	200	Brisbane Water	E. J. Coman .....	200	Wagonga River
John Johnston .....	300	Wagonga River	F. J. Fuller .....	200	Port Stephens
James Hanley .....	200	Bellinger River	James Evens .....	500	do
Heber Barlow .....	100	Lake Birroul	W. H. Sharples .....	100	do
Thomas V. Want .....	100	Port Hacking	Thos. Hyde, junr.....	100	do
Henry S. Mudge .....	200	Broadwater	F. H. Melmeth .....	400	do
George Haizer .....	300	Currambene Creek	Thomas Crumpton .....	200	Hawkesbury River
Do .....	100	do	W. E. Ireland .....	200	Goodwood Island
G. P. Keon .....	100	Kiah River	Richard Lloyd .....	300	Mooney Creek
James Ross .....	200	Mooney Creek	T. S. Huntley, W. Barnard,	1,000	Pittwater
John Cameron .....	200	Oxley Island	and A. B. Wood .....		
Joseph W. Lloyd .....	100	Brisbane Water	T. S. Huntley, W. Barnard,	800	do
Nicholas Hanly .....	100	South Arm, Bellinger River	and A. B. Wood .....		
Do .....	100	do do do	John Comino .....	500	Nelson Lake
Do .....	100	do do do	Percy Wakefield .....	100	do
Edward Johnston .....	200	Brunswick River	Do .....	100	do
Do .....	200	do	R. H. D. White.....	100	Port Stephens
Albert Smart .....	200	Tuross River	Do .....	100	do
Albert Edward Smart .....	100	Borang Lake	T. S. Huntley, W. Barnard,	150	Pittwater
George Watt .....	100	Brisbane Water	and A. B. Wood .....		
Bezwick Bulmer .....	100	Rhappingat Creek	T. S. Huntley, W. Barnard,	350	do
Joseph Blanch .....	200	Port Stephens	and A. B. Wood .....		
Do .....	200	do	Demetrius Donnell .....	200	Wonboyn River
Do .....	100	do	Arthur Wood .....	200	Pittwater
M. Shuttles .....	200	Broken Bay	Herbert Valentine Haynes..	200	Orogandiman Island
R. Lloyd .....	500	Mullet Creek	Do .....	100	North Arm, Clarence River
Do .....	300	Rabbit Island	Sidney Walter Haynes.....	200	Clarence River
Sydney Cole .....	500	Mullet Creek	Do .....	200	Orogandiman Island
William Sutton .....	200	Mooney Creek	A. M'Guire & W. Emerson	100	Goodwood Island
William Smith .....	200	do	William Osbourn .....	100	Manning River
F. H. Melmeth .....	200	Sawyers Point	James Ross .....	600	Mooney Creek
Do .....	200	Limeburners Creek	Timothy Wray .....	500	Pelican Island
R. H. D. White.....	100	Port Stephens	Arthur Hood Pegus .....	200	Yamba
Peter Melvey .....	400	Hawkesbury River	Edwin J. Banger .....	100	Port Stephens
Harry Rose .....	200	Mooney Creek	Do .....	500	do
William Sutton.....	200	do	Lilley Samuel .....	200	do
William Harrison .....	200	Hunter River	John Wilson .....	200	Mooney Creek

## APPENDIX G—continued.

John Wilson .....	Yds.	Mooney Creek	Henry Woodward.....	Yds.	Bulgah Creek
Do .....	300	do	R. H. D. White.....	300	Port Stephens
A. Philp, junr., H. Philp, and Walter Black	600	Clarence River	G. Lance and C. Donald ..	500	Woolawarre Bay
William Woodward .....	200	Wherewerre Creek	Thomas Templeman .....	300	Buckenbowna River
Do .....	100	do	Peter Kruckow .....	300	Myall River
A. M. Harper.....	1,000	Woolawarre Bay	George Emmanuel.....	200	Bermagui River
Patrick Murray.....	100	Brisbane Water	H. Muston.....	500	Port Stephens
Do .....	200	do	Do .....	1,000	do
Nicholas Trengrouse.....	200	Orogandiman Island	Richard Hibbs .....	200	Hawkesbury River
W. Baxter .....	500	Cabbage-tree Creek	Do .....	300	do

## APPENDIX H.

RETURN showing quantity, in Baskets, of Fish, brought to the Fish Market, Woolloomooloo, January to December, 1885.

Place.	Jan.	Feb.	March.	April.	May.	June.	July.	August.	Sept.	Oct.	Nov.	Dec.	Total.
Manning River .....							157						
Port Stephens .....	222	625	670	622	684	698	601	771	404	249	164	299	5,909
Newcastle and Lake Macquarie.	180	214	239	241	396	272	503	534	1,063	898	648	859	6,047
Tuggerah Lake .....					724	356	338	2		71	427	258	2,176
Broken Bay .....	320	620	585	425	396	299	457	447	409	360	285	395	4,998
Narrabeen .....	70	42	60	21						68			261
Port Jackson and tributaries.	263	365	319	231	132	130	190	153	124	346½	294	400	2,947½
Botany Bay .....	405	818	690	503	300	344	405	358½	355	433½	280	402	5,294
Wollongong .....	44	9	3	730	1,411	965	1,141	916	777	115			6,111
Shellharbour .....				38			297		45				380
Ulladulla .....			9	57	49	45	100	109	65	55			489
Shoalhaven .....	16		44	202	467	190		258		16	28	19	1,240
Jervis Bay .....				42	665	431	361	44					1,543
Bateman's Bay .....				14	29		40	45	15	8			151
Port Macquarie .....							11						11
Terrigal .....												16	16
Clarence River .....						99	270	153	10				532
<b>Total</b> .....	<b>1,520</b>	<b>2,693</b>	<b>2,619</b>	<b>3,126</b>	<b>5,253</b>	<b>3,740</b>	<b>4,760</b>	<b>3,790½</b>	<b>3,327</b>	<b>2,620</b>	<b>2,126</b>	<b>2,558</b>	<b>38,162½</b>
Condemned as unfit for food.	43 & 2 doz.	96½	51	15	38½	38	49	22	2	28	14	76	473 baskets and 2 dozen schnapper.
Seized under the Fish- eries Act.	8½	6	7	9	9	10½	9½	7	7	4	2½	3	83 baskets.
Prawns .....		2	1	2									5 „
Crayfish .....								7 doz.					7 dozen.
Jewfish and Kingfish...		35	30 & 7							2		14	81 doz. & 7.
Mullet .....			255	2,815								39	3,109 doz.
Schnapper .....	40½	110½	135	178	189	132	80 & 9	42	37	22	34½	39	1,040 doz. & 3.
Teraglin .....		11	20	16	4					19	19	23	112 doz.
Lobsters .....	85	16		18	56	139	183 & 8	241	311	342	509	217½	2,118 dz. & 2.
Turtle .....	2	3	2										7
Salmon .....		8	80			39				45	903	170	1,245 doz.
Sweep .....		20	19	13	6								58 „

APPENDIX I.

RETURN showing range of Prices obtained at Fish Market for Fish sold, from January to December, 1885.

Name of Fish	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
Schnapper, per dozen .....	12/6 to 24/	10/ to 22/	8/ to 16/	9/ to 27/	6/ to 29/	6/ to 11/	10/ to 25/	11/ to 36/	10/ to 30/	9/ to 35/	9/ to 60/	10/ to 40/
Flathead ,, .....	3/ to 9/	5/ to 6/	5/ to 9/	4/ to 6/	4/ to 5/	3/ to 11/	4/ to 12/	3/ to 13/	5/ to 14/	3/ to 12/	3/ to 13/	4/ to 15/
Mullet, per heap .....	7/ to 9/	3/ to 8/	4/ to 10/	3/ to 8/	4/ to 9/	3/ to 7/	4/ to 8/	4/ to 9/	3/ to 8/	4/ to 8/	4/ to 9/	4/ to 9/
Garfish ,, .....	5/ to 7/	7/ to 10/	7/ to 11/	6/ to 17/	4/ to 10/	4/ to 9/	5/ to 10/	4/ to 10/	4/ to 11/	6/ to 10/	9/ to 13/	7/ to 14/
Blackfish ,, .....	4/ to 7/	4/ to 9/	6/ to 9/	6/ to 7/	4/ to 10/	4/ to 6/	3/ to 7/	3/ to 6/	4/ to 9/	4/ to 7/	4/ to 10/	5/ to 8/
Travelly ,, .....	3/	4/	6/	2/	.....	2/	3/	3/ to 6/	4/ to 6/	5/ to 6/	4/ to 7/	4/ to 8/
Tailers ,, .....	4/	4/ to 5/	3/	2/	2/ to 3/	2/ to 4/	3/ to 5/	5/	4/ to 7/	4/ to 6/	4/ to 6/	4/ to 5/
Yellowtail ,, .....	6/	5/	4/	4/	.....	.....	.....	.....	7/	7/	2/ to 6/	4/
Bream ,, .....	7/ to 14/	4/ to 12/	11/ to 13/	9/ to 11/	5/ to 11/	5/ to 9/	5/ to 10/	6/ to 11/	7/ to 20/	8/ to 20/	8/ to 21/	12/ to 40/
Whiting, per dozen .....	3/ to 6/	3/ to 6/	3/ to 7/	2/ to 7/	3/ to 6/	2/ to 7/	3/ to 7/	2/ to 6/	2/ to 8/	2/ to 6/	2/ to 6/	3/ to 12/
Kingfish, per half dozen .....	6/	7/ to 14/	6/ to 12/	4/	3/	4/ to 9/	.....	.....	.....	.....	.....	4/
Jewish, per dozen .....	12/ to 37/	12/ to 40/	10/ to 42/	12/ to 38/	9/ to 44/	12/ to 33/	10/ to 36/	9/ to 40/	12/ to 46/	9/ to 96/	12/ to 60/	9/ to 50/
Lobsters ,, .....	20/	20/ to 25/	.....	18/ to 20/	10/ to 12/	10/ to 13/	18/ to 20/	8/ to 20/	12/ to 20/	10/ to 20/	8/ to 13/	10/ to 17/
Mixed, per heap.....	20/	8/	10/	10/	11/	11/ to 12/	10/ to 15/	10/ to 14/	11/ to 13/	5/ to 18/	5/ to 21/	5/ to 25/
Squire, per dozen .....	.....	3/ to 5/	4/ to 5/	4/ to 6/	5/ to 6/	3/ to 5/	5/ to 10/	4/ to 5/	5/ to 9/	5/ to 9/	5/ to 13/	6/ to 8/

January 8, one Turtle—Port Stephens, £3 10s

## APPENDIX J.

## ANNUAL REPORT, HOME DIVISION OF FISHERIES, FOR 1885.

## Mr. Assistant Inspector Mulhall's Report to The Chief Inspector of Fisheries.

Sir,

Sydney, 31 August, 1886.

I have the honor to furnish you with my report as to the state of the fisheries of the Home Division for the year 1885.

*Port Jackson.*—I visited the Fish Market regularly all the year, from 4 a.m. and 5 a.m. until 7 a.m. each morning, excepting Sundays, and found there a very fair supply of fish. The quantity of fish varies as to the state of the weather—particularly after bad weather they are to be seen in great quantities; and this is owing to them being driven down out of the creeks by the boisterous weather.

I have also attended at the wharves regularly during the year to look at the quantity of oysters that was arriving, and examine them as to the size.

I also wish to report having visited the different places regularly in my district, and during the closed months remaining out often till late at night. I also found small fish in abundance all around the heads of the bays. During the year it has been my business to select fish for preserving and painting, I believe, for the Exhibition at home in England; also selecting some for the Sydney Museum.

In the month of October I went to Wollongong for a short time to inspect the lake there and report on it.

The following is a return of the oysters taken from the oyster-beds of New South Wales for the last three months of 1885—namely, October, November, and December:—

They are as follows:—

	Sydney.	Elsewhere.
Brisbane Water ... ..	66	4
Hawkesbury ... ..	906	...
Shoalhaven ... ..	311	13
Port Stephens ... ..	738	11
Manning ... ..	154	...
Clarence ... ..	387	19
George's River ... ..	70	...
Bateman's Bay ... ..	380	...
Hunter River ... ..	135	160
Moruya ... ..	97	...
Cape Hawke ... ..	108	...
Richmond ... ..	51	1
Port Macquarie ... ..	32	...
Bollinger ... ..	47	...
Bermagui ... ..	10	...
Merimbula ... ..	7	...
Eden ... ..	51	...
Wagonga ... ..	34	...
Total No. of bags ... ..	3,584	208

As to the oysters about the harbour, I wish to state they are almost exhausted, which I believe is owing to the picnic parties, who destroy the rocks.

*Mr. Assistant Inspector Grant.*

In reference to Botany, I wish to state that the Assistant Inspector there reports very favourably for the last three months of the year of 1885—namely, October, November, and December. He visits regularly the different places in his district, and reports fish sometimes plentiful, and other times scarce, of course owing to the state of the weather. The blubber has been troublesome; and this hinders the fishermen hauling their nets.

*Mr. Assistant Inspector Smith.*

October, November, and December.

In reference to the Hawkesbury River, I wish to state the reports I have received from the Assistant Inspector there are not very favourable in regard to the fish; as, from his reports, I learn that fish of all kinds have been very scarce in the closed as well as the open waters for those months.

There are eighteen men at work and seven boats in his district.

As regards the oysters in the Hawkesbury River, from the Inspector's report I learn that the oysters during those last three months of 1885 were very scarce, both rock and dredge. The deposits of young oysters were healthy and plentiful; also, I observe from his report, that marketable oysters were scarce. The Assistant Inspector appears to attend strictly to his duties.

*Mr. Assistant Inspector Cain.*

From the Assistant Inspector of Brisbane Water I receive very good reports; and from them I learn that he attends regularly at the wharves in his district to see to the oysters that are shipped from there; also, he visits frequently the fishing-places in his district; also, he is employed measuring leases sometimes. As to the quantity of fish there, they vary, as in other places—sometimes great, and at other times small quantities. The number of men employed fishing there was six, and boats three.

*Mr. Assistant Inspector Gordon.*

In reference to Shoalhaven, I wish to state, for October, November, and December, that very little fish could be brought from there to Sydney, owing to the heat of the weather; and from the Inspector's report I learn that it is used for local consumption, and a quantity sent on to Kiama. The number of men employed fishing there were ten, and boats three. During the hot months some of the fishermen have to give up work. He appears to keep a very good look-out in his district.

Mr.

*Mr. Assistant Inspector Curan.*

In reference to the Hunter District, I wish to state, for the months of October, November, and December, that, from the Inspector's reports, the fish have been very plentiful, particularly in October. There appears to be a great deal of prawn-catchers, and a number of baskets are regularly sent to market. The blubber, I believe, was troublesome down there, which hinders the fishermen hauling their nets.

The number of fishing-boats there is thirteen, and twenty-nine men.

The number of boats catching prawns are twenty-five, and fifty men.

As to the oysters in the Hunter, from the report I learn that there were no oysters on the deep-water beds; and as to the young oysters, there are a good few on the rocks and the foreshore.

*Mr. Assistant Inspector Boyd.*

From the reports received from Lake Macquarie for those three months, namely, October, November, and December, I wish to report that fish appears very plentiful down there, particularly mullet and salmon, which are making great destruction among the small fish. Blubber seems to be troublesome down there; and particularly about this time of the year it begins to appear.

I wish to state, in reference to the fisheries of the Home Division, the reports received from there are generally very favourable, as all the Assistant Inspectors seem to be attending to their duties in a satisfactory manner, because there are no complaints from anywhere.

I wish to add, in reference to the two boatmen, Hellings and Glading, that they have during the year assisted me in my duties.

I have, &c.,

THOMAS MULHALL,  
Assistant Inspector.

## APPENDIX K.

## ANNUAL REPORT, NORTHERN FISHERIES DIVISION, 1885.

## Inspector Temperley's Report.

*Oysters.*

THE oyster-bearing portions of the north coast have been worked during the year chiefly under occupation licenses, boat licenses having run out during 1884, and been entirely discontinued.

The inlets which have been worked, the quantities taken, and the royalty payable thereon, are as follows:—

River.	Quantity to Sydney.	Quantity locally consumed.	Royalty
	Bags.	Bags.	£ s. d.
Clarence River .....	1,915	93	301 4 0
Manning River .....	492	15	76 1 0
Cape Hawke .....	293	.....	43 19 0
Richmond River .....	121	15	20 8 0
Bellinger River .....	47	.....	7 1 0
Port Macquarie .....	84	17	15 3 0
Evans River .....	30	55	12 15 0
Tweed River .....	Nil	.....	.....
Camden Haven .....	No returns	.....	.....
	Total number of bags.....	3,177.	Total royalty..... 476 11 0

It will be noticed that by far the greatest quantity has been taken from the Clarence River, which produced nearly twice as much as the whole of the remaining inlets, the bulk of the Clarence oysters being produced from the House Bed, which, after a two years' rest, was in excellent condition, and still remains in good order, after 1,012 bags had been taken from it within the year.

The Manning River, which contributed, among the northern rivers, the greatest quantity last year, fell off considerably, and produced only 492 bags, against 1,226 for the previous year, the defection being mainly due to the over-dredging it received under the licensed dredgers in 1884.

The working of the oyster-beds during 1885 is in several respects in marked contrast with the treatment which they received under the licensing system of previous years.

In the first place, the oysters have been sent to Sydney with uniform regularity, and not, as on previous occasions, rushed in in glut quantities, with alternative intervals of scarcity. Thus the Clarence River, when opened to dredgers in 1883, was worked by sixty-four boats, which dredged, although limited to two days' work per week, 1,000 bags within the month, and so reduced the beds in four months as to necessitate their being closed.

The same river, opened under leases, or, what is temporarily equivalent, occupation licenses, has produced not less than 135 bags, and not more than 215 bags, during each out of eleven of the past twelve months.

Apart from the advantages of regular supply, the natural beds now have their cullings properly replaced and uniformly spread, instead as of heretofore being thrown in pile-heaps. The same self-interest which, despite the most vigilant supervision, led licensed dredgers to put under-sized as well as mature oysters into their bags now prompts the lessees to replace them on the bed.

But by far the greatest recommendation to the present leasing system is the encouragement the secure tenure gives the lessee to improve the oyster-bearing ground. Let it be noted that during the whole period of the licensing boat system the work of removing bank oysters into deep water, which had been carried out on a few of the validated leases, was entirely discontinued, and not the slightest effort made to improve the natural beds. In marked contrast to this, and during 1885, the lessees on the Richmond River, Clarence River, Manning River, at Cape Hawke and Port Macquarie, and on the Bellinger River, stocked the deep-water beds with quantities of immature foreshore oysters. In one instance, on the Richmond, the lessees incurred considerable expense in laying a quantity of small ballast-stone and covering it with shells as a foundation

foundation for an oyster-bed, while on the Clarence River a quantity of oyster-shells have been brought from Sydney and replaced upon the beds.

In the main portion of the Clarence River, which had not been known from prior to 1885 to produce oysters in marketable quantities (the natural beds being confined to the Lake Channel), a good oyster-bed was formed on one lease, and forty bags were shipped from it during the year.

While security of tenure has thus resulted in an amount of what may be termed semi-oyster cultivation, that is the planting out of immature naturally-grown foreshore oysters, thorough cultivation, by providing for the attachment of spawn, has not yet been properly attempted. There is no doubt but that it will be done, and before long some practical method will be adopted to attach the quantities of spawn which float away and waste every season for the want of suitable attachment.

On the Clarence and Richmond Rivers the oysters spawned freely in February, but in the Manning River and others of the southern inlets in this division the spawning season was indifferent.

#### Fish.

Fishing operations on the north coast continue, as heretofore, to be confined chiefly to the limited supply of local wants and to the production of small quantities of salt fish, the latter work being mostly carried on by Chinamen, who send away, consigned to their own countrymen, quantities of the finest whiting and other fish. A few of our own fishermen occasionally take up the work, but generally with indifferent results, though in one instance on the Richmond River salt fish was for a time regularly sent to Fiji.

During the winter months, June, July, and part of August, fresh fish was sent to Sydney from the Clarence, Manning, Macleay, and Hastings Rivers, the returns being good, and the fishermen only regret that the opportunity did not continue.

THOS. TEMPERLEY,

Inspector, Northern Fisheries.

10 April, 1886.

## APPENDIX L.

### ANNUAL REPORT ON SOUTHERN FISHERIES FOR THE YEAR 1885.

Sir,

Bateman's Bay, 12 April, 1886.

I have the honor to forward my report on the Southern Fisheries for the year 1885.

The fisheries between St. George's Basin, to the north, and Wagonga River, to the south, are under my personal supervision, and embrace the following oyster-bearing waters, on which applications have been made, under the Oyster Fisheries Act of 1884, to lease Crown Lands for oyster culture:—Narrawillie Creek, Durras Lake, Cullendulla Creek, Clyde River and tributaries, Tomago River, Moruya River, Tuross Lake, and Wagonga River.

*Narrawillie Creek.*—During the year eight applications for leases, representing an area of 1,700 yards, were received by me from the Fisheries Department to report on, making a total of 2,200 yards applied for under the Oyster Fisheries Act, 1884. These applications embrace all the available ground suitable for oyster culture. It will be satisfactory to the Commissioners to hear that all of the applicants, although holding their ground on sufferance, are laying down oysters and otherwise improving the areas applied for. The applicants have availed themselves of the permission granted by the Commissioners by shipping about eighty bags of oysters during the year. Considering there were some hundreds of bags of oysters laid down on these beds when inspected by me in July last, the most of them were then of marketable size, and that so few have been shipped since, leads me to believe that the applicants for Narrawillie Creek have applied in good faith, and intend cultivating oysters in a systematic manner.

*Durras Lake.*—Applications have been made, under the Oyster Fisheries Act, 1884, for areas amounting to 3,600 yards. 2,100 yards have been recommended by the Commissioners to be granted, the applicants for the remaining portion having withdrawn their applications. Durras Lake was at one time considered by oystermen as one of the best waters in the Southern District for oyster culture, and was remarkable for the perfect shape which oysters removed to it from other waters attained in a short space of time. In consequence of the mouth of the lake having been closed for over two years, the accumulation of mud, slime, and weeds has quite destroyed the natural oyster-beds, and there is no spot available for laying down. Mud-oysters are found in great numbers, but are of no marketable value, as they only live a few hours after being taken from the water. No oysters have been shipped during the year.

*Cullendulla Creek.*—300 yards have been applied for during the year, making a total of 4,200 yards since the passing of the Act. Applications representing 2,100 yards have been withdrawn, and 1,900 yards have been recommended to be granted by the Commissioners. Very few oysters are to be seen on the mangroves which line the foreshores, and some time will elapse before it recovers the skinning received in former years. Sixty-one bags of oysters were shipped during the year.

*Tuross.*—During the year 2,100 yards have been applied for under the Oyster Fisheries Act, 1884. Forty-three applications have been received for areas amounting to 16,650 yards, reports on which have been forwarded by me to the Fisheries Department. With the exception of Messrs. Foreman and Smart, none of the applicants have done anything to improve their holdings. This may be accounted for in a great measure by the uncertainty existing in the minds of many of the applicants with reference to the leases being granted. 444 bags of oysters were shipped during the year.

*Wagonga River.*—Applications for 3,200 yards have been received during the year, making a total of 21,060 yards applied for under the Act. Several of the applicants have improved their holdings by laying down young oysters on ground suitable for their development. Oysters have been shipped during the year, but I am not aware of the exact number of bags, as particulars of these shipments, in accordance with the 42nd Regulation, are forwarded direct to the Collector of Customs by the consignors.

*Moruya River.*—This river is under the charge of Acting Assistant Sutherland, who also supervises the shipments of the Tuross oysters. He informs me that during the year he has measured and marked the areas applied for, in accordance with the instructions received from the Chief Inspector. He states that none of the applicants have as yet done anything to improve their areas. Twenty-six bags were shipped during the year.

Tomago

*Tomago River.*—Three applications for a total area of 300 yards were received during the year. 2,500 yards have been applied for since the passing of the Act. There are very few oysters at present in this creek, but with care and attention it could be made to produce sufficient to return handsome profits to the oyster culturists. Nothing has been done by the applicants to improve their areas beyond laying down a few mangrove oysters on their foreshores. No oysters have been shipped during the year.

*Clyde River and Tributaries.*—Since the 21st July, 1884, on which date the present Oyster Fisheries Act came into operation, 86 applications, representing an area of 49,486 yards of foreshore, have been forwarded to me from the Department of Fisheries to report on. Eighteen applications for a total of 6,786 yards were applied for during the past year. Many of the applicants are residents of the Clyde River who have been engaged in the oyster and fishing industry for years, and are just the right class of men to become pioneers in the business of oyster culture. Several have started to improve the areas for which they have applied, and hold on sufferance, by laying down oysters, and fixing spat-collectors in the shape of freestone and swamp-oak; others appear to rely solely upon the natural producing powers of their extensive holdings. 1,263 bags of oysters were shipped during the year.

EXTRACTS FROM INSPECTORS' DIARIES FOR THE YEAR 1885.

*January.*

*Assistant Inspector Smithers.*—Reports having measured areas applied for at Broadwater.

*Acting Assistant Inspector Sutherland.*—Large shoals of fish, apparently salmon, to be seen moving along the coast in a northerly direction.

*Inspector Benson.*—Measuring and reporting on areas applied for at Tuross. Inspected oyster-beds at Cullendulla Creek and Square Head. Reporting on areas applied for on the eastern shore of the Clyde River.

*February.*

*Assistant Inspector Smithers.*—Measuring and reporting on areas applied for at the Murrah River, Cuttagee Lake, and Bermagoe River. Visited the Nellica and Kiah Rivers.

*Acting Assistant Sutherland.*—Large numbers of young mullet, bream, black-fish, and gar-fish in the Moruya River this month.

*Inspector Benson.*—Measuring and reporting on areas applied for at Durras Lake and Cullendulla Creek. Inspected oyster-beds at Buckenbowra River and Mogo Creek.

*March.*

*Assistant Inspector Smithers.*—Measuring and reporting on areas applied for at Cuttagee Lake. Visited and inspected Wallaga Lake, Bermagoe River, Nelson Lake, Middle Lake.

*Acting Assistant Sutherland.*—There have been large numbers of schnapper caught at Moruya Heads during the month. Measured and reported on areas applied for on Moruya River.

*Inspector Benson.*—Measuring and reporting on areas applied for at Wagonga River, Tomago River, and Square Head. First shoal of sea-mullet entered Clyde River.

*April.*

*Assistant Inspector Smithers.*—Visited Panbula River and Broadwater. Oysters in good condition. Kiah River oysters dying, caused by river sanding up. At Green Cape fishing leather-jackets very numerous; cray-fish plentiful; schnapper scarce.

*Acting Assistant Sutherland.*—There are not many mature fish to be seen in the river. Fair quantities of young fish, principally mullet and black-bream. Oysters in good condition, but beds poorly stocked. None of the applicants for leases have done anything to improve their areas.

*Inspector Benson.*—Reported on Pelican Island beds. Inspected areas which have been applied for, and on which oysters have been bedded by the applicants on the Clyde River.

*May.*

*Assistant Inspector Smithers.*—Measured and reported on areas applied for at the Bermagoe River. Visited Bittangabee. Oysters in splendid condition. Wonboyn River oysters towards falls in good condition, those towards mouth of river poor. Panbula River oysters appear to be falling off in condition.

*Acting Assistant Sutherland.*—I have to report having examined the oyster-beds in the river, and find them very poorly stocked. Young oysters are beginning to show. Procured and forwarded to Sydney oysters for Indian and Colonial Exhibition.

*Inspector Benson.*—In Sydney, certifying to the position of areas which have been applied for in the Southern Division of Fisheries for oyster culture.

*June.*

*Assistant Inspector Smithers.*—Measured and reported on oyster reserve applied for by the inhabitants of the district of Bermagoe. Measured areas applied for at Wapenga Lake. Procured and forwarded to Fisheries Department oysters for Indian and Colonial Exhibition.

*Acting Assistant Sutherland.*—As regards oysters, things are in their normal state, no one improving or working areas applied for. Large numbers of whiting and mullet have been in the river lately, presumably driven in from sea by the bad weather.

*Inspector Benson.*—Measured and reported on areas applied for at Tuross. Inspected and reported on the Pages Islands. Inspected and reported on a reserve applied for by the inhabitants of Moruya.

*July.*

*Assistant Inspector Smithers.*—Inspected oysters from Wonboyn River; found them in good condition. Procured oysters for Indian and Colonial Exhibition. A great scarcity of fish this month.

*Acting Assistant Sutherland.*—Dense shoals of perch and salmon in river; also large numbers of whiting. The perch are high up the river, and apparently spawning. No schnapper to be caught outside.

*Inspector Benson.*—Measured and reported on areas applied for at Narrawilla Creek and Clyde River. Procured exhibits for Indian and Colonial Exhibition.

## August.

*Assistant Inspector Smithers.*—Visited the Kiah River. Measured areas applied for at Nellica and Broadwater. In Sydney certifying to the position of areas applied for in the waters under my supervision for oyster culture.

*Acting Assistant Sutherland.*—I have nothing fresh to report; the fish that are to be seen in the river are of the same kinds as stated in my report of July.

*Inspector Benson.*—Visited Moruya River and inspected an area applied for by P. Bettini; against the granting of a lease for which Mr. Ziegler had petitioned the Commissioners. Measured and reported on areas applied for at Cullendulla Creek.

## September.

*Assistant Inspector Smithers.*—Measured areas applied for at Borunda Lake, Bega River, Cuttagee Lake, and Bermaguo River.

*Acting Assistant Sutherland.*—There have been fair numbers of mullet and bream caught in the river during the month.

*Inspector Benson.*—Measured and reported on areas applied for at the Wagonga River and Tomago River, marking boundaries which have been recommended to be granted at the Clyde River with the broad-arrow.

*Acting Assistant Russell.*—The whalers caught four whales in the bay this month. For forty years there has only been one case of a whale having a calf in her belly after being killed. I think they slip them in their struggles for life. I think this is the case from the fact of nearly all the cow whales having young calves on their return from the north.

## October.

*Assistant Inspector Smithers.*—Laid up during the month with a bad leg, caused by a kick from a horse.

*Acting Assistant Sutherland.*—Trevally have been seen on the river, a fish which has been a stranger here for many years. Great scarcity of schnapper outside.

*Inspector Benson.*—Marking starting-points of areas which have been recommended to be granted at Cullendulla Creek, Tomago River, and Durras Lake.

## November.

*Assistant Inspector Smithers.*—Measured areas applied for at Nelson Lake, Bermaguo River, and Cuttagee Lake. Marking starting-points of areas applied for at Bermaguo River, as instructed.

*Acting Assistant Sutherland.*—During the month I have marked starting-points of areas applied for on the Moruya River, as instructed by the Chief Inspector.

*Inspector Benson.*—Visited saw-mills to see what steps had been taken by the proprietors for preventing sawdust getting into river. Reported Francis Guy for allowing sawdust to get into the Clyde River. Prepared and forwarded a tracing of all hauling-grounds on the Clyde River.

## December.

*Assistant Inspector Smithers.*—Started for Bittangabee in launch; sea too rough to get in. Visited the Wonboyn River. On leave of absence from the 16th to end of month.

*Acting Assistant Sutherland.*—There is nothing fresh to report from this station this month. Fish are plentiful, but only captured for local wants, as consignments cannot be sent to Sydney in marketable condition.

*Inspector Benson.*—Measured and reported on areas applied for at the Wagonga River and Tuross. Marked boundaries of areas which have been recommended to be granted on these waters. Procured and forwarded to the Fisheries Department sharks' and rays' oil for the Indian and Colonial Exhibition.

## RETURN of Oysters shipped to Sydney, for the year 1885, of which I have been advised.

Name of Place.	Jan.	Feb.	March	April.	May.	June.	July.	Aug.	Sep.	Oct.	Nov.	Dec.	Total.	Royalty.	From where shipped.
Clyde River .....	306	73	192	69	86	71	19	49	53	53	177	115	1,263	£ 189 9 0	Bateman's Bay
Tuross .....	10	54	50	29	35	21	26	55	65	44	35	20	444	66 12 0	Moruya Heads
Moruya River ...	5	...	...	...	21	...	...	...	...	...	...	...	26	3 8 0	Moruya Heads
Cullendulla Creek	4	7	10	8	7	3	...	2	...	...	12	8	61	9 8 0	Bateman's Bay
Total.....	325	134	252	106	140	95	45	106	118	97	224	243	1,794	269 2 0	

Particulars of Oysters leaving Narrawilla Creek and Wagonga River are wired direct to Collector Customs, Sydney, by the consignors.

Mr. Assistant Inspector Smithers to Mr. Inspector Benson.

Sir,

Eden, 26 February, 1886.

I have the honor to forward for your information the enclosed report showing the state of the different oyster-bearing waters in part of my district, from which it will be seen that there are a great number of rivers and lakes, but at present not much taken notice of as oyster-bearing waters; although no oysters are to be seen in several of the places, it does not necessarily follow that nothing could be done to make them fit for oyster culture.

*Nagho River* some years back was well supplied with oysters. Where oyster-beds were then, the same spaces now are nothing but sand-flats; yet I am of opinion that oysters might still be found higher up the river if appliances could be got there to test it.

*Meruca Creek* at present time has a fair supply of oysters in it. It cannot be called one of the best places for oyster-culture, as there is not sufficient laying-down ground, being mostly bold water at the foreshores.

The same might be said of the Wonbloyn River, which produces about the finest oysters in the Colony, but yet deficient in laying-down grounds. Nearly the whole of the foreshores of this river have been applied

applied for, but up to the present none of the applicants have made the slightest effort to promote the increase of oysters. Some years ago mangroves grew at this river, but at present not one to be seen; while the mangrove grew it appears that the oysters took well to them.

*Bittagata Creek.*—Very little laying-down ground; great wash at times in from the ocean, coming up to where oysters end, about 1,000 yards, making it risky to lay down; oysters there in fair condition.

*Kiah River.*—A small portion only of which being fit for oyster culture, heavy sand-flats being the chief obstruction. I am of opinion that the cultivation of mangroves should be carried on upon the flats and marshes, in order to try if oysters could not be made grow upon what are now very barren wastes.

*Myrial Inlet.*—In every way adapted for oyster culture, but nothing has been done towards improving it by the applicants; three years ago there was much less mud and sand than there are there at present, covering up numbers of oysters.

*Twofold Bay.*—A few small oysters upon the rocks, and somewhere in the bay there is a bed of mud oysters, which I am unable to find—only finding the mud-oyster thrown up on the beach after a heavy sea.

*Curralo Lake.*—This lake years ago produced great quantities of oysters, which were all taken out by some speculators and sent to Melbourne, since which no oysters appear to have grown. Certainly the mouth of the lake since then is nearly always closed.

*Pambula River.*—No doubt one of the finest breeding rivers in the Colony, oysters growing very fast, and plenty laying-down ground; nearly all the foreshores applied for, applicants doing but little to improve their holdings.

*Merimbula Lake.*—Very few oysters indeed.

*Bournda Lake.*—Excellent place for culture; splendid rubble bottom; mouth being closed; at present place full of neck.

*Wallagoot Lake.*—Large lake containing few oysters; never been on lake in boat; cannot really say what it contains.

*Bega River.*—Producing good oysters; not much fit for oyster culture, there being so little laying-down ground.

*Nelson Lake.*—Could be made the producer of vast quantities of oysters; plenty of mangroves; the applicants doing but little to improve their holdings.

*Middle Lake.*—No oysters to be seen.

*Wapengu Lake.*—The shores of which are very well covered with mangroves, but very few oysters attaching thereto; a very great place for whelks, upon which oysters appear to be attaching themselves.

*Murrah River.*—Contains but little oyster-bearing grounds; no mangroves; one applicant.

*Cuttagee Lake.*—Contains no mangroves, as far as I am aware of; mouth of lake closed for some time past; oysters large; very little young stuff; several applicants; nothing done to improve their holdings.

*Bermagui River.*—Has several applicants for areas for oyster culture, and have taken up all the foreshores which could produce oysters; oysters growing mostly on mangroves; some very large mangrove marshes here, but still containing few oysters; very little done by applicants to increase supply of oysters.

*Wallagha Lake.*—This lake is very large indeed, but, as far as I am aware of, does not contain oysters, yet years ago, when mouth was constantly open, it produced quantities of oysters; plenty of laying-down ground.

Not being acquainted with waters north of this to the end of my district, viz., Wogonga River, I cannot speak of the different places between.

It will be seen that the applicants do but little towards oyster culture. They appear to be waiting for nature to do all for them.

I have, &c.,

F. W. SMITHERS,

Assistant Superintendent.

Names of Rivers or Lakes.	Number of bags taken from each, approximately.	Number of applicants for areas.	When oysters in good condition.	Could oyster-culture be carried on with success?	Are mangroves growing?	Are Oysters more plentiful on rocks or mangrove?	Is mouth of this place open?	If closed, is it so all year round?	Could mouth be kept open?	Do applicants appear to try and improve their areas?	Do applicants use spat-collectors?
Tagha Lake	0	0	...	Doubtful....	No	.....	No	No	Plenty rain	.....	
Nagla River	2	0	...	Think so....	No	.....	No	No	Plenty rain	.....	
Rocky Creek	0	0	...	Doubtful..	No	.....	No	No	Plenty rain	.....	
Miumo Creek	0	0	...	To a small extent.	No	.....	Yes	No	.....	No	No.
Wonboyn River	26	10	...	Yes	No	Rocks	Yes	.....	.....	No	No.
Bittagata Creek	0	3	...	Hardly	No	Rocks	Yes	.....	.....	No	No.
Kiah River	0	5	...	Very little	No	Rocks	Yes	.....	.....	No	No.
Nelliea River	0	3	...	Yes	No	Rocks	Yes	.....	.....	No	No.
Twofold Bay	0	1	...	No	No	Rocks	Yes	.....	.....	No	No.
Curralo Lake	0	0	...	Yes	No	.....	No	Yes	Plenty rain	.....	No.
Pambula River	0	16	...	Yes	Few only.	Rocks	Yes	.....	.....	Very little	No.
Merimbula Lake	0	1	...	Very little	Few	.....	Yes	.....	.....	No	No.
Bournda Lake	0	2	...	Yes	No	Rocks	No	No	Yes	No	No.
Wallagoot Lake	0	1	...	Yes	No	Rocks	No	No	Yes	No	No.
Bega River*	0	5	...	Very little	No	Rocks	No	No	Yes	No	No.
Nelson Lake	0	8	...	Yes	Yes	Mangroves and rocks.	Yes	.....	.....	No	No.
Middle Lake	0	0	...	Don't know	No	.....	No	Yes	Hardly	.....	
Wapengu Lake	0	6	...	Yes	Yes	Mangroves	Yes	.....	.....	No	No.
Murrah River	0	1	...	Very little	No	Rocks	Yes	.....	.....	No	No.
Cuttagee Lake	15	5	...	Yes	No	Rocks	No	Yes	Hardly	No	No.
Bermagui River†	0	11	...	Yes	Yes	Mangroves	Yes	.....	.....	No	No.
Wallagha	9	1	...	Yes	No	.....	No	No	Yes	No	No.

\* Impossible to tell what oysters Lavington gets; no royalty paid.

† Cannot tell what oysters are sent away; never get returns from Sydney.

Mr.

Mr. Assistant Inspector Smithers to Mr. Inspector Benson.

Sir,

Eden, 27 February, 1886.

I have the honor to write, for your information and guidance, a short report concerning fisheries in this district. I must say justly, I regret exceedingly to state that fish have been very scarce indeed during the latter part of 1885, the falling off in the supply having gone on gradually since the dry weather set in, and more so since the leather-jackets have become nothing short of a pest. Although shoals of fish are seen making north or south, but not in quantities or size to those seen in 1884. In that year leather-jackets were not so numerous. I have most particularly noticed that all the lakes, especially those closed to the sea, abound in fish, yet the fish in those lakes are not fit to be sent away, being very fat and soft, not keeping above a few hours. I might mention that since fishing is of little use now, as men go out day after day not catching enough fish even to eat, even the flat-head which were so plentiful, are now equally scarce to other fish. Schnapper, which Twofold Bay was famous for, are as scarce. Proof for six months: Two whaling crews camped at one of the finest schnapper grounds known never caught above one dozen fish, and that was only on one occasion, and they were fishing almost day after day, leather-jackets being the only fish there. All the places I know along the coast are the same, that is to say on the coast grounds. There is only one place I am aware of where fish were caught in quantities; that is, two lots of whiting at Panbula River.

It is very seldom I ever see a net hauled in the bay here, men not caring to use their nets. In former years, previous to 1884, a vast quantity of fish could have been caught anywhere here or along the coast. A resident of thirty-four years standing states he never knew fish so scarce or leather-jackets so bad. I could not recommend anyone starting fishing as an industry here till either the weather changes or the leather-jackets disappear.

As a proof dry weather affects fish, I may state that there is always a quantity of fresh water coming into the Wouboyn River and it has a great quantity of fish in it, and had all the dry weather, especially towards head of river. The leather-jackets even came into this river, but not to the extent that they did when no fresh water was coming down.

Therefore, in conclusion, I say that I attribute the scarcity of fish,—first, to dry weather, second, to leather-jackets, which have overrun the feeding-grounds as rabbits do a cattle run, eating everything before them.

I have, &c.,

FRED. W. SMITHERS.

1886.

## APPENDIX A.

COMMISSIONERS of Fisheries for New South Wales, 1886:—

James C. Cox, M.D., President,  
 E. P. Ramsay, F.R.S.E., &c., &c.,  
 J. R. Hill, Esq.,  
 A. Oliver, Esq., M.A.,  
 Frederick Thomas, Esq., resigned 11th June, 1886, succeeded by  
 S. H. Hyam, Esq., M.L.A., appointed same date.

*Official Staff, 1886.*

Lindsay G. Thompson, Secretary and Chief Inspector of Fisheries.  
 Edward J. Ellis, 1st Clerk. | G. F. Hainsworth, Clerk.  
 J. F. O'Grady, Clerk. | L. G. Mann, Draftsman.  
 C. D. St. Pinnock, Clerk. | L. F. Mann, "  
 J. D. Delany, Clerk. | W. Lamm, Messenger.

James Quinan, Inspector for Home Division of Fisheries.  
 Thos. Temperley, " Northern "  
 George G. Benson " Southern "

Andrew Gyler, Assistant Inspector of Fisheries, Manning River.  
 Thomas Mulhall, " " Sydney.  
 Henry Curan, " " Newcastle.  
 Peter Smith, " " Hawkesbury River.  
 Charles Gordon, " " Shoalhaven.  
 C. H. Otway, " " Port Stephens.  
 William Boyd, " " Lake Macquarie.  
 John D. Grant, " " Botany and George's River.  
 D. W. Benson, " " Lake Illawarra.  
 Richard Seymour, " " Fish Market, Sydney.  
 W. N. Cain, " " Brisbane Water.  
 F. W. Smithers, " " Eden.  
 William McGregor, Acting Assistant Inspector of Fisheries, Tweed River.  
 Thomas Stewart, " " Bellinger River.  
 W. J. Whaites, " " Nambucca River.  
 John Jamieson, " " Macleay River.  
 A. H. Kendall, " " Cape Hawke.  
 H. W. C. Windeyer, " " Port Macquarie.  
 Thomas Laman, " " Port Stephens Heads.  
 A. T. Black, " " Broken Bay.  
 Bourne Russell, " " Twofold Bay.  
 Angus Sutherland, " " Moruya.  
 George Glading, Boatman, Sydney.  
 Richard Helling, " " "  
 Frank Aldrich, " Botany and George's River.  
 J. F. Hespe, " Bateman's Bay.  
 J. Massingham, " Clarence River.  
 F. Young, Engineer, Sydney.

## Inland Waters.

Osborne Wilshire, Assistant Inspector of Fisheries, Deniliquin.  
 Frederick Nelson, Acting Inspector of Fisheries, Bungendore, Lake George.

## APPENDIX B.

RETURN showing the quantity of Fish exported from the Murray River to Melbourne,  
 January to December, 1886.

	lbs.		lbs.
January .....	2,464	July .....	1,232
February .....	3,360	August .....	1,008
March .....	2,128	September .....	4,548
April .....	4,816	October .....	7,224
May .....	1,344	November .....	12,320
June .....	1,456	December .....	4,928
			46,828

## APPENDIX C.

RETURN showing quantity, in bags, of Oysters, taken from Tidal Waters in the Colony, January to December, 1886:—

Place.	Jan.	Feb.	March.	April	May.	June.	July.	August.	Sept.	Oct.	Nov.	Dec.	Total.
Tweed River .....				25	38	31	31	18	38	24	30		235
Richmond River .....									111	34	42	41	223
Clarence River .....	232	196	288	226	29	46	116	167	167	135	118	152	1,922
Bellinger River .....	8	28			16	17	12	5	13	12	21	26	158
Port Macquarie .....		20			19	13				2			54
Manning River .....	48	113	62	90	43	30	45	26	32	35	27	80	631
Cape Hawke .....	61	29	14	12		11	8	18	38	32	25	32	280
Port Stephens .....	379	218	227	318	268	267	301	213	180	257	298	297	3,223
Hunter River .....	209	98	139	96	69	68	84	53	56	42	29	11	954
Hawkesbury River .....	353	158	118	177	266	243	270	198	182	220	204	285	2,683
Brisbane Water .....	35	30	26	15	22	16	12	6	15	34	37	51	299
George's River .....	26	3	3	4		1	26	17	23	11	6	29	149
Port Hacking .....							15	3	4	3	1	5	31
Shoalhaven .....	273	123	172	95	84	66	76	96	52	57	62	168	1,324
Jervis Bay .....		8	2										10
Clyde River .....	274	203	214	185	148	48	29	26	48	123	59	112	1,469
Moruya River .....	38	41	32	14	32	30	39	31	14	25	19	33	348
Wagonga River .....	105	46	23	14	10	13			10	8	4	6	239
Panbula River .....				10	20	28	35			15	9	16	133
Twofold Bay .....	12	17	24	32	22	15			3		19	4	148
Womboyne River .....					26	4	22	14	16			11	93
Minnamurra River .....				1	3	2	3	1		2	2	10	24
Nelson Lake .....						17	30	22	11	12			92
Kiah River .....										22	16	9	47
Total .....	2,103	1,331	1,344	1,314	1,115	966	1,154	914	1,013	1,114	1,028	1,378	14,774

RETURN showing quantity, in bags, of Oysters, received at Sydney from places outside the Colony, January to December, 1886.

	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.
Queensland .....	478	373	216	277	249	155	269	204	449	929	523	594	4,716
New Zealand .....									60				60
New Caledonia .....						70	10		50				130
Total .....	478	373	216	277	249	225	279	204	559	929	523	594	4,906

RETURN showing Amount of Royalty collected on Oysters, January to December, 1886.

Month.	No. of Bags.	Royalty.	Month.	No. of Bags.	Royalty.
January .....	2,103	£ s. d. 315 9 0	August .....	914	£ s. d. 137 2 0
February .....	1,331	199 13 0	September .....	1,013	151 19 0
March .....	1,344	201 12 0	October .....	1,114	167 2 0
April .....	1,314	197 2 0	November .....	1,028	154 4 0
May .....	1,115	167 5 0	December .....	1,378	206 14 0
June .....	966	144 18 0	Total .....		£2,216 2 0
July .....	1,154	173 2 0			

## APPENDIX D.

RETURN showing the Revenue derived under the "Fisheries Act" and "Oyster Fisheries Act" during the year 1886.

FISHERIES ACT.		£ s. d.	£ s. d.	£ s. d.
Fishermen's Licenses, yearly .....	604 @ 10/-	302 0 0		
Do half-yearly .....	180 @ 5/-	45 0 0		
Fishing-boat Licenses, yearly .....	263 @ 20/-	263 0 0	347 0 0	
Do half-yearly .....	21 @ 10/-	10 10 0		
			273 10 0	610 10 0
OYSTER FISHERIES ACT.				
Royalty collected on oysters taken from leased areas .....	14,774 bags @ 3/-		2,216 2 0	
Deposits on applications for leases for oyster culture .....			996 0 0	
Deed Fees .....	510 @ 20/-		510 0 0	
Transfer fees .....	14 @ £2		28 0 0	
Rent on leased areas .....			2,645 5 2	
Fines and forfeitures recovered for offences under both Acts .....				6,395 7 2
				73 6 0
				£7,089 3 2

## APPENDIX E.

RETURN showing quantity, in baskets, of Fish brought to the Fish Market, Woolloomooloo, January to December, 1886.

	Jan.	Feb.	Mar.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Total.
Harbour .....	398	386	739	660	463	148	133	84	211	318	195	273	4,008
Botany .....	388	391	859	1,044	1,560	436	584	373	339	389	368	446	7,177
Broken Bay .....	407	369	443	241	335	352	432	323	467	460	618	602	5,049
Bateman's Bay .....					85		25	13	25				148
Jervis Bay .....	8				143	104							255
Terrigal Lake .....							71	12					83
Tuggerah Lake .....	28					8	426	365	294				1,121
Port Stephens .....	279	387	504	538	1,019	513	374	362	183	306	225	200	4,890
Narrabeen .....										221	141	22	384
Wollongong .....	114	610	684	589	1,000	666	806	479	329	361	306	88	6,032
Ulladulla .....				26	90	218	303	61	18	13			729
Newcastle .....													2
Shoalhaven .....				24	202	176	187	320	75	122	40	10	1,156
Lake Macquarie .....	989	832	691	745	1,285	1,048	1,159	1,204	1,311	1,461	785	1,229	12,739
Clarence River .....						229	510	119					858
Shellharbour .....	69	16									224	258	567
Port Kembla .....					40								40
Manning River .....						19	98	117	84	5	13	9	345
Total .....	2,680	2,901	3,920	3,867	6,222	3,917	5,108	3,832	3,336	3,656	2,915	3,139	45,583

RETURN showing quantity, in dozens, of Schnapper brought to the Fish Market, Woolloomooloo, January to December, 1886.

	Jan.	Feb.	March.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Total.
Harbour .....	1½						2	1		1		1	6½
Botany .....		12½	4	10½	29	16½	22½	28½	1½	8	18	23½	174½
Broken Bay .....	13	32½	45	29½	159½	64½	116½	62½	24½	38½	28½	34½	649
Bateman's Bay .....							6						6
Terrigal Lake .....		3						10					13
Port Stephens .....		3									3		6
Wollongong .....					9				2		21		32
Ulladulla .....							8	8					16
Shoalhaven .....						4	5			15			24
Lake Macquarie .....						5						8	13
Long Reef .....	14	16	1	1	5	½	58	23½	26		27	18½	190½
Total .....	28½	67	50	41	202½	90½	218	133½	54	62½	97½	85½	1,130½

RETURN showing quantity, in dozens, of Mullet brought to the Fish Market, Woolloomooloo, January to December, 1886.

	Jan.	Feb.	March.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Total.
Botany .....		220	800										1,020
Broken Bay .....			40										40
Total .....		220	840										1,060

RETURN showing quantity, in dozens, of Jew-fish brought to the Fish Market, Woolloomooloo, January to December, 1886.

	Jan.	Feb.	March.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Total.
Harbour .....												6	6
Botany .....					½								½
Broken Bay .....					2								2
Terrigal .....		1											1
Port Stephens .....						1½							1½
Lake Macquarie .....								1				6½	7½
Long Reef .....			1										1
Total .....		1	1		2½	1½		1				12½	19½

RETURN

RETURN showing quantity, in dozens, of King-fish brought to the Fish Market, Woolloomooloo, January to December, 1886.

	Jan.	Feb.	March.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Total.
Harbour .....	5	...	14	..	4½	...	8	...	...	8	...	56½	96
Botany .....	...	...	...	...	...	...	...	...	...	9	...	34	43
Broken Bay .....	...	2½	1	1	...	...	...	...	...	...	...	...	4½
Long Reef .....	2	2	...	...	...	...	6	...	...	...	...	20	30
Total .....	7	4½	15	1	4½	...	14	...	...	17	...	110½	173½

RETURN showing quantity, in dozens, of Salmon brought to the Fish Market, Woolloomooloo, January to December, 1886.

	Jan.	Feb.	March.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Total.
Harbour .....	55	170	10	...	...	...	...	...	...	275	...	...	510
Botany .....	...	...	...	...	...	...	...	...	...	...	...	150	150
Total .....	55	170	10	...	...	...	...	...	...	275	...	150	660

RETURN showing quantity, in dozens, of various Large Fish brought to the Fish Market, Woolloomooloo, January to December, 1886.

	Jan.	Feb.	March.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Total.
Harbour .....	...	...	...	...	...	...	...	6	...	...	...	...	6
Botany .....	...	...	...	...	...	8	...	...	...	1	2	4½	15½
Broken Bay .....	...	5	1	...	...	1	...	5	...	...	11	...	23
Jervis Bay .....	...	...	...	...	...	...	...	...	...	...	...	13	13
Long Reef .....	...	7	...	...	...	6	3	3	12	...	8	21	60
Total .....	...	12	1	...	...	15	3	14	12	1	21	38½	117½

RETURN showing quantity, in dozens, of Crayfish brought to the Fish Market, Woolloomooloo, January to December, 1886.

	Jan.	Feb.	March.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Total.
Bateman's Bay .....	...	...	...	...	...	...	...	15	4	...	...	...	19
Port Stephens .....	32	...	4½	...	...	121	551	175	446	513	573	259	2,674½
Wollongong .....	...	...	2	...	...	...	...	...	...	...	...	...	2
Ulladulla .....	...	...	10½	...	...	38	15	...	...	...	...	...	63½
Shoalhaven .....	...	...	...	...	4	...	...	...	...	...	...	...	4
Total .....	32	...	17	...	4	159	566	190	450	513	573	259	2,763

RETURN showing quantity, in baskets, of Prawns brought to the Fish Market, Woolloomooloo, January to December, 1886.

	Jan.	Feb.	March.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Total.
Harbour .....	...	1	...	...	...	2	...	...	...	32½	34	94	163½

RETURN showing quantity, in baskets, of Fish seized under Fisheries Acts, January to December, 1886.

Jan.	Feb.	March.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Total.
2	7	1	5	7½	5½	4	.....	.....	2½	1½	1½	37½

RETURN showing quantity, in baskets, of Fish condemned unfit for food, January to December, 1886.

Jan.	Feb.	March.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Total.
117	44	24½	270½	39	54	163	2	12	38	275½	98½	1,138

RETURN showing Range of Prices obtained for Fish sold in the Fish Market, Woolloomooloo, January to December, 1886.

Name of Fish.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
Schnapper, per dozen	7/ to 87/	7/ to 156/	5/ to 102/	9/ to 96/	9/ to 64/	5/ to 65/	3/ to 60/	2/ to 68/	3/ to 75/	3/ to 60/	3/ to 60/	3/ to 66/
Flathead	2/ to 24/	2/ to 36/	3/ to 24/	3/ to 36/	2/6 to 30/	3/ to 30/	2/ to 36/	2/6 to 30/	2/6 to 56/	2/ to 44/	2/ to 36/	1/ to 36/
Whiting	2/ to 24/	2/ to 13/	2/6 to 15/	2/6 to 13/	2/ to 9/	2/ to 9/	1/ to 9/	1/6 to 8/	1/9 to 13/	2/ to 9/6	1/ to 13/	1/ to 9/
Flounder	2/ to 14/	2/6 to 15/	2/ to 15/	1/6 to 15/	2/ to 15/	2/ to 16/	2/ to 16/	1/ to 16/	2/ to 17/	1/ to 14/	1/ to 13/	1/ to 15/
Kingfish	7/ to 42/	5/ to 36/	9/ to 36/	3/ to 15/	6/ to 24/	9/ to 24/	1/ to 15/	7/ to 60/	9/ to 12/	9/ to 30/	6/	3/ to 8/
Jewfish	5/ to 104/	5/ to 120/	7/ to 168/	7/ to 120/	9/ to 108/	8/ to 108/	8/ to 96/	5/ to 84/	7/ to 96/	6/ to 90/	3/ to 108/	3/ to 84/
Groper	12/ to 18/	9/ to 15/	12/ to 18/	9/ to 15/	12/ to 18/	9/ to 30/	12/ to 48/	15/ to 18/	.....	6/ to 24/	18/ to 24/	18/
Teraglin	5/ to 24/	4/ to 24/	9/ to 15/	5/ to 16/	5/ to 18/	8/ to 14/	9/	.....	7/ to 18/	18/	8/ to 16/	5/ to 14/
Nannagai	3/	.....	8/ to 18/	.....	5/ to 9/	4/ to 9/	3/ to 9/	3/ to 6/	6/	.....	7/	3/ to 3/
Salmon	1/9 to 5/	1/ to 9/	5/ to 9/	2/ to 8/	1/ to 5/	1/3 to 6/	2/ to 10/	1/ to 9/	1/6 to 9/	2/ to 8/6	3/ to 9/	1/ to 6/
Mullet (sea)	2/ to 14/6	2/6 to 9/	1/ to 10/	2/ to 9/	2/ to 15/	4/ to 12/6	2/6 to 14/	4/ to 9/	4/ to 10/	3/ to 12/	3/ to 12/	4/ to 12/
Rock Cod	2/ to 7/	2/6 to 6/	3/ to 18/	3/ to 9/	2/6 to 7/	3/6 to 8/	3/ to 7/	3/ to 7/	2/6 to 6/	3/ to 5/	3/ to 5/	2/ to 7/
Eels	2/ to 30/	5/ to 24/	5/ to 30/	6/ to 30/	6/ to 30/	6/ to 30/	6/ to 21/	6/ to 24/	5/ to 24/	5/ to 24/	4/ to 30/	3/ to 24/
Bream, per basket	5/ to 122/	5/ to 58/	9/ to 50/	9/ to 60/	8/ to 32/	9/ to 34/	3/ to 34/	6/ to 36/	7/ to 33/	7/ to 66/	4/ to 42/	3/ to 60/
Garfish	15/ to 46/	8/ to 32/	6/ to 28/	11/ to 34/	9/ to 22/	7/ to 30/	2/6 to 25/	3/6 to 33/	7/ to 25/	8/ to 36/	7/ to 30/	6/ to 27/
Pike	.....	.....	.....	.....	.....	.....	.....	.....	1/6 to 2/6	.....	.....	.....
Blackfish	3/ to 32/	2/ to 20/	4/ to 19/	5/ to 35/	4/ to 18/	6/ to 19/	2/ to 24/	3/ to 24/	5/ to 21/	2/ to 27/	2/ to 23/	1/ to 40/
Silverbelly	5/ to 25/	5/ to 15/	6/ to 15/	4/ to 25/	7/ to 13/	5/ to 12/	2/ to 10/	4/ to 14/	4/ to 12/	5/ to 12/	3/ to 17/	4/ to 13/
Turwhine	.....	.....	.....	9/ to 11/	8/ to 10/	.....	4/ to 13/	.....	8/	.....	.....	.....
Salmon Trout	.....	8/ to 12/	5/	8/	4/	.....	.....	9/	.....	.....	.....	.....
Mullet (sand)	3/ to 42/	2/ to 40/	3/ to 30/	5/ to 32/	4/ to 19/	4/ to 20/	2/ to 20/	3/ to 21/	6/ to 32/	2/ to 34/	3/ to 23/	1/ to 35/
Travally	6/ to 25/	5/ to 11/	5/ to 25/	6/ to 16/	5/ to 18/	3/ to 14/	2/ to 12/	4/ to 15/	5/ to 15/	3/ to 16/	2/ to 14/	2/ to 14/
Tailor	3/ to 30/	3/ to 18/	5/ to 18/	3/ to 21/	4/6 to 17/	5/ to 18/	2/ to 16/	2/ to 18/	4/ to 18/	3/ to 18/	2/ to 16/	2/ to 23/
Crayfish, per dozen	16/ to 30/	.....	15/ to 29/	.....	14/	8/ to 24/	7/ to 16/	15/ to 22/	6/ to 20/	8/ to 14/	6/ to 10/	6/ to 24/
Crabs	2/ to 7/	3/ to 5/	2/ to 8/	2/6 to 8/	3/ to 8/	3/ to 15/	2/ to 6/	2/6 to 6/	2/ to 6/	2/ to 9/	2/ to 5/	2/ to 5/
Prawns, per bushel	18/ to 180/	10/ to 40/	10/ to 38/	12/ to 40/	10/ to 30/	.....	.....	.....	.....	15/ to 35/	10/ to 35/	5/ to 45/

2

RETURN showing amount realised for Fish sold at the Fish Market, Woolloomooloo,  
January to December, 1886.

	£	s.	d.		£	s.	d.
January ... ..	2,316	2	0	August ... ..	2,708	9	0
February ... ..	2,435	17	9	September ... ..	2,839	8	0
March ... ..	2,795	15	0	October ... ..	3,061	18	3
April ... ..	2,840	17	6	November ... ..	2,391	3	3
May ... ..	3,554	17	0	December ... ..	2,638	0	6
June ... ..	3,050	5	6				
July ... ..	3,699	5	0				
					£34,331	18	9

## APPENDIX F.

## APPLICATIONS for Leases for Oyster Culture received in 1886.

Name of Applicant.	Yards.	Locality.	Name of Applicant.	Yards.	Locality.
Harper A. M.	1,000	Woolowarre Bay	Murray Jno.	100	Brisbane Water
Murray Patrick	100	Brisbane Water	Do	100	do
Do	200	Riley Island	Murray Patrick	100	do
Trengrouse Nicholas	200	Orogandiman Island	Do	100	do
Baxter W.	500	Cabbage Tree Creek	Black Walter	500	Sandon River
Woodward Henry	100	Bulgah Creek	Cusack N. J.	400	do
Do	300	do	Do	200	do
White R. H. D.	300	North Arm, Port Stephens	Griffiths W.	1,000	do
Lance George and Campbell Donald	500	Woolawarre Bay	Jones Jacob, and Ward Jno.	1,500	Woolawarre Bay
Templeman Thomas	300	Buckinbowra River	Do	1,500	do
Do	200	do	Philp Alex, junr.	100	Sandon River
Kruckow Peter	300	Myall River	Woodward H.	300	Salt-pan Creek
Emmanuel George	200	East Bank, Bermagui River	Do	100	do
Muston H.	500	North Arm, Port Stephens	Do	400	do
Do	1,000	do do	Do	500	do
Hibbs Richard	200	Hawkesbury River	Do	400	do
Parkyns Frank	200	Mooney Mooney Creek	Do	200	Broughton Creek
Hibbs Richard	300	Hawkesbury River	Shattel H.	200	Browera Creek
The Holt-Sutherland Co.	200	Woronora River	Munkton W.	200	North Arm, Port Stephens
Do	1,800	Como, George's River	Do	100	Port Stephens
Hanly Nicholas	100	South Arm, Bellinger River	Callaghan Jas.	200	Pumpkin Point
Knight Thomas Wynn	1,000	Woolawarre Bay	Pegus A. Hood	200	Sandon River
Lilley Samuel	200	Port Stephens	Meldrum Robert	300	Mamboe Island
Do	500	North Arm, Port Stephens	Cliff J. N.	1,980	Pitt Water
Settrae Alfred, sear.	200	Cockle Creek	Lonesborough Jno.	100	Shoalhaven Bight
Riley W.	100	Kincumber, Brisbane Water	Coote W.	500	Crookhaven River
Peoples W.	300	Clarence River	Hanly Nicholas	100	South Arm, Bellinger River
Watson Jane	200	North Arm, Clarence River	Do	100	do do
Latta W.	1,000	Clyde River	Do	100	do do
Woodward Henry	500	Scott's Creek	Riley W.	100	Brisbane Water
Do	400	Mangrove Island	Sharpe & Mackinnon	300	North Creek, Richmond River
Do	400	Manning River	Woodward H.	300	Crookhaven Heads
Tuck David	300	Brisbane Water	Do	200	Crookhaven
Wilson John	100	Mooney Mooney Creek	Williams Jno.	500	Hawkesbury River
Nicoll Archibald	200	do	Gardiner S. H.	500	Quibray Bay
Johnston E.	100	Brunswick River	Towns G.	400	Dempsey Island
Do	300	do	Bettini J. W.	100	Tomakin River
Taylor Robert	100	Woy Woy Creek	M'Shane Francis	300	Bullina
Do	100	do	Jones Thos.	300	do
King Rev. Hulston S.	100	Patonga	Shattel H.	300	Browera Creek
Peoples W.	200	Clarence River Heads	Do	300	do
Curtin Daniel	300	Brisbane Water	Caffrey Patrick	200	Curley's Bay
Griffin Frank A.	600	Limeburners' Creek	Millard W.	200	Conjola Lake
Wells Jas.	100	Brisbane Water	Follugg Jas.	500	North Arm, Clarence River
Bayliss F.	100	do	Wells Jas.	100	Brisbane Water
Dwyer E.	100	do	Gibbins F. J.	700	Stockton
Kempnich Jos.	300	Woombah	Cain Chas.	100	East Gosford
Otton H.	100	Wapongo Lake	Johnston E.	300	North Arm, Brunswick River
Do	300	do	Do	300	do do
Do	500	do	Woodward H.	200	Clyde River
Templeman W.	200	Congo Creek	Haiser G.	500	Shoalhaven
Taylor R.	100	Woy Woy Creek	Do	300	Crookhaven River
Baxter W.	200	Cararma Creek	Do	300	do
Smith & Brett	100	Tweed River	Melmeth F. H.	200	Mosquito Swamp
Do	200	do	Do	100	Newton Bay
Do	100	do	Do	100	Karuah River
Muston H.	300	Karuah River	Wood A. B.	800	M'Carr's Creek
Wilson Jno.	100	Brisbane Water	Byles G. & Wall Jas.	900	Hawkesbury River
Melvey Peter	300	Hawkesbury River	Woodward H.	700	Wallis Lake
Thompson H.	500	Port Stephens	Engel W.	300	Little Branch, Port Stephens
Lonesborough Jno.	100	Jervis Bay	Murray Jno.	100	Gosford
Haynes Sidney W.	500	Clarence River	Comino Jno.	600	Baronda Lake
Haynes H. Valentino	400	do	Seymour V. W.	100	Mooney Mooney Creek
See Samuel	400	do	Do	100	do
Do	400	do	Philp A., junr.	100	Sandon River
Wilson Jno.	300	Mooney Mooney Creek	Coote W.	200	Comarong Bay
Woodward & Templeman	200	Moruya River	Bondfield S. J.	100	Sandon River
Do	100	do	Loyde R.	200	Kangaroo Point
Do	200	do	Rose Harry	100	Pent's Ferry
Do	100	do	M'Rae Myles	1,700	George's River
Do	500	do	Severs Jno.	200	East Bank
Bettini Jno. W.	100	Congo Creek	Do	200	Kiah River
Waugh Jno.	400	Terranora	Comino Jno.	200	East Bank
Alick Chas.	800	Cowan	Harmston M. D.	100	Cudgerie Creek
Johnson Jas.	600	Browera Crack	Do	500	do
			Do	500	do

APPENDIX F—continued.

Name of Applicant.	Yards.	Locality
Harmiston M. D.	100	Pimlico Island, Richmond River
Wakefield Percy	100	Baronda Lake
Crumpton Jno.	600	Berowra Creek
Murray Jno.	100	Brisbane Water
Riley W.	100	do
Gibbins F. J.	300	South Channel, Hunter River
Bailey S. B.	1,000	Carr's Creek
Parkyns Frank	100	Mooney Creek
Wells Geo.	200	Terranora
Do	100	do
Do	100	do
Nicoll Archibald	200	Mooney Creek
Toomey Jno.	400	Mangrove Creek
Hanley W.	600	Boambie Creek
Gibbins F. J.	300	South Channel, Hunter River
Do	400	Newcastle
Engel W.	600	Serpent River
Cohen & Fremlin	945	Hastings River
Do	200	do
Concannon Patrick	500	Quibray Bay
Rose Jos.	200	Mooney Mooney Creek
Hips Samuel	300	Porto Bay
Ireland W. E.	200	Goodwood Island
Murray Patrick	200	Gosford
Do	100	Brisbane Water
Muston Harriet	400	North Arm, Port Stephens
Joass Jas.	200	do do
Wilkinson Lancelot	400	do do
Thompson Henry	200	Bulgah Creek, do
Joass Jas.	500	North Arm, do
Do	200	do do
Emerson Jno.	200	do do
Do	200	do do
Do	600	do do
Do	300	do do
Cohen Philip	1,000	Limeburners' Creek
White R. H. D.	300	Fame Cove
Do	200	Port Stephens
Cole J. W.	300	Mooney Mooney Creek
Smart S. R.	100	Turass River
Coote W.	500	Smith's Creek
Stevens W.	400	Hawkesbury River
Woodward H.	400	Karuah River
Baxter W.	200	Shoalhaven
Comino Jno.	100	Baronda Lake
Do	400	do
Langley R.	300	Terranora Waters
Woodward H.	200	Merica Creek
Woodward H.	200	Merica Creek
Cox Jno.	600	Hawkesbury River
Do	500	do
Witt W.	100	Nankeen Island
Cole Sydney	200	Mooney Mooney Creek
Williams Chas.	400	Hawkesbury River
Pegus A. Hood	100	Candole Creek, Sandon River
Ostern R.	200	Jerusalem Bay
Do	500	Smith's Creek
Coote W.	200	Shark Point, Hawkesbury River
Do	100	Jerusalem Bay, do
Holdom John	500	Karuah River
Settren Alfred	100	Cockle Creek
Taylor R.	200	Woy Woy Creek
Windley Abraham	100	Moruya River
Do	100	Louttit's Creek
Wakefield Percy	100	Nelson Lake
Sutton W.	100	Mooney Mooney Point
Colville Thos.	100	Port Stephens
Callaghan Jas.	200	Fox Island
Holdom Jno.	400	North Arm, Port Stephens
Holdom Samuel	100	do do
Brown R. J.	400	Sandon River
Do	200	do
Wakefield Percy	100	Nelson Lake
Bettini J. W.	100	Clyde River
Evens Jas.	100	North Arm, Port Stephens
Holdom Samuel	100	do do
King H. S.	100	Woy Woy Creek
Cox Jno.	200	Mangrove Creek
Do	500	do
Smith Jno.	400	North Arm, Port Stephens
Ritchie Alex.	100	Oxloy, Lutherio Bay
Martins Sarah	200	Richmond River
Callaghan Michael	100	Flying Fox Island
Callaghan Jas. H.	100	Little Fox Island
Smith Jas.	200	George's River
Smith W.	100	Port Hacking River
Brown Joshua	100	George's River
Smith W.	400	do
Colbron S.	100	Kyle's Bay, George's River
Do	100	Great Turrcill Point, Port Hacking
George M. H.	100	Saltwater Creek, Panbula River
Do	400	Panbula River
Wakefield Percy	100	Nelson Lake

Name of Applicant.	Yards.	Locality.
Melmeth F. H.	100	Wilholm Island
Moss Thos.	100	Evan's River
Gibbins F. J.	600	Spit Island
Do	200	Dunn's Island
Do	300	Dempsey Island
Do	500	Hunter River
Mudford W.	200	Scott's Creek
Bowles W. J.	400	Hawkesbury River
Comino Jno.	100	Baronda Lake
Do	500	do
Do	100	do
Do	500	do
Ritchie W.	100	Murrrah
Gibbins F. J.	100	Dunn's Island
Do	500	Newcastle
Rae Jos.	300	Browera Creek
Marshall Jas.	100	Scott's Creek
Jones J. E.	200	Richmond River
Rosa J. E.	200	Mooney Mooney Creek
Johnson Jos.	300	Salt-pan Point, Pittwater
Colville Thos.	100	Karuah River
Butcher E.	500	Wouboyne River
Do	200	do
Do	200	do
Severs Jno.	400	Yowaka Creek
Do	100	Panbula River
Do	100	do
Do	500	do
Do	100	do
Do	100	do
Do	300	do
Do	300	Panbula Lake
Casey Dennis	200	Flying Fox Island
Wray Timothy	400	Snowy Beach, George's River
Do	300	Burrameer Bay, Port Hacking
Do	300	Gynea Bay, do
Do	300	Bald-face Head, do
Poole W. T.	200	Limeburners' Creek
Wray Timothy	500	Bwey Bay, Port Hacking
Do	300	do do
Do	200	North-West Arm, Port Hacking
Wakefield Percy	200	Nelson Lake
Do	100	do
Lewis Chas.	200	Marramarra Creek
Bettini J. W.	100	Mogo Creek
Do	100	Cullendulla Creek
Smith Jno.	500	Middle Island, Port Stephens
Do	1,000	Collet's Point, do
Clement W.	300	North Creek, Richmond River
Woodward H.	600	South Arm, Brunswick River
Do	600	North Arm, do
Do	400	do do
Canty Stephen	300	Wagonga River
Johnston E.	300	Bonville Creek
Seymour V. W.	100	Mooney Mooney Creek
Southwell Jos.	200	Mangrove Island
White R. H. D.	200	Corobat Island, Karuah River
Jobson T. R.	100	Pelican Bay, Mitchell's Island
Woodward and Templeman	100	Moruya River
Gyler A., jun.	300	Manning River
Smith J. H.	200	Pelican Bay
Woodward H.	100	Brisbane Water
Melit F.	300	M'Carr's Creek
Machardy Malcolm C.	200	do
Richardson W. W.	500	Gunnamatta Bay
Burns P.	100	Brisbane Water
Toomey Jno.	200	Hawkesbury River
Cole Jas. W.	100	Mooney Mooney Creek
Wilson Jno	100	Brisbane Water
Shoemith W. H.	100	Manning River
Do	100	do
West G. W.	300	Ballina
Severs D.	200	Panbula Lake
Crumpton Jno.	200	Browera Creek
Osbourn W.	200	Manning River
Do	100	do
Coote W.	200	Cowan Creek
Stenhouse M. and F. G.	100	Brisbane Water
Canty Steven	200	Wagonga River
Curtin D.	50	Cockle Creek
Simpson W.	100	Smith's Head, Port Hacking
Archer Jno.	200	Evan's River
Lonesborough Jno.	200	Crookhaven River
Keating Rev. T. W.	200	Kincumber
King Rev. H. S.	200	Woy Woy Creek
Doherty Jas.	300	Panbula River
Bertram F.	100	Evan's River
Witt W.	100	Nankeen Island
Thom David	100	Commerant Island
Pospuchal F. and West C.	1,000	Nambucca River
Do	200	do
Griffiths W.	300	Candole
Gorrick J. A.	100	Platt's Channel

## APPENDIX G.

## Inspector Temperley's Report on Northern Division of Fisheries.

17 February, 1887.

THE production of oysters in the Northern Division for 1886, as shown in the tabulated return appended, amounts to 3,962 bags, and the total royalty to £594 6s.

No less than 1,625 bags, or nearly one-half of this total, was procured from the Clarence River, and was obtained from the natural deep-water beds of that river—not as in the case of many other rivers, from shallow foreshores alone. Large as this quota is from the Clarence, it is less by nearly 300 bags than that of the previous year, the output being 2,008 bags for 1885.

With this deficiency in the yield of the Clarence River, it is somewhat remarkable that the total yield of the Division for 1886 should be 800 bags greater than the total for either 1884 or 1885, making an increase in the supply from inlets other than the Clarence of nearly 1,100 bags for 1886 above that of the previous year.

This increase may chiefly be accounted for as follows:—The number of inlets from which oysters have been procured is greater than any previous year, leases having been taken up and worked in remote places which had not previously contributed to the oyster supply, the places referred to being the Sandon River, Brunswick River, Wooli Wooli River, and Weegoolgal, while the Tweed River and the Bellinger, both of which had not been worked for some time, have had their oyster bearing areas rendered available chiefly by the establishment of direct steam communication with the metropolis.

The produce, however, of these additional sources would not have supplied the deficiency which increasing demand causes in the yield of the natural oyster beds, but that the lessees in many of the rivers had improved their leases by stocking them with immature foreshore oysters. They had availed themselves of the Regulations which provided for the removal of foreshore oysters for restocking purposes under spat licenses, and in several instances taken up foreshore leases for the sole purpose of procuring spat for laying down elsewhere.

This semi-ostreiculture is the outcome of the secure tenure which is now given to lessees under the present Fisheries Act. It has been carried out to a greater or less extent on the Richmond River, Manning River, Cape Hawke, Evans' River, Port Macquarie, and other inlets of minor class.

Where these foreshore oysters have been put down on exhausted natural beds, the work has generally but not always been attended with success. Where the efforts have been experimental—made on untried areas—the results have varied from total failure to partial, and in some instances, complete success.

This requirement of spat on the part of lessees is increasing, while the natural supply is limited and is diminishing, and it is a matter of certainty that before long thorough oyster culture, including the artificial attachment of spawn, which hitherto in this Colony has not advanced beyond trifling experiment, will require to be extensively resorted to if the capabilities of the oyster-bearing areas are to be made equal to the demand which an ever increasing consumption makes upon the oyster production of the Colony.

The work of improving the oyster leases during the year was considerably affected and their productiveness to some extent interfered with by two disturbing causes. One of these was the unusually large amount of rain that fell in the northern part of the coast during the last half year. The other was a destructive agent in the form of a fine seaweed of a reddish brown colour that was washed into the inlets in January, and lay and decomposed upon the oysters in such quantities as to destroy them. This was especially the case in the Evans River, where numbers of fish as well as oysters were destroyed by the same weed.

In other inlets, viz., Port Macquarie, Cape Hawke, and the Manning River, where the oysters below half tide were reported to have died at the same time, it is believed the mortality was due to the same cause.

Oyster spawning is not known to have occurred during the year but in few inlets, and to a moderate extent. Those on the upper natural beds of the Clarence spawned in April, and the shallow water oysters in the lower part of the same river during the early part of December.

In the Richmond River the oysters spawned moderately at the latter end of November.

*Fish.*

Concerning fish, there are no particulars of interest to note differing from preceding years. There is the usual abundance of fish in all the inlets, and they are interfered with in the summer months only to provide limited local requirements and a moderate amount of salt fish for shipment—the latter being principally the work of Chinamen.

As to the shipment of fresh fish, a number of fishermen on the Clarence River prepared to work for Sydney markets in the winter months; and they would, had the winter been an ordinary one, have had profitable employment, but the season was not a good one for their work. It was mild, wet, and variable in temperature; and it several times happened that quantities of the fish were condemned, either in transit or on arrival in Sydney. This uncertain supply, it is believed, will not long remain in the present unsatisfactory condition, the dairy produce of the north coast having increased to such an extent as to necessitate the establishment of steam communication that includes refrigerating chambers. This want is about to be supplied and, when established, will be available for the transmission of fresh fish, and will give a large impetus to net fishing both on the Clarence and Richmond Rivers.

It is known that there are some fine prawns both on the Clarence and Richmond Rivers, but whether they are to be found in such quantities as to pay for working, is a question which has not yet been satisfactorily tested.

With reference to cormorants, there have been no claims made for rewards for their destruction.

THOS. TEMPERLEY,  
Inspector Northern Fisheries.

Assistant

## Assistant Inspector Jamieson's Report on Macleay River Fisheries.

Sir,

Macleay River, 5 March, 1887.

I have the honor to report the state of the Macleay River fisheries for the year 1886.

The Macleay River, during the year, has had a very good supply of fish, principally whiting, silver bream, flathead, garfish, and black fish. For the last three months of the year, from five to seven cases of whiting and bream have been shipped here for Sydney every week, packed in ice and saw-dust. No oysters for shipment on this river. Some years back the flood-waters destroyed all the oysters in the river, and since then no one has cultivated any.

I have, &amp;c.,

JOHN JAMIESON,  
Assistant Inspector of Fisheries, Macleay River.

## Assistant Inspector Whaites' Report on Fisheries, Nambucca River.

Sir,

Nambucca River, 21 February, 1887.

I have the honor to report that the oyster beds of this river were not worked or disturbed during the year 1886. Not being able to secure an oyster dredge, I am unable to give the beds a good testing, but obtained a few oysters with a pole split in the end in December last; they were quite milky, it being apparently the spawning season. I find that mud has settled on the beds, and am of an opinion that the beds would be much improved by working.

The mullet season was only a moderate one, commencing middle of April and lasting to end of May.

Other kinds, such as whiting, bream, flathead, garfish, are moderately plentiful and in good order.

Inspected several nets, and found them in accord with regulations.

I have, &amp;c.,

W. J. WHAITES,  
Assistant Inspector of Fisheries.

## Acting Assistant Inspector Windeyer's Report on Port Macquarie Fisheries.

Sir,

Port Macquarie, 12 February, 1887.

I have the honor to furnish a general report of the condition of Oysters and Fisheries of Port Macquarie, for the year 1886.

Fishing operations during this year have not been very extensive, three men with two boats have netted about an average of fifteen baskets per week. These for the most part have been dried for exportation to Sydney, and have consisted principally of whiting of very large size, which have been most abundant during the year. The sea mullet, flathead, bream, and black fish, have been very abundant, and though few large shoals have been observed, the supply of fish in the harbour has been practically unlimited.

Large quantities of schnapper have been caught. I have on previous occasions directed attention to the vast extent of prolific schnapper grounds on this coast, which I think will, in conjunction with the harbour fishing, form the base of very extensive fishing operations at no very distant period.

I regret that the culture of oysters has not proved very successful, though apparently all the conditions have been favourable. I may, however, observe that the operations conducted by only two lessees have been on a very limited scale, and are perhaps not a fair criterion of the eligibility of this locality for oyster culture. The natural beds, as far as I have been enabled to ascertain, are still bare, and show no signs of recuperation. This, I believe, is occasioned by the long continued absence of floods in the river, causing the rocks, stones, pebbles, and cultch, that formed the bottom of the beds, to be covered by slime, militating against the catchment and lodgment of spat. Sixty-one bags oysters were obtained, and royalty collected in 1886.

I have, &amp;c.,

HENRY W. C. WINDEYER,  
Acting Assistant Inspector Fisheries.

## Assistant Inspector Gyler's Report on Manning River Fisheries.

Sir,

Croki, Monday, 3 January, 1887.

I have the honor to submit the following report of the present state of the natural oyster beds in the Manning River.

I have carefully watched and examined most of the natural oyster beds on the various parts of this river, and I find that there are not the slightest prospects of any of these beds being improved by laying spat or young oysters on any of the beds which have a depth greater than from 2 to 4 feet of water at low water.

1. All or most of all the beds which have had oysters laid on them in a depth from 6 to 20 feet of water, after being laid down from six to twelve months, have died.

2. They have either been covered with mud or sand or died from some other cause unknown to me or any of the oystermen on this river.

3. I have come to the conclusion, by the above facts, that we want a good flood to clear the bottom of the river, to clean the beds of any pollution which may exist on them.

4. Oysters in deep water should begin to show signs of spatting; but at present there is not the least sign, as there are very few to spat from.

5. There have not been thirty bags of natural bed oysters shipped during the last twelve months, most of the oysters shipped were bank or mangrove oysters, which have been laid down in shallow water from 1 to 3 feet at low water.

6. By the above facts it is useless for any of the lessees to lay oysters on the deep water beds, as I know of several lessees who have laid down oysters in deep water and received no returns for their labour.

Mr. Woodward had about 400 bags of bank and mangrove oysters laid on one of our best beds, called the "Bar Bed," depth of water from 15 to 25 feet; after being down from twelve to eighteen months, I, on examination, found that about five out of every six oysters were dead when dredged up, in fact I do not think that Mr. Woodward got more than thirty bags of the whole of that bed. I could note other like instances with the same result, only they were not so largely tried.

7. After twenty-seven years experience in oyster dredging and of inspection, I have come to the conclusion that it is useless to try and improve our natural deep-water beds at present, as we shall have to wait for nature to help us in the above matter.

Trusting the above will be satisfactory,

I have, &c.,

ANDREW GYLER,  
Assistant Inspector.

## APPENDIX H.

### Assistant-Inspector Mulhall's Report on Home Division of Fisheries.

4 March, 1887.

THE Inspector reports that in January, 1886, fish were very scarce all over the district, from Middle Harbour to Hen and Chicken Bay; further up on Homebush Flats there was some difference, fish being much more plentiful. Since that time they appear to have steadily increased in all parts of the harbour, and in December last fish were more plentiful, especially mullet, than they have been known to be for some years.

In this account I except bream and whiting, because they have not been allowed to come to perfection owing to the sunken nets which are now used all over the harbour.

Schnapper also are very scarce all along the coast, but, in my opinion, fishermen seek them too far seaward instead of close in shore, where they are to be found.

Prawns have been very plentiful, there was never known such a season for them before, both in regard to quantity and size.

I attribute the great increase of fish in the harbour to the strict watch I and my assistants have kept on the closed waters.

The months for the spawning are March and April, and September and October, and having many waters closed during some of this time, a good protection has been afforded to the young fish. I advocate a permanent closing of the heads of the Port Jackson waters, because I believe it would cause a continual stream of fish to be working out of those places into the body of the harbour, which would almost supply all Sydney.

During the summer months this year there has been a large quantity of fish, principally from distant places, condemned at the fish-market as unfit for food.

The oysters about the harbour are almost exhausted, scarcely one to be seen, owing, I believe, to picnic parties, but in Middle Harbour there are quantities on the rocks; but they are very small and quite unmarketable.

I have, &c.,

THOMAS MULHALL,  
Assistant Inspector of Fisheries for Sydney.

### Assistant Inspector Smith's Report on Net and Line Fisheries, Hawkesbury River.

Sir,

Hawkesbury River, 14 February, 1887.

In compliance with your request of the 9th instant, to send you a report on the fisheries of the Hawkesbury River for the year 1886, I hasten to comply therewith.

The fisheries of the Hawkesbury River may be classed into two distinct occupations, viz., the net and line fishing and the oyster fisheries.

With your permission I will first deal with the net and line fishing.

Net fishing is carried on all through the year in the lower Hawkesbury River, Pittwater, and Cowan Creek, the fishermen having secured the service of a steamboat to convey their fish to market in a sound state, otherwise it could not be done in the summer months.

Of the quantity of fish having been sent to market during the year 1886 I am unable to give you the correct information, nor yet the number of fishermen employed; sometimes boats are here this week and gone the next.

The principal class of fish which resort these waters are several varieties of mullet, bream, jewfish, flathead, perch; and in the lower part of the river also soles and flounders, blackfish, whiting, and garfish.

The supply during the past year, and indeed since the railway works started, has been a serious falling off in quantity.

The continuous blasting operations carried on at the railway works has certainly been the means of driving the fish away from their usual haunts.

The general habitat of shoals of large mullet is about 50 miles up river, far removed from all noise; but will occasionally be driven down river by freshets and also in the spawning time—March and April—when they move about in large shoals, returning up river generally in May.

Of young fish, I may state that I very seldom see any in the lower part of the river, their habitat being generally the upper parts of the river and quiet bays and creeks, and a weedy bottom being particularly favourable.

Considerable line-fishing has also been done with jewfish, and occasionally a schnapper.

The waters of Cowan Creek, being like the ocean, clear and salt, are a favourable resort for schnapper, shoals of bream, and numerous other fish. During the last spring and summer shoals of schnapper, of many tons weight, were seen in Cowan Creek, their tails out of water, having probably come into the river to spat. I may here observe that when in this state they will not take bait. Cowan Creek and the lower Hawkesbury are also, particularly in the summer months, infested with sharks.

Of

Of the nets chiefly used in the Hawkesbury, I may state that, in the general absence of garfish (except in the lower part of the river), a long hauling net is used, with 2½ inches in the bunt and 3 inches in the wing; and I may safely state that the non-destruction of small fish in this river will bear very favourable comparison with any river. Meshing nets of 4-inch are also used.

As there is very little use for garfish nets none are kept, except an occasional prawn net of the prescribed dimensions.

I have, &c.,

P. SMITH,

Assistant Inspector.

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Assistant Inspector Smith's Report on Hawkesbury Oyster Fisheries.

Sir,

Hawkesbury River, 14 February, 1887.

I would most respectfully beg to hand you the Report on the Oyster Fisheries of the Hawkesbury River for the year 1886.

The Oyster-culture Fisheries in the Hawkesbury River during the year 1886 have been only moderately successful, although the quantity shipped to market may seem a satisfactory figure.

Quantity shipped to market during the year 1886, 2,592 bags; royalty payable thereon, £338 16s.

Of the abovenamed quantity the greater part are natural rock oysters, and the artificial layings (the real oyster culture) amount to only a very small percentage. The cause for this small amount of culture oysters having reached the market may be found in the fact that the laid oysters were not sufficiently advanced to be considered marketable, the lessees having found by experience that it requires two years or more, according to the strength of the water, where laid, and quality of spat.

I beg also here to observe, that a large number of leases have been applied for, and granted, which are in no way suitable for oyster culture, either for suitability of bottom or strength of water.

These leases were applied for mainly for what rock oysters were on them, and as these are not sufficient to pay the yearly rent in time to come, I expect to see lots of them forfeited. And it is also a fact, and may not be generally known, that the leases and waters most suitable for oyster culture are altogether devoid of young oysters, and have to depend for a supply of spat on leases down river, or Crown land.

From my reports at different times you will gather that a disease showed itself in the oysters in December, 1886, whereby the greater part of artificial layings were carried off.

I have not the least hesitation in saying that this is a severe blow to oyster culture, particularly at the present time. It is sad to see fine oysters, which have laid for over two years, and probably would have been in the market ere long, all dead. It is also curious to note the disease,—I have seen a portion of shore where all were dead, and not 20 yards away with scarcely any dead.

In the infected locality natural rock oysters have also suffered, but not to such an extent as the artificial layings.

As to the cause of the disease, the general opinion is that the great quantity of congewoi which has covered the shores has been the cause. I may here state that the disease has never been seen here like this, but I believe that the disease was here last summer on a small scale, for I have seen patches of dead oysters, for which at that time I could not account, but which I have no doubt now were destroyed by the same cause.

I beg also to state that natural rock oysters (which I trust may not be regarded as oyster culture) have also become much scarcer, in fact, are getting scarcer every year, and scarcely any laid oysters can be alive. I expect that the supply available for market will, at the end of 1887, not nearly reach the above figures.

And in view of the welfare of oyster culture in years to come, it would be well to bear in mind the many difficulties a lessee has to contend with—too numerous to mention here—that the Crown may take a more liberal view, particularly of the supply of spat to a *bona fide* lessee, else I fear that oyster culture will not even get a footing, and in a few years will be a thing of the past.

I have, &c.,

P. SMITH,

Assistant Inspector.

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Acting Assistant Inspector Cain's Report on Oyster Fisheries, Brisbane Water.

Sir,

Gosford Fisheries Office, 8 January, 1887.

I feel very much pleased in having to report to the Department the progress in the cultivation of the oysters for the last twelve months. When I was first appointed, 9th of December, 1884, there could not be found in the river twenty bags of oysters fit to be forwarded to the market. In the year 1886 there has been about 300 bags forwarded and accounted for.

And I feel confident every year the river will increase in the shipment of oysters. This river has proved itself to be a most suitable place for the cultivation of oysters within the last two years. Floods in this river do not destroy the oyster cultivation like other rivers, where wholesale destruction of the oysters is caused by the freshes.

There are some thousands of yards of foreshore to be taken up in Woy Woy Creek, but it will not suit at present to take these foreshores up on account of so many railway labourers about.

I have, &c.,

W. N. CAIN,

Acting Assistant Inspector.

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Assistant Inspector Curran's Report on Fisheries, Hunter River.

Sir,

Fisheries Office, Newcastle, 11 February, 1887.

I have the honor to report on the state of the Hunter River beds for 1886. There are no oysters on any of the beds; they have all been destroyed by a small red worm. The only oysters alive in the Hunter River are a few on the mangroves, and on the rocks. 683 oags of oysters were taken from the shores

shores above low water mark during the year. I think the late heavy freshes in the Hunter will kill the worm; if it does the oysters will settle on the beds again and grow.

Fish have been very plentiful in the Hunter River in the summer months, but were very scarce in the winter.

Prawns also have been plentiful during the last few months of the year, especially in Fullerton Cove. Some boats caught as many as four and five baskets in one haul, each basket holding from 60 to 80 quarts, but as there was very little demand for them in Sydney, they were allowed to send only one basket a day for each boat.

I have, &c.,

HENRY CURAN.

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Assistant Inspector Otway's Report on Fisheries at Port Stephens.

Sir,

Limeburners' Creek, Port Stephens, 14 February, 1887.

In accordance with your instructions I beg herewith to forward report of state of the fisheries in this district for the information of the Commissioners, up to above date.

It will, of course, be in the recollection of the Department that previous to May, 1886, I had no knowledge of the fisheries of this district, and that I accordingly speak only from that time.

I can safely say that in the months of May, June, July, and August, the appearance of any fish in the upper waters of the harbour was only distinguished by its absence. In the lower portion of Port Stephens towards the heads I several times inspected the fishermen's boats alongside the "Kingsley," when they were shipping their fish. On each occasion I found the fishing-boats well filled with various kinds of fish—principally garfish and whiting, and later on, crayfish; these were all in good condition. Most of these fish, however, came from outside the heads. In the upper waters of this harbour there has been no net fishing whatever, and, as the Department is aware, on the 29th August last a proclamation was issued closing nearly the whole harbour to net fishing. After the month of August, and as the days got longer and warmer, the mullet began to make their appearance everywhere; and about Christmas were in swarms in all small creeks. Four jumped into my boat one night. I think they are now returning as I do not see nearly so many.

My chief business has been with the oyster industry. Up to a few weeks ago that was in a most thriving condition, the dredgers which up to Christmas time were being sent to market being remarkably fine and in good condition. I am sorry to say, however, that a change has come quite suddenly upon this branch of the fishing industry. I had the honor to report, quite recently, for the information of the Commissioners, of the existence of a disease among the oysters, similar to that which affected those in the Hunter River, and eventually cleared the beds there. I am now collecting particulars, and all the information I can, with regard to it, and shall duly forward same.

I have, &c.,

C. H. OTWAY,

Assistant Inspector.

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Assistant Inspector Grant's Report on George's River and Botany Fisheries.

Sir,

17 February, 1887.

I beg to offer the following as regards the fisheries of my district.

I can positively say that I have never known the river be in such a prosperous state with fish as it is now, and has been for the last twelve months. In previous years fish could not be caught in such numbers as were caught last year, and where there was one private party fishing two or three years back there are twenty fishing at the present time, and each of these parties catch 10 per cent. more fish now by the line than were ever caught in previous years. I may also state that the numbers of licensed fishing-boats and fishermen in this district have doubled.

A boat proprietor at Como, George's River, informs me that the parties who take his boats never got so many fish by line as they catch at the present time; he also says that closing the river for six months in the year has caused the improvement. I have seen on different occasions fishing parties having as many as ten or twelve dozen red bream, besides whiting and flathead, in their possession, as the result of a day's sport, and principally all caught above the railway bridge. Black bream, blackfish, and mullet are also in abundance in the closed waters. A person cannot judge by what quantity of fish is caught in Botany Bay and about the mouth of the river, because one day fish would be plentiful about the said places while on the next there would be none, which is caused by the different species of fish travelling; in fact there being so many fishing boats confined only to Botany Bay and the mouth of the river the fish have no chance to accumulate on the flats.

As relates to the oyster fishery of my district, I beg to state that the river is in a very poor state. Spawn or spat last year was more plentiful than it has been for the last three years; still it has not made any improvement, as the public consume them as soon as they are in the shape of an oyster. Many of the lessees have laid oysters down on their areas, but only cultivate to a small extent, as the public will go on the said areas and eat their oysters in spite of them; in fact the lessees inform me it is impossible for them to improve their areas to any great extent until they are assured of having their leases granted.

I have, &c.,

J. D. GRANT,

Assistant Inspector of Fisheries for George's River and Botany.

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Assistant Inspector Benson's Report on Lake Illawarra Fisheries.

Sir,

Brownsville, 14 February, 1887.

I do myself the honor to submit the following report on the fisheries in my district, from 1st January to 31st December, 1886:—

*Lake Illawarra.*

Is exceedingly prolific in fish, but oysters are very scarce, in fact none are visible, although old residents state that there have been good beds in this lake, which have been either worked out or covered over with sand.

This

This lake has contributed very largely to the metropolitan fish supply, 4,591 baskets being shipped respectively from Wollongong and Shellharbour during 1886 (for Sydney).

The local supply for the year has been very small, averaging about one basket a week. The fishermen will not take the trouble to hawk fish, preferring to ship them direct to Sydney; they also state that they receive better prices for their fish in the Sydney market than they could get by retailing them in this district.

The supply of young fish in this lake is very abundant, the tributaries and bays adjoining are swarming with young fish, varieties consisting of mullet (hardgut), garfish, flathead, black bream, tailor, whiting, tarwhine, and blackfish.

The tributaries and bays adjoining, and the entrance to the lake, being closed from net-fishing for a period of twelve months, dating from the 1st February, 1886, there is no doubt that the judicious closing of these portions of the lake has been to a great extent, if not altogether, conducive to this supply of young fish.

There have been during the past year two breaches of the Fisheries Act committed; in both cases the parties concerned were severely punished; in the first instance about 1,000 yards of net were forfeited, and in the other case severe fines were inflicted. There is no doubt that, before my arrival in this district, the facilities for using and working excessively long and illegal nets for meshing were very great, and that such nets were used with impunity by the fishermen. But my arrival here, and being constantly on the lake, and examining each boat, has put an end to this pernicious practice.

The entrance to the sea of the lake, which has been sanded up for the last ten months, has to a great extent prevented the free ingress of fish into the lake. In heavy weather the seas break over this bar, and quantities of fish gain access to the lake, which have no doubt been a great addition to and kept the supply of marketable fish up in the lake.

Appended to this report is a return showing the quantities for each month of baskets of fish shipped to Sydney *via* Wollongong and Shellharbour for 1886.

#### *Minumurra River.*

Fishing operations during the year in this river have been confined to a few fishermen at work, mostly for local consumption.

This river contains a good supply of mangrove and cobbler peg oysters, and a fair quantity of deep-bed oysters. The oysters are in good condition, and spatting will shortly commence. No mortality exists among the oysters in this river.

From the beds in the river there have been taken during the past year 35 bags, or 105 bushels; the total amount of royalty being £5 5s., collected in Sydney.

In connection with this river no breach of the Fisheries Act, so far as it relates to oysters, has been committed during the year.

I have, &c.,

DAVID W. BENSON.

## APPENDIX I.

### Inspector Benson's Report on Southern Division of Fisheries.

Sir,

Bateman's Bay, 7 February, 1887.

I have the honor to forward my report on the Southern Fisheries for the year 1886.

During the year leases for oyster culture, under the Oyster Fisheries Act, 1884, have been granted in nearly all of the oyster-bearing waters of the Southern Division. I enclose a brief report on that portion of the fisheries lying between St. George's Basin and the Wagonga River, such portion being under my special supervision, assisted by Acting Assistant-Inspector Sutherland, stationed at the Moruya River, and Acting Assistant-Inspector Hesse, stationed at the Clyde River, whose duties are confined to those rivers. I also enclose a report from Assistant-Inspector Smithers on the fisheries lying south of the Wagonga River.

From my own and Mr. Smithers' reports it will be gathered that the majority of the lessees are not paying that attention to their oyster beds which it was reasonably expected they would do. All they seem to care about is to get as many marketable oysters off their beds as they possibly can, leaving none for breeding purposes, and thus almost completely annihilating the source of spat. During the last three years, I have never seen so little spat and brood in the southern waters as at present, and I believe this to be attributable in a great measure to the greed and negligence of the lessees. Their idea of oyster-culture seems to be confined to laying down oysters taken from the rocks and mangroves on to fattening grounds for a few months, and then sending them to market. Happily, however, there are exceptions to this almost general rule. As instances of this, I may mention leases held by Messrs. Woodward, Gibbins, Templeman, and Barclay, at the Clyde River, where the lessees by exercising a little common sense, and working in a systematic manner, have received a fair return for their outlay, and have at the same time improved their holdings considerably. On these leases oysters are not considered marketable until they arrive at maturity; oysters in considerable numbers are always left on the beds for spatting; care is exercised in culling, all undersized oysters being carefully returned to the beds; war is continually waged against the enemies of the oyster, especially the star-fish, hundreds of them being destroyed during the year; the beds are carefully watched and mud, weeds, &c., where possible removed. At the Tuross, Wagonga, and Moruya Rivers nothing has been done in the way of improvement, and from Mr. Smithers' report it appears that the leases in the waters under his supervision have been equally neglected.

From my observations, I believe that it is only necessary for the lessees to exercise a little judgment to ensure success for this new industry. All of the southern rivers are suitable for the breeding, growth, and fattening of oysters; consequently the chief object of the lessee should be to make every provision for securing spat for the purpose of laying down on fattening beds. This could be easily accomplished by placing spat collectors in the shape of stone or wood on those beds which are not provided with

with them by nature, and by leaving mature oysters in sufficient numbers on the beds and foreshores so as to ensure a supply of spat.

Trusting that during the coming year the lessees may awaken to the importance of this new industry, and throw more energy into their undertaking,

I have, &c.,  
**GEORGE G. BENSON,**  
 Inspector, Southern Fisheries.

*Clyde River.*—During the year, forty leases, representing an area of 21,600 yards, have been granted under the "Oyster Fisheries Act of 1884." Most of the lessees are persons who have been engaged in the oyster fisheries for many years, and have therefore the advantage gained by experience to guide them in making this new industry a success. For the year, 1,308 bags of oysters were sent to market, most of which were obtained from the mangroves during the year 1884, and laid down in water varying from 3 to 16 feet in depth. Many of the oysters laid down on what at the time was a clean hard bottom have been destroyed by the accumulation of mud and weeds, and many were buried by the lessees in endeavouring to secure them with a dredge. It is now the general opinion that, in order to carry out a proper supervision, oysters should not be laid down on beds where the water exceeds 3 feet in depth at low tide, when they would be easy to inspect, and weeds, mud, &c., could be removed at a small cost; the oysters could also be gathered by hand, and a great saving of labour effected. I regret having to report a very limited supply of spat and brood showing on the foreshores generally, but more especially on those leases from which all available oysters have been removed either for market or laying down, leaving none for producing spat. Some of the lessees evidently rely on nature to do everything for them, and at the same time, show a perfect ignorance of nature's laws. I have noticed that on leases where fair numbers of mature oysters have been kept continually on the beds, the foreshores are well covered with spat. The divers on the deep beds state that young oysters in large numbers are showing on the rocks and cultch. Messrs Woodward, Gibbins, Templeman, and Barclay, are the only lessees on the Clyde River who have, up to the present, worked their leases in a systematic and fair manner, by sending only mature oysters to market, laying down spat collectors, and always keeping a good stock of mature oysters on their beds for breeding purposes.

*Wagonga River.*—Only one lease for 300 yards has been granted, but there are still many applications to be dealt with. The foreshores of the river, which are narrow, have been well stripped of all oysters approaching a marketable size. The bed of the river outside of low water mark is composed of mud; beyond laying down a few oysters, and sending them to market when of a legal size, nothing has been done in the way of improvement. Particulars of oysters shipped from this river have to be sent direct to the Collector of Customs, Sydney.

*Narrawallee Creek.*—Six leases have been granted on this creek during the year, for a total area of 1,400 yards, and there are still several applications to be dealt with. The lessees, who are mostly farmers, have secured as a partner a thoroughly practical man, who has shown great judgment in the management of the beds. Only mature oysters are sent to market; a fair quantity of oysters are left on the mangroves for the purpose of spawning, and consequently the foreshores, which are chiefly mangroves, are well stocked with young oysters, which are taken and laid down on fattening ground as soon as they arrive at an age when no injury can be caused by removing them. In places where there is no natural spat, collectors, oak and stone, have been placed, and are now fairly covered with spat. From what I could see of the beds during my visit in September last, I believe there must be over 600 bags laid down, many of which are of marketable size. It will be pleasing to the Commissioners to hear that all of the lessees on this creek are working their areas in a systematic manner, and seem determined to give ostriculture a fair trial. I must express satisfaction at finding the creek so much improved after the bad treatment received at the hands of licensed dredgers in 1883. One hundred bags of oysters have been shipped during the year. Particulars of these shipments are wired direct to the Collector of Customs, Sydney, by the lessees.

*Tuross.*—Nine leases, for a total area of 2,200 yards, have been received by me for delivery to the lessees. Only 144 bags of oysters were shipped during the year. In the month of September, in consequence of a strong easterly gale, the mouth of the river was closed by a bank of sand 260 yards in width. The water in the river and lake is now four feet above high-water mark, rendering it impossible for the lessees to procure oysters either for market or laying down. Several unsuccessful attempts have been made by the lessees, assisted by the Messrs. Mort, of Bodalla, (portion of whose property is under water) to open it. Beyond laying down oysters on their foreshores, lessees have done nothing in the way of improvement. I have observed very little spat during the year; and Smart, who is an old resident of the Tuross, states that he never remembers such a bad year for spatting.

*Moruya River.*—Acting Assistant Inspector Sutherland is in charge of this river; he also supervises all shipments of oysters from other waters, shipped at Moruya. He reports two leases having been granted during the year. 141 bags of oysters have been obtained, 135 bags of which were shipped to Sydney, and 6 sold for local consumption. Nothing has been done to improve either the leases or areas applied for. The foreshores of this river are narrow and unsuitable for oyster culture.

*Cullendulla Creek.*—Four leases have been granted during the year to Edwin Cain, who has marked the boundaries of the areas leased in accordance with the Act. Several other applications made by the same lessee for areas in this creek have still to be dealt with. The foreshores, with the exception of a few patches of hard ground, are lined with mangroves, and show little signs of improvement, which is to be accounted for by the scarcity of oysters for spatting purposes. The lessee continues to lay down oysters on the hard ground, and seems determined to do his best in making the enterprise a successful one. He has shipped 23 bags of good oysters during the year.

*Tomaga River.*—One lease of 500 yards has been granted during the year to Abraham Windley, who has laid down about 100 bags of mangrove oysters on a hard bottom and in deep water. John Lewis, who is an applicant for several areas, and the holder of a permit, has also laid down a large quantity of mangrove oysters, which are showing good growth, and are now in splendid condition. Nothing has been done in the way of improvement beyond laying down the oysters, and very little spat is showing on the foreshores. 112 bags of oysters have been sent to the Sydney market during the year; 94 of which were shipped at Bateman's Bay, and 18 at the Moruya River.

## EXTRACT FROM INSPECTOR'S DIARIES FOR THE YEAR 1886.

*January.*

*Assistant Inspector Smithers* reports having returned from Sydney on the 9th of the month. Inspected Naghi River and Merrica Creek and found both waters closed at mouth. Observed fish in great numbers. There are no oysters in Naghi Creek; those in Merrica Creek are in fair condition. At Eden the bay is full of kingfish.

*Acting Assistant Inspector Sutherland* reports being absent from his station during the first two weeks of the month. All sorts of fish very scarce in river, and outside schnapper are also scarce. Inspected and passed 38 bags of oysters from Tuross Lake. No licensed fishermen on river.

*Inspector Benson.*—Inspecting areas applied for at Clyde River and tributaries, and Cullendulla Creek. Measuring areas applied for at the Clyde River. Visited and inspected Durras Lake.

*February.*

*Assistant Inspector Smithers* reports having measured areas applied for at Nelson Lake, Bermagui River, Wapengo Lake and Bittangabee. Found Spero Mackri taking oysters from Crown lands, and reported it to the Secretary of the Fisheries Department. Reported Lavington for taking oysters from Crown lands at Bowinda Lake and paying no royalty.

*Acting Assistant Inspector Sutherland.*—Have observed mullet and whiting in considerable numbers in river. Inspected and passed 27 bags of oysters from Tuross Lake; also 14 bags from Moruya River.

*Inspector Benson.*—Inspected leases and areas applied for at Clyde River and Cullendulla Creek. Delivered leases Nos. 586, 106, 111, 137, 30, 585.

*March.*

*Assistant Inspector Smithers.*—Visited and inspected Panbula River, Wonboyn River, Bittangabee Creek. Found the oysters at Wonboyn in splendid condition, and the river alive with fish. At Eden the schnapper are plentiful, but leather jackets so numerous that it is impossible to get through them with the bait.

*Acting Assistant Inspector Sutherland.*—Shoals of fish, apparently whiting, moving along the coast, also shoals of sea mullet moving in a northerly direction. Inspected 27 bags of oysters from Tuross and 7 bags from Moruya River.

*Inspector Benson.*—Visited Moruya River, measured areas applied for at Congo Creek. Cautioned Goodin against discharging sawdust into the Moruya River. Inspected fishermen's licenses and nets. Delivered leases Nos. 104, 187, 803, 273, 34, 398, 674.

*April.*

*Assistant Inspector Smithers.*—Visited Kiah River, Wonboyn River, Panbula River. Oysters in good condition. At Eden schnapper are plentiful, and large shoals of sea mullet in bay.

*Acting Assistant Inspector Sutherland.*—Measured areas applied for at Moruya River, and sent reports to Fisheries Department, Sydney. There are three licensed fishermen employed on river all using garfish nets. Noticed shoals of travally off Moruya Heads. Inspected 8 bags from Tuross, 4 bags from Moruya River; 33 baskets of fish shipped to Sydney.

*Inspector Benson.*—Measured areas applied for at Tomaga River and Clyde River. Visited and inspected Candlegut Creek. Delivered leases Nos. 316, 1,311, 1,155, 275.

*May.*

*Assistant Inspector Smithers.*—Visited Wonboyn River, Merrica Creek, Wapengo Lake. Noticed large increase of oysters at Merrica Creek. Measured areas applied for at Nelson Lake.

*Acting Assistant Inspector Sutherland.*—Have observed large numbers of mullet, bream, and whiting in river. Inspected and passed 8 bags of oysters from Tuross, 6 bags Moruya River, 10 bags Tomaga River; 15 baskets of fish shipped.

*Inspector Benson.*—Inspected leases granted and applied for at Clyde River, Buckenbowra River, Cullendulla Creek. Delivered leases Nos. 1,317, 1,318, 193, 1,146, 58, 337, 438.

*June.*

*Assistant Inspector Smithers.*—Visited Broadwater, Panbula River, and Nellica. Measured areas applied for at Kiah River.

*Acting Assistant Inspector Sutherland.*—Shoals of mullet, whiting, and bream moving up river. Inspected and passed 15 bags of oysters from Tuross, 13 bags Moruya River; 1 bag local consumption; 24 baskets of fish shipped.

*Inspector Benson.*—Inspecting leases granted at Clyde River and tributaries. Visited and inspected Moruya River, Tuross Lake, Wagonga River, and Birroul Lake. Delivered leases Nos 337, 501.

*July.*

Visited Broadwater, Bittangabee, Nellica River, Wonboyn River, and Merrica Creek. Observed numbers of oysters dead at Nellica, evidently killed by the late fresh.

*Acting Assistant Inspector Sutherland.*—Shoals of mullet, bream, and whiting in river. Inspected and passed 10 bags of oysters from Tuross, 23 bags Moruya; 1 bag used for local consumption; 84 baskets of fish shipped.

*Inspector Benson.*—In Sydney on three weeks leave of absence. Inspected leases granted at Clyde River and tributaries. Delivered lease No. 846.

*August.*

*Assistant Inspector Smithers.*—Visited Murrumbidgee River, Cuttagee Lake, Wapengo Lake. Measured areas applied for at Nelson Lake and Broadwater. At Eden—fish very scarce, especially schnapper.

*Acting Assistant Inspector Sutherland.*—Observed mullet, whiting, bream, and garfish in river. There are now four licensed fishermen at work on river. Inspected and passed 19 bags oysters from Moruya River, 9 bags Tuross, 8 bags Congo Creek; 1 bag local consumption; 46 baskets of fish shipped.

*Inspector Benson.*—Visited and inspected Durras Lake, Tomaga River, and Cullendulla Creek. Inspected leases at Clyde River. Delivered leases Nos. 804, 714, 93, 583.

*September.*

*September.*

*Assistant Inspector Smithers.*—Inspected area applied for at Kiah River by Eden Progress Committee. Visited Murrah River, Panbula River, Bega River. Measured areas applied for at Nelson Lake.  
*Acting Assistant Inspector Sutherland.*—Observed mullet, whiting, bream in river. Examined and passed 2 bags of oysters from Tuross, 11 bags Moruya River; 17 baskets of fish shipped.  
*Inspector Benson.*—Visited and inspected Conjola Lake, Narrawallee Creek, and Clyde River.

*October.*

*Assistant Inspector Smithers.*—Visited Merunbula and Nellica River. I have noticed during the month a larger number of young fish than I have seen during the last three years.  
*Acting Assistant Inspector Sutherland.*—Observed blackfish, mullet, bream in river. Inspected and passed 14 bags of oysters from the Moruya River, 8 bags Tomaga River; 18 baskets of fish shipped.  
*Inspector Benson.*—Visited and inspected leases, and measured areas applied for at Wagonga River and Tuross Lake. Delivered leases Nos. 695, 707, 806, 459, 676, 723, 667, 1,350.

*November.*

*Assistant Inspector Smithers.*—Visited Merimbula Lake, Kiah River, and Panbula River. Great havoc is caused amongst foreshore oysters at Panbula by picnic parties. Measured areas at Broadwater. At Eden large numbers of kingfish in bay.  
*Acting Assistant Inspector Sutherland.*—Observed mullet, whiting, bream, in river. Inspected and passed 19 bags of oysters from Moruya River; 1 bag used locally; 16 baskets of fish shipped.  
*Inspector Benson.*—Visited and inspected Durras Lake and Tomaga River. Inspected leases and areas applied for at Clyde River and Cullendulla Creek. Delivered lease No. 801.

*December.*

*Assistant Inspector Smithers.*—Visited Bega River, Nelson Lake, Bernagui River, Wagonga River, Cultagee Lake. Seized 11 bags of oysters at Bittangabee, and sent them to Sydney as instructed.  
*Acting Assistant Inspector Sutherland.*—Large shoals of salmon entered Moruya River. Inspected and passed 5 bags oysters from Moruya River; 2 bags used for local consumption.  
*Inspector Benson.*—Visited and inspected Moruya River, Tuross River, Tomaga River. Inspected leases at Clyde River and Cullendulla Creek. Delivered leases Nos. 1,383 and 1,427.

GEORGE G. BENSON,  
 Inspector, Southern Fisheries.

Assistant Inspector Smithers to Mr. Inspector Benson.

Sir,

Eden, 1 January, 1887.

I have the honor to forward you a report on the fisheries in the district of which I have the charge. I cannot report any increase of oysters by the fall of spat. I have failed to observe in any of the waters even a fair fall of spat. Panbula River, one of the best spat producing waters, has produced less spat during the past year than I ever noticed before. The blame must be put upon the shoulders of the leaseholders or permit holders under Fisheries Act, for they remove for market all oysters as soon as they are up to ring measurement, and of course in many cases before the oyster has come to maturity. If, therefore, the parent oyster be thus taken away, how can a supply of spat be obtained? We might as well sell all the fowls in our poultry yard as soon as they come to maturity, and then expect to have eggs to keep up our stock. Again, the lease applicants, with but few exceptions, make no provision whatever to gather spat, and then their cry is that oyster culture will not pay. I can only ask if agriculture would pay if it were treated in a like way.

The only approach to oyster culture which I have noticed is the transference of small shore oysters to deeper water till they are marketable. In regard to applications for oyster culture areas, I have noticed several areas in this district on which no culture was intended, the idea has been simply to pay the rent, get all the marketable oysters off and have done with it. In such cases the law does not reach the offender.

There has been a great increase in the number of whelks in some of the rivers, principally in the Nullica River. Assuming the spat supply sets in well during the present year, there will no doubt be a large supply of whelk oysters.

I call special attention to the destruction of mutton fish. This fish is not protected, and the Chinamen are fast destroying its existence on the coast line. This fish is dried and exported to China; one shipment alone weighed nearly half a ton, and sold in Sydney at 1s. 3d. per pound before shipment to China.

At the commencement of the year applications for oyster areas were numerous, but towards the end became gradually less. I look forward to an increase in the supply of oysters during the present year—there will be an increase in the supply of oysters—and also to oyster culturists taking a little more interest in their work and endeavouring to save all the spat by using collectors.

I have, &c.,

FREDK. W. SMITHERS.

Assistant Inspector Smithers to Mr. Inspector Benson.

Sir,

Eden, 1 January, 1887.

I beg to forward a short report concerning fish in the Eden District for the past year.

But little interest is manifested in the fishing industry. There are but few men with licenses here, and they have got disheartened with their work, as they frequently find it impossible to get rid of their fish, as there are no less than three private nets in use in this place owned by fourteen persons, and when they get a fair supply presents are made; this must do the licensed men harm. There is but little inducement to fishermen to ply their calling. I have noticed more young fish in these waters during the last year, especially up the rivers, and in all the lakes to Wagonga River. At the mouths of some of the lakes (which are closed to the sea during heavy weather) there may be seen tons of fish of all sizes trying to get out as the seas come over into the lake. The water in most of the lakes is only about half salt, and it is in these places where there appears to be the great quantity of young fish. The shoals have not been

so large as hitherto passing north and south. It is most singular that last year the whales were scarce and so were the shoals of fish. Schnapper has again been very scarce. I cannot account for such scarcity. I particularly notice red bream (young schnapper) are but seldom caught anywhere within miles of Eden. Whiting have been very scarce; perch (sea) very scarce. There were also bonito, black bream, travally, tailor, and blackfish, which were the most plentiful of all our long list of fishes. I am happy to state that the leather-jackets have almost entirely deserted us. I have not tried for schnapper well off shore as I have not the means to do it.

I may just mention that I have ridden alone 1,579 miles during the past year while on duty and found, as a rule, things tolerably right.

I have, &c.,  
FREDK. SMITHERS.

## APPENDIX K. Report on Inland Fisheries.

Assistant Inspector Wilshire's Report on Fisheries of Murray River and Tributaries.

Sir,

Deniliquin, 11 February, 1887.

In submitting my annual report for the past year on the fisheries in my district, I have the honor to announce that a decided increase of fish is discernible in all the rivers and creeks about here, and excellent sport has been obtained by the inhabitants of the district with lines during the past few months. In fact more fish have been caught by the townspeople than there have been for years.

This I attribute to the seizure and confiscation of several large bag nets, and to my carefully guarding against any being used during the fishing season, and also to the destruction of cormorants or stags since the 1st January, last year, to date. I have given receipts for no less than 3,829 heads of these destructive birds, and now small fish in thousands can be seen in all the rivers, creeks, and lagoons about here.

There are about twelve men engaged in fishing in this district, most of whom reside in Victoria, and it is with these men that I have the greatest difficulty in repressing illegal netting.

The principal species of fish in these waters are Murray cod, trout, gold and silver perch, silver and black bream; and a fair amount of all these fish have been caught with gill nets and lines during the past year.

The rivers are now falling so fast that few nets are being used, and most of the fishermen are using night lines; these lines are stretched right across the rivers, with ten or a dozen hooks on them, but as they only catch the large cod they are rather a benefit than otherwise.

I have endeavoured to prevent illegal netting all I could, but I have great difficulties to contend against, owing to the peculiar nature of the rivers and creeks here during flood time, and that is the time the most netting is done.

I respectfully enclose some suggestions for your consideration, which I think are really necessary for the protection of the fisheries here, and, if introduced into an amended Act, would, I believe, give general satisfaction to the people of the district. At present they derive no benefit whatever from the fish caught here, all of which are sent to the Melbourne markets.

I have, &c.,  
OSBORNE WILSHIRE,  
Assistant Inspector.

Suggestions for the protection of the Murray Fisheries, by Assistant Inspector Wilshire:—

1. That power be given to close from net fishing all waters within the counties of Cadell, Townsend, and Wakool, for a period not exceeding two years.
2. All fishermen to hold a license, as well as having their boats licensed.
3. No bag nets to be allowed.
4. No nets to be of less mesh than 4 inches.
5. No nets to be set within 14 feet of each side of water edge.
6. No nets to be set within 500 yards of each other.
7. Netting to be prohibited in all lagoons.
8. No nets allowed to be doubled or set together. (See No. 6.)
9. A spawning season to be proclaimed, and no netting allowed during that time.

Acting Assistant Inspector Nelson's Report on Lake George Fisheries.

Sir,

Bungendore, 8 December, 1886.

I beg to report that independent of my constant visits to Lake George, I have during the last week made a special inspection of the Lake George fisheries.

I find a large quantity of fine codfish being caught for sale by the fishermen holding licenses (throc), and others are contemplating starting from the first of the new year.

Although the waters of the lake have receded very much through the late dry seasons yet the fish are in fine condition and healthy.

I am glad to be able to say the late rains have almost brought the lake up to its usual level, and the creeks are now running bank high into the lake. I had great difficulty in returning home this morning.

The nets used by the fishermen are of the proper size.

It has been reported to me that some of the fishermen are in the habit of placing their nets across the mouths of the creeks running into the lake. I have kept strict watch over them but have not been able to catch them at present.

One difficulty I have to contend with is that I have no boat to get about the lake and into the mouths of the creeks. If you had a cheap boat, or even a second-hand one, to send me for this purpose, it would enable me to put a stop to illegal netting at once.

I also beg to suggest that, if procurable, a few bream and perch be sent to be placed in the creeks and lake, which should be closed against net fishing for twelve months.

I have, &c.,  
FREDK. NELSON,  
Actg. Asst. Inspector of Fisheries.



1887.

(THIRD SESSION.)

NEW SOUTH WALES.

## FOREIGN DESERTERS' ACT, 1852.

(DESPATCH RESPECTING.)

Presented to Parliament by Command.

The Treasury, New South Wales,  
28th October, 1887.

His Excellency the Governor directs the publication, for general information, of the following Despatch from the Principal Secretary of State for the Colonies, transmitting a copy of an Order of Her Majesty in Council extending the provisions of the "Foreign Deserters' Act, 1852," to Greece.

J. F. BURNS.

(Circular.)

Downing-street, 30th July, 1887.

Sir,

I have the honour to transmit to you, for publication in the Colony under your Government, a copy of an Order of Her Majesty in Council, extending the provisions of the "Foreign Deserters' Act, 1852," to Greece.

I have, &c.,  
H. T. HOLLAND.

The Officer administering  
the Government of New South Wales.

At the Court, Windsor, the 12th day of July, 1887.

*Present :*

THE QUEEN'S MOST EXCELLENT MAJESTY IN COUNCIL.

WHEREAS by the "Foreign Deserters' Act, 1852," it is provided that, whenever it is made to appear to Her Majesty that due facilities are or will be given for recovering and apprehending seamen who desert from British merchant ships in the territories of any foreign power, Her Majesty may, by Order in Council stating that such facilities are or will be given, declare that seamen, not being slaves, who desert from merchant ships belonging to a subject of such power, when within Her Majesty's Dominions, shall be liable to be apprehended, and carried on board their respective ships, and may limit the operation of such order, and may render the operation thereof subject to such conditions and qualifications, if any, as may be deemed expedient :

And whereas it has been made to appear to Her Majesty that due facilities will be given for recovering and apprehending seamen who desert from British merchant ships in the dominions and possessions of His Majesty the King of the Hellenes :

Now therefore Her Majesty, by virtue of the power vested in Her by the said "Foreign Deserters' Act, 1852," and by and with the advice of Her Privy Council, is pleased to order and declare, and it is hereby ordered and declared, that from and after the publication hereof in the London Gazette seamen, not being slaves, and not being British subjects, who within Her Majesty's dominions desert from merchant ships belonging to subjects of His Majesty the King of Hellenes, shall be liable to be apprehended and carried on board their respective ships : Provided always, that if any such deserter has committed any crime in Her Majesty's dominions, he may be detained till he has been tried by a competent court, and until his sentence, if any, has been carried into effect.

And the Secretary of State for the Home Department, the Secretary of State for the Colonies, and the Secretary of State for India in Council are to give the necessary directions herein accordingly.

C. L. PEEL.



1887-8.

## NEW SOUTH WALES.

## FOREIGN DESERTERS ACT, 1852.

(DESPATCH RESPECTING.)

Presented to Parliament by Command.

[CIRCULAR.]

Sir,

Downing-street, 9 January, 1888.

I have the honor to transmit to you, for publication in the Colony under your Government, a copy of an Order of Her Majesty in Council (29 December, 1887), extending the provisions of the "Foreign Deserters Act, 1852," to the Republic of Paraguay.

The Officer Administering  
the Government of New South Wales.

I have, &c.,  
H. T. HOLLAND.

At the Court at Osborne House, Isle of Wight, the 29th day of December, 1887.

*Present :*

## THE QUEEN'S MOST EXCELLENT MAJESTY IN COUNCIL.

WHEREAS by the "Foreign Deserters Act, 1852," it is provided that whenever it is made to appear to Her Majesty that due facilities are or will be given for recovering and apprehending seamen who desert from British merchant ships in the territories of any Foreign Power, Her Majesty may, by Order in Council, stating that such facilities are or will be given, declare that seamen, not being slaves, who desert from merchant ships belonging to a subject of such Power, when within Her Majesty's dominions, shall be liable, to be apprehended and carried on board their respective ships, and may limit the operation of such Order and may render the operation thereof subject to such conditions and qualifications, if any, as may be deemed expedient :

And whereas it hath been made to appear to Her Majesty that due facilities for recovering and apprehending seamen who desert from British merchant ships in the territories of the Republic of Paraguay will be given under a Treaty between the Governments of Great Britain and Paraguay signed at Assumption on the 16th October, 1884 :

Now, therefore, Her Majesty, by virtue of the powers vested in Her by the said "Foreign Deserters Act, 1852," and by and with the advice of Her Privy Council, is pleased to order and declare, and it is hereby ordered and declared, that, from and after the publication hereof in the *London Gazette*, seamen, not being slaves (and not being British subjects), who desert from merchant ships belonging to the Republic of Paraguay within Her Majesty's dominions shall be liable to be apprehended and carried on board their respective ships: Provided always, that if any such deserter has committed any crime in Her Majesty's dominions he may be detained until he has been tried by a competent Court, and until his sentence (if any) has been fully carried into effect.

And the Secretary for State for the Home Department, the Secretary of State for the Colonies, and the Secretary of State for India in Council, are to give the necessary directions herein accordingly.

C. L. PEEL.



1887.

(THIRD SESSION.)

LEGISLATIVE ASSEMBLY.

NEW SOUTH WALES.

## FRUIT GROWING.

(PETITION FROM "N. S. WALES FRUIT-GROWERS' UNION.")

*Received by the Legislative Assembly, 8 November, 1887.*

To the Honorable the Speaker and the other Members of the Legislative Assembly of the Colony of New South Wales, in Parliament assembled.

The humble Petition of the undersigned fruit-growers in the Colony of New South Wales,—

SHOWETH :—

1. That the New South Wales Fruit-growers' Union, representing the fruit-growers of the county of Cumberland, where the fruit-growing industry of the Colony is considerably more developed than in all the other parts of New South Wales, has unanimously agreed on certain principles which they think should be embodied in an Act of Parliament, the principles agreed on being :—

- (1.) That rates necessary for the protection of the fruit-growing industry, against all sorts of animal, vegetable, fungoid pests, should be raised by bodies locally elected by the people who are to pay assessment, and that the expenditure of the rates so raised should be made by the same locally elected bodies or boards.
- (2.) That the administration of all law relating to fruit-growing should also be by the same locally elected bodies or boards.
- (3.) That the few attempts at local administration which have been made, such as the Stock and Pastures Protection Act, have been eminently successful in every part of the colony, whilst the principle of centralisation adopted in many other Acts has been one of the chief causes of their failure.
- (4.) That as certain noxious insects are now spreading amongst the orchards and vineyards of the county of Cumberland exclusively, any Act now passed should remain limited to that county until the extension of such Act be applied for by the growers of any other particular county.

For these reasons your Petitioners urge that your Honorable House may grant them such a measure of relief as may be just to their industry and conducive to the general interest of same in the whole of the colony.

Your Petitioners therefore pray that your Honorable House will be pleased to take into consideration the above premises.

And your Petitioners, as in duty bound, will ever pray.

Parramatta Fruit-growers' Union Rooms, October 1, 1887.

[Here follows 33 signatures.]



1887-8.

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LEGISLATIVE ASSEMBLY.  
NEW SOUTH WALES.

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GOVERNMENT PRINTING OFFICE.

(COST AND DESCRIPTION OF WORK DONE, FROM 1 JANUARY TO 31 DECEMBER, 1887.)

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*Ordered by the Legislative Assembly to be printed, 28 February, 1888.*

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ANNUAL RETURN to an *Order* made by the Honorable the Legislative Assembly of New South Wales, dated 6th May, 1884, That there be laid upon the Table of this House annually, a Return showing,—

- “ (1.) The total cost, wages, and material of the printing, bookbinding, photography, and lithography done for each Department of the Public Service, at the Government Printing Office, during each year ending 31st December.
- “ (2.) A statement, in tabular form, showing the title of each book, pamphlet, and collection of photographs or lithographs published at the Government Printing Office during each year ending 31st December; such statement to show the number of copies of each produced, and the total cost of each set.
- “ (3.) That a statement of the number of copies, and the cost of printing (labour and material), be printed on the title-page of each Return or Departmental Report laid before Parliament.”

(*Mr. Hutchinson.*)

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## GOVERNMENT PRINTING OFFICE.

(L.)

RETURN of the Total Estimated Cost, Wages, and Material of the Printing, Bookbinding, Photography, and Lithography done for each Department of the Public Service, at the Government Printing Office, during the year ended 31st December, 1887.

Department for which the work was performed.	Estimated Value of Letter-press & Lithographic Printing.	Estimated Value of Bookbinding, &c.	Photo-lithography, Photography, &c.	Total Value of Work performed.	Cost of Paper and Parchment.	Total Value.
<b>PARLIAMENTARY PRINTING.</b>						
	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
<b>LEGISLATIVE COUNCIL:—</b>						
Under statutory obligation, &c. ....	3,229 14 2	412 9 6	174 1 9	3,816 5 5	420 7 4	4,236 12 9
Upon motion of Members of Parliament.....	325 17 6	44 7 7	32 11 0	402 16 1	44 17 0	447 13 1
Total .....	3,555 11 8	456 17 1	206 12 9	4,219 1 6	465 4 4	4,684 5 10
<b>LEGISLATIVE ASSEMBLY:—</b>						
Under statutory obligation, &c. ....	6,679 12 2	1,817 7 8	363 12 3	8,860 12 1	1,166 8 11	10,027 1 0
Upon motion of Members of Parliament.....	1,437 9 6	455 16 4	386 2 6	2,279 8 4	233 14 9	2,513 3 1
Total .....	8,117 1 8	2,273 4 0	749 14 9	11,140 0 5	1,400 3 8	12,540 4 1
Total Parliamentary Printing .....	11,672 13 4	2,730 1 1	956 7 6	15,359 1 11	1,865 8 0	17,224 9 11
Parliamentary Debates .....	3,165 14 8	1,073 0 5	.....	4,238 14 8	497 11 9	*4,736 6 5
Government Gazette .....	12,884 10 1	312 10 0	.....	13,197 0 1	3,009 11 2	16,206 11 3
<b>JOB PRINTING.</b>						
<b>No. II.—EXECUTIVE AND LEGISLATIVE:—</b>						
2a Government House.....	111 18 8	77 14 7	22 19 8	212 12 11	23 8 10	236 1 9
2b Executive Council .....	3 0 6	24 16 0	.....	27 17 0	2 12 9	30 9 9
2c Legislative Council .....	38 1 9	8 14 9	.....	46 16 6	5 18 3	52 14 9
2d Legislative Assembly .....	75 16 6	22 16 3	.....	98 12 9	11 8 9	110 1 6
2e Legislative Council and Assembly .....	31 19 0	0 9 0	1 10 0	33 18 0	6 5 3	40 3 3
2f Parliamentary Library .....	27 1 0	36 12 0	.....	63 13 0	2 2 11	65 15 11
2g Parliamentary Reporting Staff .....	3 10 0	6 18 3	.....	10 8 3	0 9 0	10 17 3
Total .....	291 7 5	178 1 4	24 9 8	493 18 5	52 5 9	546 4 2
<b>No. III.—COLONIAL SECRETARY:—</b>						
3a Colonial Secretary .....	301 8 6	183 18 11	242 14 0	728 1 5	74 12 4	802 13 9
3a* Protectorate of Aborigines.....	1 14 0	1 10 6	.....	3 4 6	0 8 4	3 12 10
3b Civil Service Board.....	6 7 6	23 3 8	.....	29 11 2	4 1 6	33 12 8
3bb Government Statistician.....	693 13 0	39 3 11	.....	732 16 11	220 16 9	953 13 8
3c Military Forces .....	403 10 0	174 10 1	.....	578 0 1	105 11 8	683 11 9
3c* Naval Depot .....	28 17 0	6 7 9	.....	35 4 9	3 2 5	38 7 2
3cc Torpedo Corps .....	0 18 0	2 10 0	.....	3 8 0	0 11 8	3 19 8
3d Naval Brigade.....	8 10 0	0 11 0	.....	9 1 0	0 9 9	9 10 9
3d* Naval Artillery Volunteers .....	8 2 6	1 10 0	.....	9 12 6	1 1 3	10 13 9
3e Police { Police Department .....	112 11 9	100 18 8	1 9 0	214 19 5	61 19 9	276 19 2
{ Police Gazette .....	489 6 9	.....	.....	489 6 9	31 5 9	520 12 6
3g Lunacy .....	34 4 0	30 13 5	.....	64 17 5	12 4 3	77 1 8
3h Master in Lunacy .....	10 12 6	14 6 4	.....	24 18 10	5 5 8	30 4 6
3i Medical Board.....	1 10 6	5 1 0	.....	6 11 6	0 5 0	6 16 6
3k Medical Adviser, Vaccination, Medical Officers, &c. ....	16 0 9	10 13 3	.....	26 14 0	5 11 9	32 5 9
3l Department of Audit.....	81 4 4	215 7 6	.....	296 11 10	42 7 11	338 19 9
3m Registrar-General .....	150 15 9	119 3 4	.....	269 19 1	109 0 9	378 19 10
3n Do Land Titles Branch .....	129 11 3	77 13 8	.....	207 4 11	501 8 3	708 13 2
3o Immigration Agent .....	6 3 0	2 6 6	.....	8 9 6	1 5 7	9 15 1
3p City of Sydney Improvement Board .....	6 15 0	1 6 6	.....	8 1 6	0 18 10	9 0 4
3q Inspector of Public Charities.....	13 14 6	1 1 0	.....	14 15 6	1 17 9	16 13 3
3r State Children's Relief Department .....	44 6 11	34 9 2	.....	78 16 1	16 3 4	94 19 6
3s Asylums for Infirm and Destitute .....	19 3 0	32 4 5	.....	51 7 5	14 14 7	66 2 0
3t Fisheries Commission.....	34 16 7	10 1 0	.....	44 17 7	12 14 6	57 12 1
3u Botanical Gardens .....	1 1 6	0 1 6	.....	1 3 0	0 5 4	1 8 4
3w Returning Officers .....	35 16 6	.....	.....	35 16 6	5 16 0	41 12 6
3x Rifle Association .....	104 6 3	52 11 0	.....	156 17 3	14 11 4	171 8 7
3y Electoral Lists.....	4,909 2 3	84 0 6	.....	5,083 2 9	72 10 9	5,155 13 6
3z Electoral Rolls .....	4,792 6 0	121 13 0	.....	4,913 19 0	349 4 4	5,263 3 4
Total .....	12,536 9 7	1,346 17 7	244 3 0	14,127 10 2	1,670 7 1	15,797 17 3

\* Includes £10 7s. 10d. for printing separate copies of the speeches of several Members in important debates

## RETURN of Value of Work performed for each Department of the Public Service, &amp;c.—continued.

Department for which the work was performed.	Estimated Value of Letter-press & Lithographic Printing.	Estimated Value of Bookbinding, &c.	Photo-lithography, Photography, &c.	Total Value of Work performed.	Cost of Paper and Parchment.	Total Value.
	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
<b>No. IV.—TREASURER AND SECRETARY FOR FINANCE AND TRADE:—</b>						
4a The Treasury .....	1,364 9 3	670 2 2	89 0 0	2,123 11 5	207 16 11	2,331 8 4
4b Stamp Duties .....	120 10 0	51 19 11	.....	172 9 11	47 0 3	219 10 2
4c Customs .....	578 8 1	294 3 0	.....	872 11 1	251 7 11	1,123 19 0
4d Commissioners of Customs.....	1 0 6	0 2 6	.....	1 3 0	.....	1 3 0
4e Colonial Distilleries and Refineries .....	10 17 6	6 0 6	.....	16 18 0	2 8 0	19 6 0
4f Government Printer's Department .....	433 18 2	257 13 6	15 4 0	706 15 8	254 7 8	961 3 4
4g Pamphlets and Forms for Stock .....	1,502 6 7	874 10 11	.....	2,376 17 6	1,597 4 11	3,974 2 5
4h Stores and Stationery.....	42 8 3	93 18 4	.....	136 6 7	165 5 6	301 12 1
4m Ordnance and Barrack Department.....	25 18 3	20 1 6	.....	45 19 9	9 1 7	55 1 4
4n Board of Health .....	38 11 3	27 10 10	.....	66 2 1	11 8 9	77 10 10
4o Board of Pharmacy.....	4 14 6	3 11 0	.....	8 5 6	0 2 1	8 7 7
4p Shipping Masters .....	18 10 6	44 18 10	.....	63 9 4	20 18 2	84 7 6
4q Glebe Island Abattoir .....	4 4 6	1 9 6	.....	5 14 0	0 18 2	6 12 2
4r Marine Board .....	109 7 3	21 11 10	.....	130 19 1	17 16 0	148 15 1
4s Branch Royal Mint .....	27 3 6	19 2 0	.....	46 5 6	11 6 3	57 11 9
4t Quays and Wharves .....	7 11 9	8 0 2	.....	15 11 11	4 19 5	20 11 4
Total .....	4,289 19 10	2,894 16 6	104 4 0	6,789 0 4	2,602 1 7	9,391 1 11
<b>No. V.—MINISTER OF PUBLIC INSTRUCTION:—</b>						
5a Public Instruction .....	609 11 7	499 1 8	44 13 6	1,153 6 9	364 13 2	1,517 19 11
5b Industrial Schools .....	8 8 6	9 19 6	.....	18 8 0	3 16 6	22 4 6
5d Observatory .....	392 3 10	42 19 2	16 5 0	451 8 0	55 17 2	507 5 2
5e Museum .....	81 18 6	23 18 0	42 19 0	148 15 6	20 4 3	168 19 9
5e* Australian Technological Museum.....	6 1 6	0 5 0	.....	6 6 6	0 11 8	6 18 2
5f Free Public Library .....	802 15 3	231 13 3	.....	1,034 8 6	22 15 11	1,057 4 5
5g Church and School Lands .....	14 3 0	1 3 2	.....	15 6 2	5 11 8	20 17 10
5h Royal Society .....	276 15 9	115 5 0	5 5 0	397 5 9	60 9 8	447 15 5
5h* Geographical Society .....	19 14 6	0 17 0	.....	20 11 6	1 10 8	22 2 2
5i Technical Education .....	62 11 6	19 10 6	.....	82 2 0	31 12 6	113 14 6
Total .....	2,274 3 11	944 12 3	109 2 6	3,327 18 8	557 3 2	3,885 1 10
<b>No. VI.—MINISTER OF JUSTICE:—</b>						
6a Department of Justice .....	232 11 2	75 2 3	.....	307 13 5	78 7 7	386 1 0
6b Master in Equity's Department .....	10 2 6	1 17 6	.....	12 0 0	1 15 6	13 15 6
6c Prothonotary .....	132 3 6	75 2 6	.....	207 6 0	27 9 1	234 15 1
6c* Curator of Intestate Estates.....	7 19 6	8 14 2	.....	16 13 8	2 1 9	18 15 5
6d Sheriff .....	48 10 0	41 9 5	.....	89 19 5	21 4 6	111 3 11
6e Insolvency Court.....	40 2 10	13 17 1	.....	53 19 11	18 3 10	72 3 9
6f District Courts .....	33 5 9	11 3 6	.....	44 9 3	17 4 10	61 14 1
6g Coroners' Inquests .....	7 14 6	9 5 4	.....	16 19 10	2 6 9	19 6 7
6h Petty Sessions .....	4 19 3	27 12 0	.....	32 11 3	1 2 7	33 13 10
6i Central Police Office .....	24 15 0	28 15 7	.....	53 10 7	7 1 5	60 12 0
6k Water Police Office.....	41 5 3	31 7 8	.....	72 12 11	11 18 3	84 11 2
6l Prisons .....	36 16 6	8 1 9	.....	44 18 3	8 11 4	53 9 7
6m Darlinghurst Gaol .....	31 1 0	110 2 5	.....	141 3 5	22 2 2	163 5 7
6n Shaftsbury Reformatory for Girls .....	0 4 0	.....	.....	0 4 0	.....	0 4 0
6o Registrar of Copyright .....	10 16 0	6 9 10	.....	17 5 10	3 9 10	20 15 8
Total .....	662 6 9	449 1 0	.....	1,111 7 9	222 19 5	1,334 7 2
<b>No. VII.—THE ATTORNEY-GENERAL:—</b>						
7a The Attorney-General .....	41 8 6	64 5 0	.....	105 13 6	1 3 5	106 16 11
7b Parliamentary Draftsman .....	1 8 0	7 9 6	.....	8 17 6	0 17 0	9 14 6
7c Crown Solicitor .....	532 2 6	30 19 3	.....	563 1 9	19 18 10	583 0 7
7d Clerk of the Peace .....	6 3 6	9 18 6	.....	16 2 0	1 4 3	17 6 3
7e Registrar of Friendly Societies .....	2 14 6	1 13 0	.....	4 7 6	1 4 1	5 11 7
Total .....	583 17 0	114 5 3	.....	698 2 3	24 7 7	722 9 10
<b>No. VIII.—SECRETARY FOR LANDS:—</b>						
8a Department of Lands .....	548 6 7	768 6 6	.....	1,311 13 1	430 17 9	1,742 10 10
8c Survey of Lands .....	53 15 8	185 16 3	1,617 16 0	1,807 7 11	27 1 1	1,834 9 0
Total .....	597 2 3	904 2 9	1,617 16 0	3,119 1 0	457 18 10	3,576 19 10
<b>No. IX.—SECRETARY FOR PUBLIC WORKS:—</b>						
9a Department of Public Works .....	24 13 3	75 5 2	.....	99 18 5	4 10 6	104 8 11
9b Railways .....	5,360 18 10	2,699 3 8	443 12 6	8,503 15 0	3,552 18 6	12,056 13 6
9b* Tramways .....	436 13 6	237 7 9	.....	724 1 3	393 6 5	1,117 7 8
9c Harbours and Rivers Navigation .....	302 13 6	115 10 9	22 5 0	440 9 3	60 16 8	501 5 11
9d Colonial Architect's Department .....	93 4 6	11 4 3	40 1 6	144 10 3	7 0 8	151 10 11
9e Roads and Bridges .....	341 16 9	72 18 7	2 10 0	417 5 4	66 18 6	484 3 10
Total .....	6,610 0 4	3,211 10 2	508 9 0	10,329 19 6	4,085 11 3	14,415 10 9

RETURN of Value of Work performed for each Department of the Public Service, &c.—*continued.*

Department for which the work was performed.	Estimated Value of Letter-press & Lithographic Printing.	Estimated Value of Bookbinding, &c.	Photo-lithography, Photography, &c.	Total Value of Work performed	Cost of Paper and Parchment.	Total Value.
	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
<b>No. X.—THE POSTMASTER-GENERAL:—</b>						
10a The General Post Office .....	6,327 11 5	732 1 1	11 5 0	7,070 17 6	2,055 13 4	9,126 10 10
10b Money Order and Government Savings Bank Department .....	509 13 6	555 17 1	.....	1,065 10 7	576 18 11	1,642 9 6
10c Electric Telegraphs .....	621 4 3	465 17 7	.....	1,087 1 10	1,067 6 3	2,154 8 1
Total .....	7,458 9 2	1,753 15 9	11 5 0	9,223 9 11	3,690 18 6	12,923 8 5
<b>No. XI.—SECRETARY FOR MINES:—</b>						
11a Department of Mines .....	681 1 6	175 2 6	139 12 6	995 16 6	147 13 2	1,143 9 8
11b Forest Conservancy Branch .....	43 18 0	13 8 5	.....	57 6 5	7 3 2	64 9 7
11c Stock Branch .....	511 4 6	31 8 9	.....	542 13 3	30 9 8	573 2 11
11d Rabbit Branch .....	27 15 6	10 0 8	.....	37 16 2	4 16 11	42 13 1
11e Public Watering-places Branch .....	194 13 2	18 11 3	.....	213 4 5	10 2 10	223 7 3
Total .....	1,458 12 8	248 11 7	139 12 6	1,846 16 9	200 5 9	2,047 2 6
<b>No. XII.—MISCELLANEOUS:—</b>						
12a Miscellaneous .....	1,512 11 2	425 4 8	277 9 0	2,215 4 10	183 11 9	2,398 16 7
12b Colonial and Indian Exhibition Commission .....	0 10 6	.....	.....	0 10 6	.....	0 10 6
12c Intoxicating Drink Inquiry Commission ..	19 0 0	5 0 0	.....	24 0 0	21 11 9	45 11 9
12e Conservation of Water Commission .....	21 4 6	42 1 0	9 5 0	72 10 6	0 9 0	72 19 6
12f Stock and Pastures Conference .....	61 14 0	1 7 6	.....	63 1 6	3 9 7	66 11 1
12g Adelaide Jubilee International Exhibition Commission .....	423 3 3	258 0 9	70 0 0	751 4 0	197 7 10	948 11 10
12h Melbourne Centennial International Exhibition Commission .....	99 6 9	10 15 0	.....	110 1 9	21 19 4	132 1 1
12i Casual Labour Board .....	10 11 3	3 14 3	.....	14 5 6	3 19 9	18 5 3
12k Centennial Celebration Commission .....	3 19 6	.....	.....	3 19 6	0 18 2	4 17 8
Total Miscellaneous .....	2,152 0 11	746 3 2	356 14 0	3,254 18 1	433 7 2	3,688 5 3
Paper used by Binder and for Proofs .....	.....	.....	.....	.....	280 11 10	280 11 10
Separate Slips of Gazette Notices for Departmental use .....	600 16 6	.....	.....	600 16 6	* .....	600 16 6
Total Job Printing .....	39,515 6 4	12,291 17 4	3,115 15 8	54,922 19 4	14,286 17 11	69,209 17 3

## SUMMARY.

Parliamentary Printing	Legislative Council .....	3,553 11 8	456 17 1	206 12 9	4,219 1 6	465 4 4	4,684 5 10
	Legislative Assembly .....	8,117 1 8	2,273 4 0	749 14 9	11,140 0 5	1,400 3 8	12,540 4 1
Parliamentary Debates .....	.....	3,165 14 3	1,073 0 5	.....	4,238 14 8	497 11 9	4,736 6 5
Government Gazette .....	.....	12,884 10 1	312 10 0	.....	13,197 0 1	3,009 11 2	16,206 11 3
Job Printing for the Public Departments .....	.....	39,515 6 4	12,291 17 4	3,115 15 8	54,922 19 4	14,286 17 11	69,209 17 3
Stereotyping, Electrotyping, Engraving, Repairs to Machinery, Type-founding, &c., and Clerical Work .....	.....	9,427 10 7	.....	.....	9,427 10 7	.....	9,427 10 7
Total .....	.....	76,665 14 7	16,407 8 10	4,072 3 2	97,145 6 7	19,659 8 10	116,804 15 5

\* The cost of paper for Gazette slips is placed against each Department for which the work was done.

† In this amount is included 50 per cent. for incidental Expenses, viz. :—

Superintendent, including Accounts, 10 per cent. ; Reading, 10 per cent. ; Publishing, 10 per cent. ; Correcting Authors' Proofs, 15 per cent. ; Wear and tear, and interest on capital invested, 5 per cent.

## (II.)

STATEMENT showing the Title, Number of Copies, and total Cost of each Book and Pamphlet published at the Government Printing Office during the year ended 31st December, 1887.

Title.	Books: Number of Copies.	Pamphlets: Number of Copies.	Total Number of Copies.	Total Cost.
Time-tables and Fares, Great Southern, Western, Richmond, and Northern Lines, from 1st May, 1887, with Diagram .....		6,600	6,600	£ s. d. 116 16 0
Do do do from 1st September, 1887, with Diagram .....		11,000	11,000	141 10 4
Do do do 1st October, 1887, do .....		10,500	10,500	119 1 6
Do do do 1st November, 1887, do .....		10,500	10,500	75 19 6
Do do do 7th December, 1887 do .....		5,500	5,500	46 2 6
Working Time-table of Passenger, Live Stock, Goods, and Mineral Trains, Great Southern and Western Railways, from 5th April, 1887 .....		4,500	4,500	98 6 6
Do do do 1st September, 1887 .....		4,500	4,500	107 3 10
Do do do 8th September, 1887 .....		4,500	4,500	107 3 10
Do do do 3rd November, 1887 .....		4,000	4,000	104 17 4
Working Time-table of Passenger, Goods, and Mineral Trains, Great Northern, North-Western, and Morpeth Lines, from 1st May, 1887 .....		2,500	2,500	35 12 6
Appendix to Working Time-table, 1st September, 1887 .....		4,500	4,500	66 13 0
Couching Rates for Great Southern, Western, and Northern Lines and Branches .....		1,000	1,600	65 6 0
Do do do 15th May, 1887 .....		250	250	3 5 7
The Railway Guide of New South Wales. (For the use of Tourists, Excursionists, and others.) A convenient volume of reference to Railway routes, stations, and places of interest on the lines of railway: Containing various Maps and numerous Illustrations. Third Edition. ....	2,050		2,050	691 19 4
Government Tramways—Time-tables and Fares, from 31st October, 1886 .....		7,700	7,700	15 1 5
Do do do 19th April, 1887 .....		2,750	2,750	17 1 6
Do do do 1st June, " .....		6,400	6,400	24 6 1
Do do do 1st October, " .....		10,500	10,500	28 13 11
Do do do 1st Dec., " .....		6,500	6,500	26 11 10
Government Tramways of New South Wales—Rules and Regulations for the Guidance of Officers and Servants and the conduct of Traffic on the Newcastle-Plattsburg Tramway .....		400	400	8 5 0
Lands for Public Purposes Acquisition Act .....		300	300	3 15 0
Vine Diseases Act .....		300	300	1 10 2
The Electoral Act of 1880 .....		800	800	30 6 8
Registration (Letters of) Act .....		300	300	1 9 11
Newspapers Act .....		200	200	5 7 2
The Metropolitan Water and Sewerage Act of 1880 .....		250	250	15 10 3
Destitute Children's Act .....		200	200	1 8 6
Dividing Fences Act .....		500	500	0 19 6
Employers' Liability Act .....		500	500	1 8 2
Dairies Supervision Act .....		300	300	2 5 3
Police Acts .....		500	500	33 9 3
Titles to Land Act .....		200	200	3 8 6
Coal Mines Act .....		300	300	4 4 2
Registration of Deeds Act .....		200	200	5 7 2
Patents Law Amendment (No. 2) .....		300	300	1 9 11
Public Gates Act .....		200	200	0 15 6
Places of Detention Act .....		1,000	1,000	1 2 8
Agreements Validating Act .....		200	200	1 9 0
Industrial Schools Act .....		100	100	3 11 6
Gunpowder and Explosive Substances Law Consolidation Act (40 Vic. No. 1), with the Regulations thereunder .....		300	300	11 12 9
The Copyright Act, 1879 (42 Vic. No. 20), together with an Index to the Act and the Regulations thereunder; also the International Copyright Act, 1886 (49 and 50 Vic., chapter 33) .....		100	100	22 11 0
Mining Act (37 Vic. No. 13); also Amending Acts (43 Vic. No. 28, 46 Vic. No. 7, 48 Vic. No. 10, and 48 Vic. No. 17), with Regulations thereunder. Sixth edition .....		1,000	1,000	72 14 2
The State Children's Relief Act of 1881, with Regulations made by the Governor and Executive Council .....		2,000	2,000	17 2 5
Commons Regulation Act of 1873 (36 Vic. No. 23); Commons Regulation Act Amendment Act of 1886 (50 Vic. No. 15), with Regulations thereunder, and a model code of Rules and Regulations for the guidance of Common Trustees .....		500	500	7 17 5
The Crown Lands Act of 1881—Digest of cases heard before the Court of Appeal, 1886. Vol. I, part 3 .....		200	200	30 5 8
The Crown Lands Act of 1884—Report of cases heard before the Court of Appeal, 1887. Vol. I, part 4 .....		300	300	27 3 2
Do do do do Part 5 .....		250	250	7 0 5
Do do do do Part 6 .....		250	250	7 17 1
Journal and Proceedings of the Royal Society of New South Wales, for 1886. (Incorporated 1881) Vol. XX. Edited by A. Liversidge, F.R.S., Professor of Chemistry and Mineralogy in the University of Sydney. With Maps, Diagrams, &c .....	1,300		1,300	336 11 1
Our Lakes, and their Uses. By Fredk. B. Gipps, C.E. With Diagram .....		100	100	3 17 11
Preliminary Notes on some Poisonous Plants discovered on the Johnstone River, North Queensland. By T. L. Bancroft, M.B., Edin., F.L.S. (Communicated by Prof. T. P. Anderson Stuart, M.D.) .....		100	100	1 2 6
The Ventilation of Sewers and the Dwelling. By J. Trevor Jones, City Engineer .....		100	100	2 6 0
Notes on the Sanitary Condition of the Eastern Suburbs, &c. By F. H. Quaife, M.D. (Univ. Glas.) .....		100	100	1 4 0
The Recent Outbreak of Small-pox on the M.M. s.s. "Oceanian." By J. Ashburton Thompson, M.D. (Brux.), San. Sci. Cert. (Camb.) .....		100	100	1 8 6
Sanitation of the Suburbs of Sydney. By J. Trevor Jones, C.E. ....		100	100	2 1 0
A Note upon Scavenging. By J. Ashburton Thompson, M.D. (Brux.), San. Sci. Cert. (Camb.) .....		100	100	0 19 9
Description of an unrecorded Ardisia of New Guinea. By Baron Ferd. von Mueller, K.C.M.G., M.D., Ph.D., F.R.S. ....		100	100	0 8 9
Notes on the Sweet Principle of Smilax Glycyphylla. By Edward H. Rennie, M.A., D.Sc., Professor of Chemistry in the University of Adelaide .....		100	100	0 13 0

STATEMENT showing the Title, Number of Copies, and total Cost of each Book and Pamphlet, &c.—*continued.*

Title.	Books: Number of Copies.	Pamphlets: Number of Copies.	Total Number of Copies.	Total Cost.
Notes upon the History of Floods in the River Darling. By H. C. Russell, B.A., F.R.S., &c. With Diagram .....		1,600	1,600	£ s. d. 55 17 9
Notes upon Floods in Lake George. By H. C. Russell, B.A., F.R.S., &c. With Diagram .....		1,600	1,600	28 2 5
On the Rational Construction of Chairs and Desks. By Reuter E. Roth, M.R.C.S., England .....		100	100	0 14 10
A Comparison of the Dialects of East and West Polynesian, Malay, Malagasy, and Australian .....		100	100	5 12 2
The Aboriginal Names of Rivers in Australia, Philologically examined. By the late Rev. Peter MacPherson, M.A. ....		100	100	7 4 6
Tin Deposits of New South Wales. By S. Herbert Cox, F.C.S., F.G.S. ....		100	100	4 14 6
Results of the Observations of Comets Fabry, Barnard, and Brooks (No. 1), 1886, at Windsor, New South Wales. By John Tebbutt, F.R.A.S., &c. ....		100	100	4 13 3
The Strength and Elasticity of Ironbark Timber, as applied to Works of Construction. By W. H. Warren, A.M.I.C.E., Professor of Engineering, University of Sydney. With Diagrams .....		100	100	6 5 3
The Strength and Elasticity of New South Wales Timbers of Commercial Value. By W. H. Warren, Whitworth Scholar, Member of the Institution of Civil Engineers, London, Professor of Engineering at the University of Sydney. With 15 Diagrams .....		4,000	4,000	120 19 3
Notes on the Theory of Dissociation of Gases. By R. Threlfall, B.A., Professor of Physics, in the University of Sydney. With Diagram .....		100	100	1 15 1
Metallic Meteorite, Queensland. By A. Liversidge, F.R.S., Professor of Chemistry in the University of Sydney .....		150	150	0 13 3
Notes on some New South Wales Silver and other Minerals. By A. Liversidge, F.R.S., Professor of Chemistry and Mineralogy of the University of Sydney .....		150	150	1 6 4
Notes on some Rocks and Minerals from New Guinea, &c. By A. Liversidge, F.R.S., Professor of Chemistry in the University of Sydney .....		150	150	1 6 4
On the Composition of some Pumice and Lava from the Pacific. By A. Liversidge, F.R.S., Professor of Chemistry in the University of Sydney .....		150	150	1 13 6
The Importance of Geography .....		150	150	4 2 0
Exploration of New Guinea. Capt. Everill's Report .....		500	500	5 5 7
Geographical Society of Australasia, New South Wales Branch, 1886-87. Annual Address by Sir Edward Strickland, K.C.B., F.R.G.S., Vice-President of the Society and President of the New South Wales Branch .....		500	500	6 3 11
Geographical Society of Australasia, New South Wales Branch. The Importance of Geography. By Sir Edward Strickland, K.C.B., F.R.G.S., President of Royal Geographical Society, Australasia .....		400	400	4 9 0
No. 2.—Instructions for Meteorological Observations in the Colony of New South Wales. By H. C. Russell, B.A., F.R.A.S., Government Astronomer for New South Wales. Diagrams .....		500	500	5 15 6
Result of Rain and River Observations made in New South Wales and part of Queensland during 1886. H. C. Russell, B.A., F.R.S., F.R.A.S., F.R.M.S., Government Astronomer for New South Wales. With Maps and Diagram .....		1,600	1,600	128 16 1
Results of Meteorological Observations made in New South Wales during 1885, under the direction of H. C. Russell, B.A., F.R.S., F.R.A.S., F.R.M.S., Government Astronomer of New South Wales. With Diagrams .....	359	1,241	1,600	262 11 1
The Olive and Olive Oil; being Notes on the Culture of the Tree and Extraction of the Oil, as carried out in South Australia and the Continent of Europe. By J. H. Maiden, F.R.G.S., Curator of the Technological Museum, and Member of the Commission. By Special Authority, of the New South Wales Commission, Adelaide Jubilee International Exhibition, 1887 .....		500	500	10 15 0
Report on the Proposal to divert Water from the Snowy River into the Murrumbidgee and Lake George. By John B. Donkin, I.S. ....		20	20	2 0 4
Department of Mines. Geological Survey of New South Wales. C. S. Wilkinson, F.G.S., F.L.S., Geological Surveyor in Charge. Geology of the Vegetable Creek Tin-mining Field, New England District, New South Wales. With Maps and Sections. By T. W. Edgeworth David, B.A., F.G.S., Geological Surveyor .....	100	1,000	1,100	283 8 5
Descriptive List of Australian Aboriginal Weapons, Implements, &c., from the Darling and Lachlan Rivers, in the Australian Museum .....		150	150	2 2 5
Hints for the Preservation of Specimens of Natural History. By E. Pierson Ramsay, Curator, Australian Museum. Third Edition .....		550	550	6 16 3
Notes for Collectors: Containing Hints for the Preservation of Specimens of Natural History. By E. P. Ramsay. And for Collectors of Geological and Mineralogical Specimens. By F. Ratte. With a Plate .....		1,100	1,100	15 15 11
Australian Museum: Hints for Collectors of Geological and Mineralogical Specimens. By F. Ratte, Mineralogist, Australian Museum. Second Edition. Revised and Enlarged. With a Plate .....		4,100	4,100	52 15 7
The Australian Museum: Descriptive Catalogue of the Medusæ of the Australian Seas. In two Parts. Part I.—Scyphomedusæ. Part II.—Hydromedusa. By R. von Lendenfeld, Ph.D. ....	106	455	561	37 12 6
The Australian Museum: History and Description of the Skeleton of a New Sperm Whale, lately set up in the Australian Museum. By William S. Wall, Curator. Together with some account of a new Genus of Sperm Whale called Euphysctæ. Two Plates. ....		300	300	33 16 8
Royal Commission, Conservation of Water. Third and Final Report of the Commissioners. Abridged Edition, 1887. With Maps .....		700	700	76 10 11
Report (First Part) of the Intoxicating Drink Inquiry Commission, together with Epitomes of the Evidence. With Plans .....		2,000	2,000	57 6 9
Queen's Jubilee: Programme of His Excellency and Lady Carrington's Entertainment to the Poor and Friendless Boys of Sydney, in the Governor's Domain, on Tuesday, June 21, 1887. With Portrait of Her Majesty Queen Victoria .....		1,025	1,025	23 16 0
The Jubilee Celebrations: The Poor and Friendless Boys of Sydney. Lord and Lady Carrington's Entertainment. Speeches of Lord Carrington and Sir Henry Parkes .....		20,000	20,000	14 2 8
Ways and Means: The Financial Statement of the Hon. J. F. Burns, Colonial Treasurer of New South Wales. Made 30th March, 1887. ....		300	300	36 6 8
Lunacy in Many Lands. By G. A. Tucker. With Diagrams and Illustrations .....	1,500		1,500	1,707 10 0
The Law and Practice of New South Wales Letters Patent for Inventions and Improvements in the Arts and Manufactures. By A. G. Taylor, Examiner of Patents, New South Wales .....	200		200	71 1 6

STATEMENT showing the Title, Number of Copies, and total Cost of each Book and Pamphlet, &c.—*continued.*

Title.	Books: Number of Copies.	Pamphlets: Number of Copies.	Total Number of Copies.	Total Cost.
Australia, New South Wales. Designed and Compiled by Critchett Walker, Principal Under Secretary .....		12,000	12,000	£ s. d. 142 8 1
The "Cabinet" and the "Premier." By the Honorable W. E. Hearn, Q.C., Chancellor of the University of Melbourne; and by the Right Honorable W. E. Gladstone, M.P. ....		50	50	1 4 0
The Introduction of Parliamentary Government in New South Wales. Dinner of the Surviving Members of the First Legislative Assembly at Parliament House, May 23, 1887. With Portraits .....	700		700	91 16 3
Official List of the Governors, Judges of the Supreme Court, and Members of the Legislature of New South Wales, from the Foundation of the Colony to 1883. Compiled at the Government Printing Office, and corrected by the Officers of Parliament and others .....		100	100	88 8 0
Use of Oil at Sea for modifying the effect of breaking Waves .....		250	250	4 12 5
Copies of Exhibits—In the Privy Council. On appeal from the Supreme Court of New South Wales, between the Bank of New South Wales (Plaintiff), Appellant, and the Honorable George Richard Dibbs (Defendant), Respondent; and the Honorable George Richard Dibbs (Defendant), Appellant, and the Bank of New South Wales (Plaintiff), Respondent .....		30	30	19 10 6
In the Privy Council. On appeal from the Supreme Court of New South Wales, between the Commissioner for Railways (Defendant), Appellant, and Francis Hyland, Mary Penfold, and Joseph Gillard, the younger (Plaintiffs), Respondents. Copies Exhibits (A, B, E, F.) .....		30	30	19 10 3
The Colony of Australia. (Views of Sir Alfred Stephen and Sir John Robertson) .....		50	50	2 18 1
Reports on Design for Proposed State House .....		150	150	21 3 0
Report of Board of Technical Education of New South Wales for 1885; and Calendar of Sydney Technical College for 1887 .....		5,200	5,200	80 8 6
Report of Master in Equity, showing Scale of Fees now in force in Equity, and necessity for Amendment of same .....		300	300	4 6 0
Fort-street Training School—Inaugural Address of the Principal, Mr J. Conway, 11 July, 1887 .....		150	150	2 16 4
New South Wales Law Almanac for 1887 .....		1,200	1,200	13 3 0
Do do do 1888 .....		1,200	1,200	21 9 6
Australian Statistics, 1886 .....		1,125	1,125	42 16 6
Handbook to the Statistical Register of the Colony of New South Wales, for the year 1885 Compiled by T. A. Coghlan, A.M. Inst. C.E., Government Statistician (Binding incomplete) .....	24	700	800	177 17 9
Handbook to the Statistical Register of New South Wales, 1886 .....	13	799	812	272 15 9
Do do do Revised Edition. ....		400	400	12 17 7
Particulars of Customs Receipts. Collections for the year 1886, showing the amounts received under each article subject to Duty; also the amount paid for Drawback and Refund of Duties during the year .....		850	850	17 17 1
Supplement to the Customs Handbook. Revised and corrected to October 31, 1887. For the use of Officers of Customs .....		700	700	22 18 3
National and Local Works (Expenditure on from 1860 to 1886.) With Map .....		336	336	4 11 2
Nosological Index or Guide to the Classification and Tabulation of the various causes of Death, with instructions to District Registrars. New South Wales, 1887 .....		500	500	34 1 0
New South Wales: its Progress and Resources. Published by authority of the Commissioners for the Colonial and Indian Exhibition. Second Edition. With Map .....		35,000	35,000	253 14 9
New South Wales: its Progress and Resources. Published by authority of the Commissioners for the Adelaide Jubilee International Exhibition. With Map .....		10,000	10,000	131 7 0
New South Wales: Official Catalogue of Exhibits from the Colony forwarded to the Adelaide Jubilee International Exhibition, Adelaide, 1887 .....		7,600	7,600	409 6 1
New South Wales Court, Adelaide Jubilee International Exhibition, 1887. Wool Exhibits—Clip of 1887. Wool Show, Adelaide, November, 1887 .....		550	550	4 4 0
Forestry Exhibits prepared for the Adelaide Jubilee International Exhibition, 1887. Forest Branch, Department of Mines .....		75	75	0 14 9
Catalogue of Printing, Bookbinding, Photography, &c. Exhibited by Chas. Potter, Government Printer, New South Wales, at the Adelaide Jubilee International Exhibition, 1887 .....		150	150	3 18 1
Catalogue of the Library of the Parliament of New South Wales. (Binding incomplete.) .....	200		500	259 15 8
Supplementary Catalogue of Books added to the Parliamentary Library since 1885 .....		320	320	29 2 0
Catalogue of Books belonging to the Chief Justice .....	6		6	5 2 3
Catalogue of Law Library in the Attorney-General's Department .....	20		20	12 12 0
Supplementary Catalogue of the Lending Branch of the Free Public Library, Sydney, June, 1886 .....		1,500	1,500	40 4 8
Supplement to the Catalogue of the Free Public Library, Sydney, for the years 1879, 1880, 1881, 1882. Reference Department. (Binding incomplete.) .....	126		1,010	432 13 11
Catalogue. Class A.—Natural Philosophy, Science, and the Arts .....		125	125	95 6 0
Do B.—History, Chronology, Antiquities, and Mythology .....		125	125	64 11 7
Do C.—Biography and Correspondence .....		125	125	37 12 1
Do D.—Geography, Topography, Voyages, and Travels .....		125	125	109 2 10
Do E.—Theology, Ecclesiastical History, Education, &c. ....		125	125	33 9 10
Do F.—Poetry and Drama .....		125	125	20 7 0
Do G.—Works of Reference and Philology .....		125	125	48 4 0
Catalogue of Naval Stores, Provisions, Clothing, &c., &c., to be sold at H.M. Naval Depot, Circular Quay, on Wednesday, 16th March, 1887 .....		100	100	1 15 4
Do do Wednesday, 24th August, 1887 .....		100	100	1 19 3
An Inventory of Stores left on board H.M.S. "Lark" to be sold with the vessel on 15th November, 1887 .....		50	50	2 8 1
Catalogue of Overtime Goods, Seizures, &c., to be sold at the Overtime Sale, to be held in the Queen's Warehouse, on the 7th December, 1887 .....		200	200	3 9 0
Do do 26th May, 1887 .....		200	200	5 9 3
By-laws of the Borough of East St. Leonards .....		200	200	2 0 0
Do Borough of Kempsey .....		66	66	1 19 2
Do Municipal District of Bourke .....		200	200	0 18 9
Amended By-laws—Municipal District of Bourke .....		150	150	2 19 9
Standing Rules and Orders of the Legislative Council in reference to Private Bills .....		100	100	1 0 11
Do Sessional Orders of the Legislative Council of New South Wales .....		150	150	11 7 10

STATEMENT showing the Title, Number of Copies, and total Cost of each Book and Pamphlet, &c.—*continued.*

Title.	Books: Number of Copies.	Pamphlets: Number of Copies.	Total Number of Copies.	Total.
Standing Rules and Orders of the Legislative Assembly of New South Wales (as adopted and approved in the First Session of the Sixth Parliament, held in 1870) .....		350	350	£ s. d. 5 15 3
Standing Rules and Orders of the Legislative Assembly of New South Wales, 1887.....		350	350	9 11 9
Lunacy Rules.....		456	456	17 12 6
Mining Regulations (Mining Board), New South Wales .....		500	500	36 9 2
Duties to be performed by Returning Officers, Presiding Officers, and Poll Clerks under the Electoral Act of 1880 .....		1,000	1,000	6 7 0
Rules and List of Members of the Royal Society of New South Wales, 1887-8 .....		150	150	17 4 8
Free Public Library, Sydney. Regulations for the Lending Branch .....		5,000	5,000	6 6 1
Rules of Practice and Procedure for the Conduct of Business in the Court of Petty Sessions at Bungendore .....		12	12	1 10 2
Additional General Rules, 1885, under District Courts Act of 1858 .....		400	400	1 4 0
Marine Board of New South Wales. Regulations relating to the examination of Masters and Mates in the Mercantile Marine (with Appendices). With Code of Signals, &c. ....	12	238	250	24 4 2
Marine Board of New South Wales. Rules to be observed by Shipowners, Surveyors, and Inspectors, when surveying Steamers for Passenger Certificates, and for other purposes in connection with the Navigation Acts, 1871-81. With Diagrams .....		200	200	23 2 3
Regulations for Organization and Control of Public Schools Cadet Corps .....		100	100	2 5 4
Postal Guide. No. 180. January, 1887 .....		2,212	2,212	318 1 6
Do No. 181. April, 1887 .....		3,402	3,402	317 6 6
Do No. 182. July, 1887.....		2,862	2,862	318 15 9
Do No. 183. October, 1887 .....		2,864	2,864	319 10 9
English Mails—Time-tables <i>via</i> Suez, Colombo, San Francisco, Marseilles, and Torres Straits.....		3,500	3,500	10 4 6
Tables showing the interchange of Mails, one Post Office with another .....		1,400	1,400	24 2 0
Despatch Book showing the circulation of Correspondence from General Post Office, Sydney .....	60		60	14 11 0
Private Letter-box List .....	150		150	9 31 0
Sydney Government Telephone Exchange. List of Subscribers, January, 1887 .....		1,000	1,000	18 2 9
List of Subscribers to the Sydney Government Telephone Exchange .....		1,000	1,000	19 3 3
Sydney Government Telephone Exchange. Supplementary List. March, 1887.....		1,000	1,000	1 11 8
Do do do do May, 1887 .....		900	900	1 10 9
Do do do do September, 1887 .....		950	950	2 12 3
Do do do do October, 1887 .....		950	950	1 15 6
Do do do do December, 1887.....		950	950	1 11 3
General Orders .....		1,500	1,500	2 13 6
Do 1st January, 1887 .....		1,500	1,500	2 0 10
Do 1st April, 1887 .....		1,500	1,500	2 3 0
Do 1st October, 1887 .....		1,500	1,500	4 5 6
General Order, No. 193. Programme of Parades (Partially-paid Corps) for the March Quarter of the year 1887.....		700	700	1 16 9
Do No. 51. do do June do 1887 .....		3,500	3,500	16 10 9
Do No. 110. do do September do 1887 .....		3,500	3,500	10 13 0
Do No. 167. do do December do 1887 .....		3,500	3,500	15 13 11
Do No. 256. do do March do 1888 .....		3,500	3,500	12 14 11
Do No. 51. Programme of Drills (Reserve Corps) for the June Quarter of the year 1887.....		3,800	3,800	15 17 2
Do No. 110. do do September do 1887 .....		3,500	3,500	15 13 0
Do No. 167. do do December do 1887 .....		3,200	3,200	14 1 6
Do No. 256. do do March do 1888 .....		3,200	3,200	12 8 4
Index to printed Series of Brigade Orders for 1883.....		300	300	1 19 0
Do do do 1886.....		1,500	1,500	2 7 11
Volunteer Act Regulations, Orders of Dress, and Standing Orders of Permanent Series Alphabetical key. Compiled by Pembroke L. Murray, Capt. N.S.W.A. ....		600	600	37 9 3
The New South Wales Military Force, 1887, containing the names of Officers of the Military Forces of Her Majesty's Government in New South Wales. Corrected to 22nd April, 1887 .....		400	400	9 1 2
Details of Drill for a Company extending for attack .....		100	100	3 1 3
Squad Book for the use of Battery and Company Officers and Non-commissioned Officers of the Military Forces, New South Wales .....	750		750	51 11 0
Continuous Training, National Park. Volunteer Force of New South Wales .....		700	700	1 15 8
Hymns for Easter Encampment. Wesleyan Church .....		300	300	0 19 2
Standing Orders for the information and guidance of the New South Wales Volunteer Military Forces up to December, 1886 .....		2,100	2,100	32 17 1
Revised Regulations of 13 January, 1887. Under the Volunteer Force Regulation Act of 1867 .....		8,300	8,300	49 4 0
Naval Brigade—Gunnery Instruction for 64-pr. M.L.R. ....		300	300	2 2 3
Rules and By-laws of the New South Wales Naval Brigade Rifle Club. Revised to 15 September, 1887 .....		300	300	3 1 0
Fourteenth Annual Report of the Naval Brigade Rifle Club, for the year ended 30th June, 1887.....		150	150	2 14 9
Twenty-sixth Annual Report New South Wales Rifle Association .....		200	200	1 10 4
Report of the New South Wales Rifle Association for the year 1886 .....	10	540	550	54 9 6
New South Wales Rifle Association—Programme and Time Tables of the Matches for 1887. Twenty-seventh Annual Meeting .....	450		450	30 14 0
Table of Contracts for Supplies of Coal, Provisions, and Timber, to H.M. Ships on the Australian Station. 1887-88 .....		25	25	3 9 10
Names and Addresses of Officers and Employés, Government Printing Office, Sydney .....		55	55	10 17 3
Pupil Teachers—Instructions to .....		2,000	2,000	2 1 4
Do Instruction to Teacher of School respecting .....		2,000	2,000	2 1 4
Alphabetical List of Names and Addresses of the Members of the Legislative Council and Legislative Assembly, 8 March, 1887 .....		72	72	2 14 0
Do do do do 26 March, 1887 .....		400	400	3 18 3
Do do do do May, 1887 .....		48	48	0 9 7
Do do do do June, 1887 .....		96	96	0 13 7
Do do do do July, 1887 .....		48	48	0 6 7
Do do do do October, 1887 .....		50	50	0 9 7
Do do do do 21 November, 1887 .....		92	92	3 4 5
Do do do do December, 1887 .....		48	48	0 9 7

STATEMENT showing the Title or Description of each collection of Photographs or Lithographs published at the Government Printing Office during the year ended 31st December, 1887, with the number of Copies and Total Cost of each set.

Title or Description.	Whether Photographs, Phototypes, Photo-lithographs, or Lithographs.	For what Department done.	No. of Plates.	No. of Copies of each Plate.	Total No. of Copies.	Total Cost.	Remarks.
						£ s. d.	
<i>Photo-lithographic Branch.</i>							
Parish Maps .....	Photo-lithographs...	Surveyor-General .....	...	...	330	825 0 0	
Sale Plans .....	do .....	do .....	...	...	232	725 2 0	
Parish Maps .....	Photographs .....	do .....	...	...	194	67 14 0	
Plans .....	do .....	Colonial Architect .....	...	...	82	5 19 0	
Do .....	Photo-lithographs...	do .....	...	...	28	33 7 6	
Do .....	do .....	Observatory .....	...	...	21	16 5 0	
Views .....	Photographs .....	Colonial Secretary .....	...	...	1,407	153 6 6	
Do .....	do .....	Public Instruction .....	...	...	301	22 19 0	
Plans .....	Photo-lithographs...	do .....	...	...	26	18 2 6	
Do .....	do .....	Harbours and Rivers .....	...	...	6	22 5 0	
Do .....	do .....	Mines .....	...	...	100	137 10 6	
Do .....	do .....	Railways .....	...	...	153	154 3 6	
Views .....	Photographs .....	do .....	...	...	165	25 9 0	
Plans .....	Photo-lithographs...	Roads and Bridges .....	...	...	1	2 10 0	
Do .....	do .....	Royal Society .....	...	...	4	5 5 0	
Do .....	do .....	Treasury .....	...	...	17	1 15 0	
Views .....	Photographs .....	do .....	...	...	360	53 0 0	
Plans .....	Photo-lithographs...	Water Conservation Commission.	...	...	5	9 5 0	
Do .....	do .....	Miscellaneous .....	...	...	51	22 2 6	
Views .....	Photographs .....	do .....	...	...	1,804	220 7 0	
<i>Photo-mechanical Branch.</i>							
Reproduction from Card Photo. of Escaped Prisoner .....	Phototype .....	Inspector-General of Police..	1	26	26	0 14 6	
Do do .....	do .....	do do .....	1	105	105	1 0 0	
Various Views and Exhibits.....	do .....	Adelaide Jubilee Exhibition..	...	...	...	70 0 0	
Views of Jenolan Caves.....	Photographs.....	Colonial Secretary .....	51	1	51	3 18 0	
Views of Old Sydney .....	Phototypes .....	do .....	14	1	14	2 10 0	
Transparencies of New Guinea Scenery	do .....	do .....	28	1	28	16 0 0	
Miscellaneous Views .....	Photographs .....	do .....	80	1	80	6 6 0	
Tasmanian Aborigines .....	do .....	do .....	15	1	15	12 7 6	
Reproduction from Oil Painting—the "First Chief Justice" .....	do .....	do .....	2	6	12	6 0 0	
Miscellaneous Views .....	do .....	do .....	33	1	33	4 12 6	
Norfolk Island .....	do .....	do .....	21	1	21	1 17 6	
New Guinea .....	do .....	do .....	45	1	45	3 16 0	
Menu Card .....	Phototype .....	do .....	2	6	12	1 10 0	
Miscellaneous Views .....	Photographs .....	do .....	86	1	86	15 5 0	
Do .....	do .....	Mines .....	3	1	3	2 2 0	
Do .....	do .....	Public Instruction .....	48	1	48	3 12 0	
Statuary .....	do .....	Colonial Architect .....	3	2	6	0 15 0	
Panoramic Views .....	do .....	Government Printer .....	2	1	2	0 9 0	
Sydney Cove, 1803.....	Phototype.....	do .....	1	100	100	1 10 0	
Views—Botanical Gardens .....	Photographs.....	do .....	21	1	21	1 17 6	
Miscellaneous Views .....	do .....	do .....	3	3	9	3 1 6	
Views of New Guinea .....	do .....	do .....	45	1	45	3 16 0	
Miscellaneous .....	do .....	do .....	12	1	12	3 0 0	
Views of Jenolan Caves .....	do .....	Miscellaneous .....	51	1	51	6 7 6	
Miscellaneous Views .....	do .....	do .....	36	1	36	6 8 0	
Enlargements .....	do .....	do .....	6	1	6	3 12 0	
Views—Botanical Gardens .....	do .....	do .....	21	2	42	2 15 0	
Do Jenolan Caves .....	do .....	do .....	51	2	102	12 15 0	
Bridges, Locomotives, &c.....	do .....	do .....	40	1	40	5 10 0	

CHARLES POTTER,  
Government Printer.

Government Printing Office,  
Sydney, 22 February, 1888.



1887-S.

LEGISLATIVE ASSEMBLY.

NEW SOUTH WALES.

## GOVERNMENT PRINTING OFFICE.

(RETURN OF WORK DONE AT.)

*Ordered by the Legislative Assembly to be printed, 13 June, 1888.*

RETURN to an *Order* made by the Honorable the Legislative Assembly of New South Wales, dated 7th June, 1888, That there be laid upon the Table of this House,—

- “(1.) Return showing detailed particulars as to how the amount of £205 15s. 5d., mentioned in No. 3 Answer to Question No. 2 in Votes and Proceedings of Thursday, 31st May, 1888, is made up.
- “(2.) Return showing detailed particulars as to how the amount of £27,504 16s. 11d., mentioned in No. 4 Answer to Question No. 2 in Votes and Proceedings of Thursday, 31st May, 1888, is made up.
- “(3.) Return of Printing, &c., specially authorized to be done at the Government Printing Office during the year 1887.”

*(Mr. Frank Smith.)*

(1.)

RETURN showing detailed particulars as to how the amount of £205 15s. 5d., mentioned in No. 3 Answer to Question No. 2 in Votes and Proceedings of Thursday, 31st May, 1888, is made up.

Description.	No. of Copies Printed.	Charge as per Scale.		Postage.	Printing.	Paper.	Binding.	Ruling.	Total.
		£ s. d.	£ s. d.						
By-laws, Wentworth Permanent and Temporary Town Common .....	20	0 5 0	0 0 2	.....	.....	.....	.....	.....	0 5 2
Bourke Common Regulations .....	200	0 16 9	0 1 0	.....	.....	.....	.....	.....	0 17 9
Saywell's Tramway Act Amendment Act ...	250	2 6 9	.....	.....	.....	.....	.....	.....	2 6 9
Rules and Regulations of the Delegate Temporary Common .....	25	0 5 0	.....	.....	.....	.....	.....	.....	0 5 0
Act regulating Australian Gaslight Company .....	200	.....	.....	3 2 0	0 6 0	0 18 0	.....	.....	4 6 0
Rules and Regulations of the Woomargamba Common .....	25	0 5 0	0 0 2	.....	.....	.....	.....	.....	0 5 2
Ullawarra Steam Navigation Act Amendment .....	250	2 6 9	.....	.....	.....	.....	.....	.....	2 6 9
William-street Tramway Bill .....	500	4 13 9	.....	.....	.....	.....	.....	.....	4 13 9
By-laws appertaining to Parkes Common ...	100	0 8 6	0 0 0	.....	.....	.....	.....	.....	0 9 0
Regulations—Fire Brigade Board, Deniliquin .....	50	0 12 6	0 0 3	.....	.....	.....	.....	.....	0 12 9
Cripps' Enabling Bill .....	150	1 8 0	.....	.....	.....	.....	.....	.....	1 8 0
Perpetual Trustee Company (Limited) Bill...	520	2 17 0	.....	.....	.....	.....	.....	.....	2 17 0
Sydney Bishopric and Church Property Bill...	200	1 17 6	.....	.....	.....	.....	.....	.....	1 17 6
City of Goulburn Gas and Coke Company's Amendment Bill .....	250	2 6 9	.....	.....	.....	.....	.....	.....	2 6 9
Hay and Deniliquin Tramway Bill .....	250	4 13 9	.....	.....	.....	.....	.....	.....	4 13 9
Pharmaceutical Society of New South Wales Incorporation Bill .....	250	2 6 9	.....	.....	.....	.....	.....	.....	2 6 9
Crookwell Roman Catholic Church Land Sale Bill .....	200	1 17 6	.....	.....	.....	.....	.....	.....	1 17 6
Report, &c., of Australasian Stock Conference, held at Sydney in September and October, 1886. (Printed for the respective Governments of South Australia, Victoria, Tasmania, and New Zealand) .....	1,450	71 0 0	.....	.....	.....	.....	.....	.....	71 0 0
Additional By-laws—Coonamble Municipality .....	200	0 16 9	0 1 0	.....	.....	.....	.....	.....	0 17 9
Mittagong Coal-mining Company's Railway Act Amendment Bill .....	250	2 6 9	.....	.....	.....	.....	.....	.....	2 6 9

894—A.

[£30 copies—Approximate Cost of Printing (labour and material), £17 6s. 6d.]

Description.	No. of Copies Printed	Charge as per	Postage.	Printing.	Paper.	Binding.	Ruling.	Total.
		Scale.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
Saint James' Parsonage Land Leasing Bill . . . . .	250	2 6 9	.....	.....	.....	.....	.....	2 6 9
Willoughby and Gordon Tramway Bill . . . . .	300	2 16 3	.....	.....	.....	.....	.....	2 16 3
Albury Cattle Sale-yards Bill . . . . .	250	2 6 0	.....	.....	.....	.....	.....	2 6 9
By-laws for regulating the management of the Forbes Permanent and Temporary Commons . . . . .	50	0 5 0	0 0 6	.....	.....	.....	.....	0 5 6
Reprint from Parliamentary Reports of the Debates on 12th May, 1887, on the motion of the Hon. J. M. Creed, M.L.C., that inquiry should be made into the state of the Defences of New South Wales . . . . .	500	.....	.....	1 10 6	0 9 6	0 5 0	.....	2 5 0
By-laws to regulate the management of the Permanent and Temporary Commons, Narrandera . . . . .	25	0 5 0	0 0 1	.....	.....	.....	.....	0 5 1
Anthrax: what it is, and how to deal with it . . . . .	100	1 1 6	.....	.....	.....	.....	.....	1 1 6
Amendments by the Morce Pastures and Stock Protection Boards, &c. . . . .	200	0 15 5	.....	.....	.....	.....	.....	0 15 5
Report, &c., of Select Committee on Rabbit Nuisance Act of 1883 . . . . .	60	4 7 3	.....	.....	.....	.....	.....	4 7 3
West Wallsend and Monk-Wearmouth Act Amendment Bill . . . . .	250	2 6 9	.....	.....	.....	.....	.....	2 6 9
Christian Chapel Lands Sale Bill . . . . .	250	2 6 9	.....	.....	.....	.....	.....	2 6 9
By-laws, Wentworth Permanent and Temporary Commons . . . . .	50	0 5 0	.....	.....	.....	.....	.....	0 5 0
Rules and Regulations, Barraba Common . . . . .	50	0 5 0	0 0 3	.....	.....	.....	.....	0 5 3
Metallic Meteorite, Queensland . . . . .	50	0 3 0	.....	.....	.....	.....	.....	0 3 0
Notes on some New South Wales Silver and other Minerals . . . . .	50	0 3 0	.....	.....	.....	.....	.....	0 3 0
Notes on some Rocks and Minerals from New Guinea, &c. . . . .	50	0 3 0	.....	.....	.....	.....	.....	0 3 0
On the composition of some Pumice and Lava from the Pacific . . . . .	50	0 3 0	.....	.....	.....	.....	.....	0 3 0
Printing and binding (only) in connection with an Album of Photographs of Prince Alfred Hospital . . . . .	1	7 7 0	.....	.....	.....	.....	.....	7 7 0
Notice of Meeting of Executive Committee, "Queen's Fund" . . . . .	500	.....	.....	0 7 0	0 1 6	.....	.....	0 8 6
Collectors' Card—"Queen's Fund" . . . . .	500	.....	.....	0 8 6	0 4 0	.....	0 2 6	0 15 0
List of Subscribers—"Queen's Fund" . . . . .	500	.....	.....	0 17 0	0 7 4	.....	2 2 6	3 6 10
By-laws made by Borough of Kempsey, to regulate Management of Permanent and Temporary Common . . . . .	50	0 5 0	0 0 4	.....	.....	.....	.....	0 5 4
Regulations under Commons Act of 1873-1886 . . . . .	200	0 15 0	0 1 0	.....	.....	.....	.....	0 16 0
Rules and Regulations for the management of the Araluen East and West Commons . . . . .	100	0 10 0	0 0 6	.....	.....	.....	.....	0 10 6
Rules and Regulations of the Whitton Temporary Common . . . . .	100	0 10 0	0 0 6	.....	.....	.....	.....	0 10 6
Gosford Municipality By-laws . . . . .	25	0 5 0	0 0 2	.....	.....	.....	.....	0 5 2
Yass Roman Catholic Church Land Sale Bill . . . . .	250	2 6 9	.....	.....	.....	.....	.....	2 6 9
North Shore, Manly, and Pittwater Tramway and Railway Bill . . . . .	500	5 4 3	.....	.....	.....	.....	.....	5 4 3
By-laws of the Borough of East St. Leonards . . . . .	200	2 0 0	0 0 6	.....	.....	.....	.....	2 0 6
Speech delivered in the Legislative Assembly by the Hon. Sir Henry Parkes, K.C.M.G., on the 13th October, 1887, on Reflections on the Government . . . . .	20,000	.....	.....	2 15 6	8 9 6	1 13 4	.....	12 18 4
Victorian Coal-mining Company's Extension Bill . . . . .	250	2 6 9	.....	.....	.....	.....	.....	2 6 9
Speech of the Hon. T. Garrett, M.P., on the second reading of the Crown Lands Bill; delivered in the Legislative Assembly, 26th October, 1887 . . . . .	500	.....	.....	1 6 0	0 10 2	0 0 10	.....	1 17 0
Carcoar Commons Regulations . . . . .	20	0 5 0	0 0 1	.....	.....	.....	.....	0 5 1
By-laws of the Borough of Kempsey . . . . .	66	.....	0 4 4	1 4 6	0 2 8	0 12 0	.....	2 3 6
By-laws of the Municipal District of Bourke . . . . .	200	0 18 9	0 5 11	.....	.....	.....	.....	1 4 8
Silverton Tramway Bill . . . . .	250	1 11 3	.....	.....	.....	.....	.....	1 11 3
Christian Chapel Lands Sale Bill . . . . .	250	1 11 3	.....	.....	.....	.....	.....	1 11 3
Rules and Regulations of the Rylstone Permanent and Temporary Commons . . . . .	50	0 5 0	0 0 4	.....	.....	.....	.....	0 5 4
Amended By-laws, Municipality of Bourke . . . . .	150	.....	0 1 10	2 16 6	0 1 9	0 1 6	.....	3 1 7
Australian Mutual Provident Society's Act Amendment Bill . . . . .	25	0 6 3	.....	.....	.....	.....	.....	0 6 3
New Clauses to be proposed in the North Shore, Manly, and Pittwater Tramway and Railway Bill . . . . .	200	1 17 6	.....	.....	.....	.....	.....	1 17 6
Australian Mutual Provident Society's Act Amendment Bill . . . . .	200	1 1 0	.....	.....	.....	.....	.....	1 1 0
Church of England Property Bill . . . . .	20	.....	.....	1 2 0	0 0 3	.....	.....	1 2 3
Bulli Colliery Disaster Fund Bill . . . . .	275	4 12 0	.....	.....	.....	.....	.....	4 12 0
Amended Regulations, Hill End and Tamaroo Commons . . . . .	75	0 5 0	0 0 3	.....	.....	.....	.....	0 5 3
Church of England Property Bill . . . . .	260	1 17 6	.....	.....	.....	.....	.....	1 17 6
Bulli Colliery Disaster Fund Bill . . . . .	300	2 10 0	.....	.....	.....	.....	.....	2 10 0
Church of England Property Bill . . . . .	50	0 5 0	.....	.....	.....	.....	.....	0 5 0
Hot-rolling, &c., 3,075 copies of Price List . . . . .	.....	1 12 6	.....	.....	.....	.....	.....	1 12 6
Binding Tropical Agriculturist, &c. . . . .	.....	.....	.....	.....	.....	0 0 0	.....	9 0 0
Grand Totals . . . . .	33,882	163 17 11	0 19 8	15 9 6	10 12 8	12 10 8	2 5 0	205 15 5

RETURN showing Detailed Particulars as to how the amount of £27,504 16s. 11d., mentioned in No. 4 Answer to Question No. 2 in Votes and Proceedings of Thursday, 31st May, 1888, is made up.

Title.	Total Number of Copies.	Letter-press Printing.	Lithography.	Heliotype Work.	Engraving.	Paper.	Bookbinding.	Total Cost.
Time-tables and Fares, Great Southern, Western, Richmond, and Northern Lines, from 1st May, 1887, with Diagram	6,600	£ s. d. 86 6 0	£ s. d. 2 9 6	£ s. d. .....	£ s. d. .....	£ s. d. 18 2 6	£ s. d. 9 18 0	£ s. d. 116 16 0
Do do do from 1st September, 1887, with Diagram	11,000	94 4 6	5 10 0	.....	.....	31 5 10	10 10 0	141 10 4
Do do do 1st October, 1887, do	10,500	91 9 6	.....	.....	.....	26 17 0	0 15 0	119 1 6
Do do do 1st November, 1887, do	10,500	38 10 0	5 5 0	.....	.....	31 9 6	0 15 0	75 19 6
Do do do 7th December, 1887, do	5,500	19 4 9	2 15 0	.....	.....	15 17 9	8 5 0	46 2 6
Working Time-table of Passenger, Live Stock, Goods, and Mineral Trains, Great Southern and Western Railways, from 5th April, 1887	4,500	73 9 6	.....	.....	.....	18 2 0	6 15 0	98 6 6
Do do do 1st September, 1887	4,500	76 3 6	.....	.....	.....	19 15 4	11 5 0	107 3 10
Do do do 8th September, 1887	4,500	76 3 6	.....	.....	.....	19 15 4	11 5 0	107 3 10
Do do do 3rd November, 1887	4,000	74 18 6	.....	.....	.....	19 18 10	10 0 0	104 17 4
Working Time-table of Passenger, Goods, and Mineral Trains, Great Northern, North-Western, and Morpeth Lines, from 1st May, 1887	2,500	27 18 10	.....	.....	.....	6 8 7	1 5 0	35 12 5
Appendix to Working Time-table, 1st September, 1887	4,500	38 7 6	.....	.....	.....	17 0 6	11 5 0	66 13 0
Coaching Rates for Great Southern, Western, and Northern Lines and Branches	1,600	54 12 6	.....	.....	.....	8 5 6	2 8 0	65 6 0
Do do do 15th May, 1887	250	1 3 6	.....	.....	.....	1 9 7	0 12 6	3 5 7
The Railway Guide of New South Wales. (For the use of Tourists, Excursionists, and others.) A convenient volume of reference to Railway routes, stations, and places of interest on the lines of railway: Containing various Maps and numerous Illustrations. Third Edition.	2,050	117 8 0	46 7 6	247 10 0	.....	67 17 10	212 16 0	691 19 4
Government Tramways—Time-tables and Fares, from 31st October, 1886	7,700	4 18 6	.....	.....	.....	2 16 2	7 6 9	15 1 5
Do do do 19th April, 1887	2,750	14 0 3	.....	.....	.....	1 0 0	2 1 3	17 1 6
Do do do 1st June, 1887	6,400	16 19 3	.....	.....	.....	2 10 10	4 16 0	24 6 1
Do do do 1st October, 1887	10,500	17 6 9	.....	.....	.....	3 9 8	7 17 6	28 13 11
Do do do 1st December, 1887	6,500	18 6 0	.....	.....	.....	3 8 4	4 17 6	26 11 10
Government Tramways of New South Wales—Rules and Regulations for the Guidance of Officers and Servants and the conduct of Traffic on the Newcastle-Plattsburg Tramway	400	7 6 6	.....	.....	.....	0 11 6	0 7 0	8 5 0
Lands for Public Purposes Acquisition Act	300	3 9 6	.....	.....	.....	0 4 0	0 1 6	3 15 0
Vine Diseases Act	300	1 8 6	.....	.....	.....	0 1 8	.....	1 10 2
The Electoral Act of 1880	800	25 19 0	.....	.....	.....	3 11 8	0 16 0	30 6 8
Registration (Letters of) Act	300	1 8 6	.....	.....	.....	0 1 5	.....	1 9 11
Newspapers Act	200	5 2 6	.....	.....	.....	0 3 8	0 1 0	5 7 2
The Metropolitan Water and Sewerage Act of 1880	250	14 9 0	.....	.....	.....	0 15 0	0 6 3	15 10 3
Destitute Children's Act	200	1 7 6	.....	.....	.....	0 1 0	.....	1 8 6
Dividing Fences Act	500	0 18 0	.....	.....	.....	0 1 6	.....	0 19 6
Employers' Liability Act	500	1 5 6	.....	.....	.....	0 2 8	.....	1 8 2
Dairies Supervision Act	300	2 1 0	.....	.....	.....	0 2 9	0 1 6	2 5 3
Police Acts	500	31 14 6	.....	.....	.....	0 19 9	0 15 0	33 9 3
Titles to Land Act	200	3 5 0	.....	.....	.....	0 2 6	0 1 0	3 8 6
Coal Mines Act	300	3 18 6	.....	.....	.....	0 4 2	0 1 6	4 4 2
Registration of Deeds Act	200	5 2 6	.....	.....	.....	0 3 8	0 1 0	5 7 2
Patents Law Amendment (No. 2)	300	1 8 6	.....	.....	.....	0 1 5	.....	1 9 11
Public Gates Act	200	0 15 0	.....	.....	.....	0 0 6	.....	0 15 6
Places of Detention Act	1,000	1 0 0	.....	.....	.....	0 2 8	.....	1 2 8
Agreements Validating Act	200	1 7 6	.....	.....	.....	0 1 6	.....	1 9 0
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Do No. 181. April, 1887	3,402	270	16	0				38	0	6	8	10	0	0	317	6	6	
Do No. 182. July, 1887	2,862	276	11	0				35	7	3	6	17	6	0	318	15	9	
Do No. 183. October, 1887	2,864	276	8	0				36	0	3	7	2	6	0	319	10	9	
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Do do do September, 1887	950	2	1	6				0	6	0	0	4	9	0	2	12	3	
Do do do October, 1887	950	1	4	6				0	6	0	0	5	0	0	1	15	6	
Do do do December, 1887	950	1	0	3				0	6	0	0	5	0	0	1	11	3	
General Orders	1,500	1	14	3				0	8	0	0	11	3	0	2	13	6	
Do 1st January, 1887	1,500	1	14	3				0	6	7				0	2	0	10	
Do 1st April, 1887	1,500	1	16	3				0	6	9				0	2	3	0	
Do 1st October, 1887	1,500	3	1	3				0	13	0	0	11	3	0	4	5	6	
General Order, No. 193. Programme of Parades (Partially-paid Corps) for the March Quarter of the year 1887	700	1	1	0				0	10	6	0	5	3	0	1	16	9	
Do No. 51. do do June do 1887	3,500	12	9	0				2	15	6	1	6	3	0	16	10	9	
Do No. 110. do do September do 1887	3,500	12	11	6				2	15	3	1	6	3	0	16	13	0	
Do No. 167. do do December do 1887	3,500	12	11	6				1	16	2	1	6	3	0	15	13	11	

Title.	Total Number of Copies.	Letter-press Printing.	Lithography.	Heliotype Work.	Engraving.	Paper.	Bookbinding.	Total Cost.
		£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
General Order No. 256. Programme of Parades (Partially-paid Corps) for the March Quarter of the year 1888	3,500	9 10 0				1 18 8	1 6 3	12 14 11
Do No. 51. Programme of Drills (Reservo Corps) for the June Quarter of the year 1887	3,800	11 9 0				2 19 8	1 8 6	15 17 2
Do No. 110. do do September do 1887	3,500	11 11 6				2 15 3	1 6 3	15 13 0
Do No. 167. do do December do 1887	3,200	11 8 6				1 9 0	1 4 0	14 1 6
Do No. 256. do do March do 1888	3,200	9 3 0				2 2 10	1 2 6	12 8 4
Index to printed Series of Brigade Orders for 1883	300	1 17 6				0 1 6		1 19 0
Do do 1886	1,500	2 1 3				0 6 8		2 7 11
Volunteer Act Regulations, Orders of Dress, and Standing Orders of Permanent Series Alphabetical Key. Compiled by Pembroke L. Murray, Capt. N.S.W.A.	600	32 9 0				2 16 9	2 3 6	37 9 3
The New South Wales Military Force, 1887, containing the names of Officers of the Military Forces of Her Majesty's Government in New South Wales. Corrected to 22nd April, 1887	400	8 7 2				0 8 0	0 6 0	9 1 2
Details of Drill for a Company extending for attack	100	2 18 6				0 1 9	0 1 0	3 1 3
Squad Book for the use of Battery and Company Officers and Non-commissioned Officers of the Military Forces, New South Wales	750	10 14 6				2 7 6	38 9 0	51 11 0
Continuous Training, National Park. Volunteer Force of New South Wales	700	1 9 0				0 3 2	0 3 6	1 15 8
Hymns for Easter Encampment. Wesleyan Church	300	0 18 6				0 0 8		0 19 2
Standing Orders for the information and guidance of the New South Wales Volunteer Military Forces up to December, 1886	2,100	23 8 9				6 5 4	3 3 0	32 17 1
Revised Regulations of 13th January, 1887. Under the Volunteer Force Regulation Act of 1867	8,300	21 8 6				17 8 0	10 7 6	49 4 0
Naval Brigade—Gunnery Instruction for 64-pr. M.L.R.	300	1 16 3				0 3 0	0 3 0	2 2 3
Rules and By-laws of the New South Wales Naval Brigade Rifle Club. Revised to 15th September, 1887	300	2 17 0				0 2 6	0 1 6	3 1 0
Fourteenth Annual Report of the Naval Brigade Rifle Club, for the year ended 30th June, 1887	150	2 11 3				0 2 0	0 1 6	2 14 9
Twenty-sixth Annual Report New South Wales Rifle Association	200	1 8 0				0 1 4	0 1 0	1 10 4
Report of the New South Wales Rifle Association for the year 1886	550	49 2 0				2 11 0	2 16 6	54 9 6
New South Wales Rifle Association—Programme and Time-tables of the Matches for 1887. Twenty-seventh Annual Meeting	450	11 5 6				0 13 6	18 15 0	30 14 0
Table of Contracts for Supplies of Coal, Provisions, and Timber, to H.M. Ships on the Australian Station. 1887-88	25	3 9 0				0 0 4	0 0 6	3 9 10
Names and Addresses of Officers and Employés, Government Printing Office, Sydney	55	10 15 0				0 1 3	0 1 0	10 17 3
Pupil-teachers—Instructions to	2,000	1 15 0				0 6 4		2 1 4
Do Instruction to Teacher of School respecting	2,000	1 15 0				0 6 4		2 1 4
Alphabetical List of Names and Addresses of the Members of the Legislative Council and Legislative Assembly, 8th March, 1887	72	2 13 6				0 0 6		2 14 0
Do do do 26th March, 1887	400	3 9 0				0 4 3	0 5 0	3 18 3
Do do do May, 1887	48	0 8 0				0 0 7	0 1 0	0 9 7
Do do do June, 1887	96	0 10 0				0 1 7	0 2 0	0 13 7
Do do do July, 1887	48	0 5 0				0 0 7	0 1 0	0 6 7
Do do do October, 1887	50	0 8 0				0 0 7	0 1 0	0 9 7
Do do do 21st November, 1887	92	3 1 6				0 0 11	0 2 0	3 4 5
Do do do December, 1887	48	0 8 0				0 0 7	0 1 0	0 9 7
Government Gazette	3,173,617	12,884 10 1				3,009 11 2	312 10 0	16,206 11 3
Police Gazette	37,685	489 6 9				31 5 9		520 12 6
<b>Grand Totals</b>	<b>3,554,215</b>	<b>29,561 14 3</b>	<b>412 15 0</b>	<b>290 19 0</b>	<b>39 1 6</b>	<b>4,462 7 9</b>	<b>1,698 19 6</b>	<b>27,504 16 11</b>

8

## (No. 3.)

RETURN of PRINTING, &c., SPECIALLY AUTHORIZED to be done at the GOVERNMENT PRINTING OFFICE during the Year 1887 :—

## COLONIAL SECRETARY'S DEPARTMENT.

Printing for N.S.W. Commission, Adelaide Jubilee Exhibition.  
 Printing for N.S.W. Commission, Melbourne Centennial Exhibition.  
 Parramatta Asylum Correspondence.  
 Printing for Queen's Fund.  
 Speeches at Jubilee Gathering to friendless boys.  
 Petition of Local Government Board.  
 Report of Health Board on ophthalmic patients.  
 Speeches of Messrs. Garrett and McMillan, during debate on pastoral holdings.  
 Notes on Elementary Gunnery, by Major Bunbury.  
 Printing for Centennial Celebration Committee.  
 Speeches at Dinner of Members of First Legislative Assembly.  
 History and description of Skeleton of Sperm Whale (Museum).

## COLONIAL TREASURER'S DEPARTMENT.

Photographs for Adelaide Jubilee Exhibition.  
 Printing for Stock Conference.  
 Photographing Charts for H.M.S. "Lark."  
 O'Rourke & McSharry v. the Commissioner for Railways—Exhibits for Crown Solicitor.  
 Geographical Society of Australasia—Annual Address.  
 Pamphlet on the Olive (Technological Museum).  
 Official History of New South Wales; 2nd Edition.  
 Photo-lithographs of Sydney University and College Grounds.

## SECRETARY FOR MINES' DEPARTMENT.

Notes taken at an interview between J. B. Tonkin, Esq., and Messrs. Chaffey Brothers.  
 Paper on Lake Urana.

## MINISTER OF JUSTICE'S DEPARTMENT.

Pcat's Ferry Railway Accident—Proceedings at Inquest on.  
 Law and Practice of New South Wales Letters Patent.  
 Catalogue of Supreme Court Library.

## SECRETARY FOR PUBLIC WORKS' DEPARTMENT.

Accidents and their Treatment (Railway Department).

Government Printing Office,  
 Sydney, 11th June, 1888.

CHARLES POTTER,  
 Government Printer.



1887-8.

## NEW SOUTH WALES.

# GUNPOWDER AND EXPLOSIVES RATES ACT OF 1884.

(AMENDED RATES AND CHARGES FOR LIGHTERING, DELIVERING, AND STORING EXPLOSIVES)

Presented to Parliament, pursuant to Act 40 Vic. No. 1.

The Treasury, New South Wales,  
30th January, 1888.

## AMENDED RATES AND CHARGES FOR LIGHTERING, DELIVERING, AND STORING OF EXPLOSIVES.

It is hereby notified, for general information, that in virtue of the provisions contained in clause 1 of the "Gunpowder and Explosives Rates Act of 1884," His Excellency the Governor, with the advice of the Executive Council, has been pleased to prescribe the following rates and charges for Lightering, Delivering, and Storing any Explosive within the meaning of the Act 40 Victoria No. 1, in substitution for the rates and charges prescribed in the third, fourth, and fifth Schedules to such last-mentioned Act, as amended by *Gazette* notices of 24th December, 1884, and 15th January, 1887,—such rates and charges to be levied and paid on and from 1st February, 1888.

J. F. BURNS.

### Schedule of Amended Rates for Lightering, Delivering, and Storing of Explosives, made in virtue of the provisions of the "Gunpowder and Explosives Rates Act of 1884."

#### RATES OF LIGHTERAGE FROM SHIP OR VESSEL BY WHICH EXPLOSIVES ARE IMPORTED.

	£	s.	d.
For each barrel or package containing fifty-one pounds of any nitro-glycerine compound and upwards to one hundred pounds .....	0	0	6
For each barrel or package containing fifty pounds of any nitro-glycerine compound and under.....	0	0	4
Any explosive other than gunpowder to be liable to similar charges.			
For each package containing cartridges, small arm, at per cwt. or portion of cwt., gross weight .....	0	0	6
For each barrel or package containing fifty-one pounds loose gunpowder and upwards to one hundred pounds, and for each package of canister powder containing forty-eight pounds and upwards.....	0	0	4
For each barrel or package containing fifty pounds loose powder and under, and for each package of canister powder containing under forty-eight pounds .....	0	0	3
But if the rates shall in any case not amount to ten shillings, the minimum charge instead of the above rates shall be ten shillings.			

#### RATES OF CHARGES FOR DELIVERY OF EXPLOSIVES FROM MAGAZINES BY LAND AND WATER TRANSPORT, OR SEPARATELY, AS THE CASE MAY BE.

	£	s.	d.
For one or any number up to ten barrels or packages each containing not more than fifty pounds of any nitro-glycerine compound but not exceeding ten packages, to be conveyed by land and water at one time on each person's order, and to the same destination, the minimum charge to be .....	0	10	0
For every barrel or package each containing not more than fifty pounds of any nitro-glycerine compound in excess of ten packages conveyed by land and water, and to the same destination— at per package .....	0	0	6

	£	s.	d.
For one or any number up to ten barrels or packages each containing fifty-one pounds of any nitro-glycerine compound and up to one hundred pounds, but not exceeding ten packages, to be conveyed by land and water at one time on each person's order, and to the same destination, the minimum charge to be.....	1	0	0
For every barrel or package, each containing fifty-one pounds of any nitro-glycerine compound and up to one hundred pounds in excess of ten packages, to be conveyed by land and water, and to the same destination—at per package .....	0	1	0
And in cases of land carriage (exclusive of railway carriage) and water transport being separately done in either of the foregoing cases the charges shall be at half the rates hereinbefore stated.			
For each delivery to places more than two miles distant from the Magazines in Sydney or Newcastle harbours respectively, an extra charge per mile or portion of a mile by land and water to and from such place of delivery to be made for every fifty packages or portion thereof, say .....	0	2	6
For each delivery from any Magazine, other than those of Sydney and Newcastle aforesaid, for every fifty packages or portion thereof, a charge of—per mile to and from such Magazine .....	0	0	2
And for every hour or portion of an hour exceeding thirty minutes, during which the boats or vans may be detained .....	0	5	0
Any explosive other than gunpowder to be liable to similar charges.			
For one or any number up to ten barrels or packages, each containing not more than fifty pounds of gunpowder but not exceeding ten packages, to be conveyed by land and water at one time on each person's order, and to the same destination, the minimum charge to be .....	0	7	6
For every barrel or package, each containing not more than fifty pounds of powder in excess of ten packages, conveyed by land and water, and to the same destination—at per package .....	0	0	6

£ s. d.		£ s. d.	
<p>For one or any number up to ten barrels or packages, each containing fifty-one pounds of gunpowder and up to one hundred pounds (also cartridges, actual gross weight of package), but not exceeding ten packages, to be conveyed by land and water at one time on each person's order, and to the same destination, the minimum charge to be .....</p> <p>For every barrel or package, each containing fifty-one pounds of powder and up to one hundred pounds (also cartridges, actual gross weight of package) in excess of ten packages, to be conveyed by land and water, and to the same destination--at per package .....</p> <p>And in cases of land carriage (exclusive of railway carriage) and water transport being separately done in either of the foregoing cases the charges shall be at half the rates hereinbefore stated.</p> <p>For each delivery to places more than two miles distant from the Magazines in Sydney or Newcastle Harbours respectively, an extra charge per mile or portion of a mile by land and water to and from such place of delivery to be made for every hundred packages or portion thereof, say .....</p> <p>For each delivery from any Magazine, other than those of Sydney and Newcastle aforesaid, for every hundred packages or portion thereof, a charge of--per mile to and from such Magazine .....</p>	<p>0 15 0</p> <p>0 1 0</p> <p>0 2 6</p> <p>0 0 2</p>	<p>And for every hour or portion of an hour exceeding thirty minutes, during which the boats or vans may be detained .....</p> <p style="text-align: center;">RATES OF STORAGE.</p> <p>For each barrel or package containing upwards of fifty pounds of any explosive (gunpowder and cartridges excepted) per week (any period under one week to be charged for as a week) .....</p> <p>For each barrel or package containing fifty pounds and under of any explosives (gunpowder and cartridges excepted) per week (any period under one week to be charged for as a week) .....</p> <p>For each barrel or package of cartridges the actual gross weight of which is upwards of fifty pounds, per week (any period under one week to be charged for as a week) .....</p> <p>For each barrel or package of cartridges the actual gross weight of which is under fifty pounds, per week (any period under one week to be charged for as a week) .....</p> <p>For each barrel or package containing upwards of fifty pounds of gunpowder, per week (any period under one week to be charged for as a week) ...</p> <p>For each barrel or package containing fifty pounds and under of gunpowder per week (any period under one week to be charged for as a week) ...</p>	<p>0 2 6</p> <p>0 0 6</p> <p>0 0 3</p> <p>0 0 4</p> <p>0 0 2</p> <p>0 0 2</p> <p>0 0 1</p>

1887.

(THIRD SESSION.)

LEGISLATIVE ASSEMBLY.

NEW SOUTH WALES.

## INSPECTION OF THEATRES.

(REPORT ON, BY COLONIAL ARCHITECT'S DEPARTMENT.)

*Ordered by the Legislative Assembly to be printed, 8 November, 1887.*

The Colonial Architect to The Colonial Secretary.

Sir,

Colonial Architect's Office, Sydney, 7 November, 1887.

In attention to the request conveyed by your note of 29th ultimo, respecting Theatres, &c., I have, &c.,

instructed one of my officers to visit the various buildings referred to, named in margin, and now do myself the honor to forward his reports on same.

JAMES BARNET,

Col. Archt.

Her Majesty's  
Theatre Royal.  
Criterion.  
Standard.  
Opera House.  
Gaiety.  
Academy of  
Music.  
Alhambra  
Music Hall.

## HER MAJESTY'S THEATRE.

This building has recently been opened, and has all the modern improvements. It is situated in Pitt-street, near the junction of Pitt-street with Market-street. A large hotel occupies the Pitt-street frontage.

## THEATRE.

This theatre is divided into two parts, *i.e.*, stage and auditorium. The auditorium is divided from the stage by the proscenium wall, which is 27 in. thick, to iron girder, which carries the brickwork over the proscenium opening. The wall above the girder is reduced to 18 in., and is carried up through the roof. There are doorways in the wall on both sides of the stage into the various divisions of the house. The whole of the doorways are protected by iron-plate doors, made to swing either way.

## STAGE.

The stage is constructed of wood, with various openings for the shifting of scenes. There is a basement and scene pit. Above the stage are the first, second, and third galleries for the flies, and above these there is a grid floor, on which are situated six 400-gallon tanks, with the necessary piping for use on the stage. Above the grid floor, on roof, is a large skylight for giving light during the daytime to the stage and galleries. On both sides of the roof there are three 18-in. revolving ventilators. There are also three large windows over the top gallery, which give good ventilation.

## FIREPROOF CURTAIN.

The curtain is constructed of skeleton iron work, made to slide in a groove formed of iron, on the back of proscenium wall. On the skeleton frame is fixed an asbestos cloth curtain. The framework is counterbalanced with iron weights, but at present there are no means adopted for lowering or raising the curtain.

## DRESSING-ROOMS.

The dressing-rooms are outside the main walls of stage. They are in attached wings with doorways from the stage on either side. They have also doorways as means of egress to Pitt-street, on the south, and the lane or right-of-way on the north. The dressing-rooms are first, second, and third floors. The various floors are reached by winding stairs constructed of wood. If smoke or fire entered the staircase of the dressing-rooms from the stage, the occupants could not escape. The dressing-rooms are all good and well ventilated.

## ELECTRIC LIGHT.

The theatre is partly lighted with the electric light. The engine and dynamo are situated in the basement under the dressing-rooms, on the north-east of the theatre, and is outside of the main walls of the theatre. The engine is one of "Roby's" portable, but at present set on blocks of stone.

The floors of dressing-room over the engine are not rendered fire-proof, but are distant from the engine 12 or 14 feet.

#### AUDITORIUM.

The orchestra stalls and pit are situated on the ground floor. The whole area is filled with iron chairs with fold-up bottoms. The chairs behind the sixth row are called the pit. The passages are, in some places, narrow. There are not sufficient gangways.

*Means of egress.*—There are no less than six doors from this division of the house, all of which are wide, and open on to short flights of stairs. The egress is good.

#### DRESS CIRCLE.

This division of the house is situated in the first gallery over the stalls. The area is seated with iron fold-up bottom chairs. The space for the chairs is roomy. The gangways are wide, and the passages behind the rail is ample for standing room.

The entrance to the dress circle is from Pitt-street. A stair, 5 feet wide, ascends from the vestibule, off which there is a cloak-room and ladies' lavatory.

*Means of egress.*—From this division of the house are five doors, which are ample.

#### FAMILY CIRCLE.

This division of the house is situated in the second gallery, and is seated with iron chairs with fold-up bottoms. The gangways are four, and are sufficient. Behind the rail is a passage 4 feet 6 inches wide, which, with the passage outside the wall and adjoining the staircases, afford ample standing room for the people occupying the chairs.

*Means of egress.*—There are four doorways opening on to landings, from which stairs descend,—two of the stairs are 7 feet wide in straight flights, with short or narrow landings. Two of the stairs are 5 feet wide, and are winding. The stairs are on both sides of the house.

#### THIRD GALLERY OR AMPHITHEATRE.

This division of the house is seated with benches, the one raised above the other. The seats are only 2 feet from back to back. Outside of the area is a passage from 5 to 6 feet wide; this passage connects the four stairs from this division,—two stairs, 7 feet wide, in straight flights, and two stairs, winding, 5 feet wide. There are three gangways, each 2 feet 6 inches wide. N.B.—The winding stairs can be joined by the people from all divisions of the house. As these stairs are winding they are dangerous in the event of a panic. Two 4 feet 6 inch stairs join the 7 feet stairs from the family circle. The passages and staircases are all fireproof.

#### LAVATORIES.

Water-closet and urinals are connected to the various divisions of the house. They are well supplied with water, are well ventilated, and are clean and free from bad smell.

#### STAGE-BOXES.

There are stage-boxes connected to the various divisions of the house, all of which are entered from the different divisions, and have egress by the stairs which lead from the various divisions.

#### BARs.

From all divisions of the house, except the amphitheatre, there are passages and doorways leading to bars and saloons. These doorways have no fire-proof doors.

#### VENTILATION.

The ventilation from the various divisions of the house is good compared with most of the theatres.

The heated air is drawn off by means of a drum ventilator over the sunlight in centre of ceiling. There are also several spray ventilators for drawing off the vitiated air from the dress and family circles.

#### GAS-METERS.

There are three large gas-meters, all of which are placed where there is not the slightest ventilation, and where they are not easy of access; in fact, dangerous in case of fire.

Seating accommodation in the various parts of the auditorium:—

Amphitheatre seated for ...	...	...	...	...	450 adults.
Family circle	„	...	...	...	300 „
Dress circle	„	...	...	...	213 „
Stalls	„	...	...	...	500 „
Boxes	„	...	...	...	48 „
Total ...	...	...	...	...	1,511

The stairs are equal to twenty-four adults per foot width of stairs.

Outside openings clear of the theatre equal to 24½ per foot of opening.

The means of egress is sufficient.

## THEATRE ROYAL.

IN submitting a Report on the various Places of Public Amusement in Sydney, it will not be necessary to enter into detail of construction, as they are all built of brick; the framework of roof, floors, galleries, stage, and flies, are of Oregon pine; the roofs are covered with slate or corrugated iron, the principal entrance to which is from Castlereagh-street.

The stage of this theatre is not divided from the auditorium by means of a brick or fireproof wall; the division is only a stud and board partition, covered with canvas, which only extends from the stage to the ceiling, which is constructed of the same inflammable material, and without fireproof curtain.

Dressing-rooms, scene dock, property-rooms, and room for making oxygen gas, are situated in a temporary wood and corrugated iron building on the north side of the building with a large doorway for scene shifting, and a doorway for egress to dressing-rooms; these openings are said to be protected by iron fireproof doors, but this exists only in some.

The doors are constructed of thin sheet-iron, riveted to a skeleton iron frame. The doors shut on the outside of wall, but there are no fastenings. At the top of large door the brick wall is reduced  $4\frac{1}{2}$  inches, thereby leaving an opening suitable for the spread of fire. There is a doorway under the stage communicating with the temporary buildings, without any door either of iron or wood. Access to the flies is by means of ladders, and from the dress circle and gallery. On the upper flies there is a 400-gallon tank, with a  $1\frac{1}{2}$ -inch canvas hose and director; they will be of very little service in case of fire. There are several buckets and wet blankets on the flies and stage.

There are several skylights in roof over the stage, but no openings, louvered or otherwise, for the escape of smoke over the stage.

## STALLS.

The stalls and pit are seated with fixed chairs, the gangways are not sufficient, and there are sixteen chairs in one continuous row all through this part of the house, which make it difficult to get out. The means of egress from this division of the house are sufficient, *i.e.*, by King-street and right-of-way on the north side of the theatre.

## DRESS CIRCLE.

The dress circle is the first gallery over the pit, the ingress to which, by a wide entrance from Castlereagh-street, are stairs 6 feet wide; there is no handrail on the wall side of this stair. The means of egress from this part of the house is somewhat obstructed by side tables and garden chairs in the passage or lobby.

## FAMILY CIRCLE.

This division of the house is the gallery above the dress circle; the seats are fixed on benches in the form of an amphitheatre; the means of egress is by a passage 3 feet wide, stairs 3 feet 10 inches wide, the treads of which are 9 inches wide, and risers 8 inches. This stair is dangerous. There is also an escape stair 3 feet 10 inches wide, but is reduced to 3 feet 4 inches in width at a certain place where a ventilating flue comes up the wall.

The back of the family circle is open to the passage, and if a panic occurred the people would jump over and obstruct the passage.

The means of egress from this part of the house is far from being sufficient, and in my opinion very dangerous.

## VENTILATION.

This theatre is very defective in ventilation; the artificial means are very crude; there is no mechanical means in use for either supply or exhaust; there is no portion of this house that is fireproof; if a fire takes place a few seconds can only pass when all parts will be in flames.

The auditorium, passages, and staircases are in need of repair and renovation, and the words, "This way out," should be painted on all doors.

All divisions of the house are seated for 1,441 adults.

The door-openings to street gives 42 adults per foot of opening.

## CRITERION THEATRE.

THIS building, which is of recent construction, is situated at the junction of Pitt and Park streets. There are entrances to the various parts of the house from these streets.

## STAGE.

The stage is divided from the auditorium by a 14 in. thick brick wall which is carried up from the rock to 12 or 14 feet above the roof of the auditorium. The brick-work is supported over the proscenium opening by means of a wrought-iron girder. There are openings to the various parts of the house through the wall. No fire-proof doors are provided. Some of the openings have no doors of any kind. Over the roof of stage is a large sky-light with louver openings which are of little value. There is no fire-proof curtain on the proscenium opening. Egress from the stage is very defective.

## UNDER THE STAGE.

There is a basement under the stage, with scene pit. This place is lumbered up with property sent down through the traps on stage floor. There is an escape door on each side to the basement, under the floor of auditorium.

## DRESSING-

## DRESSING-ROOMS.

Dressing-rooms and rooms for supernumeraries, are situated in the basement under the auditorium. There is an alley-way encircling the rooms. The doors to rooms have small fan-lights. The rooms are of various sizes, and are divided from each other by wood partitions. In this basement there are five water-closets and three urinals. There is no light to the rooms except gas. The ventilation is very defective, and a disagreeable smell pervades the whole area. In a room in this basement are situated the gas-meters and the tanks for oxygen gas; there is neither daylight or ventilation to this place. When the door was opened the smell arising nearly made me sick.

I would not be surprised to hear of an accident arising from these rooms. When this building was inspected a grating was recommended to be placed in the floor of passage near the entrance door to stalls. This recommendation has been completely ignored, by so doing it may result some time in loss of life.

## ORCHESTRA.

The orchestra is under the front of stage. When the gas is lit the heat must be unbearable.

## STALLS.

This division of the house is on the ground-floor; seats, fixed iron chairs with fold-up bottoms. The means of egress is to Pitt and Park Streets, and is sufficient. A considerable portion of the stall seats are under the gallery which forms the dress circle. The ceiling is very low.

## DRESS CIRCLE.

This division of the house is situated in the first gallery over stalls, entrance to which is from Pitt-street. The seats are iron chairs with folding-up bottoms. There is sufficient room in the gangways and passages. There are attached to the dress circle ladies' cloak-room, ladies' and gentlemen's lavatories, all of which are in good condition. But the gentlemen's lavatories are not well ventilated; they smell of carbolic and disinfectants.

The means of egress from this division is satisfactory.

## FAMILY CIRCLE.

This division is situated in the second gallery, the entrance to which is from Park-street by a stone stair of several short flights. There is also an escape stair on the opposite side of the theatre. This division of the house is seated in the form of an amphitheatre. The means of egress is not good. There are urinals connected with this division; they are kept clean, but smell rather strong from want of ventilation.

## SECOND GALLERY.

This division of the house is only a more elevated continuation of the family gallery; it is divided by a barrier rail. The entrance to gallery is a continuation of the stair to family circle. The stair is of wood. There is also an escape stair on the opposite side of the house similar to the stair just described.

The means of egress from the gallery and family circle is by the same stairs, which are reduced in width at certain landings to 3 ft. 6 in. and 2 ft. 6 in. The means of egress is not sufficient.

## VENTILATION.

The ventilation of the various parts of the house is very defective; mechanical means have been introduced, three "Aeolus" spray machines are placed in the rooms of the basement, the suction ends of tubes are in the alley-way of basement; the vitiated air is drawn from the basement and distributed over the stalls and the dress circle. There are also two machines drawing off the vitiated air from the stalls and dress circle, and discharging the air into the urinals attached to the stalls. This vitiated air must find its way back to the parts of the house from which it was drawn, carrying with it a proportion of the vitiated air from the urinals and closets.

The stairs and passages are constructed of fire-proof materials.

The various divisions of the house, stage, dressing-rooms, passages, and stairs, water-closets, and urinals are in a good state of cleanliness, but smell rather strong of disinfectants.

The Theatre is seated for—

Stalls	...	...	...	...	...	...	...	...	...	...	...	314
Dress circle	...	...	...	...	...	...	...	...	...	...	...	138
Family circle	...	...	...	...	...	...	...	...	...	...	...	210
Gallery	...	...	...	...	...	...	...	...	...	...	...	329
												<hr/>
Total	...	...	...	...	...	...	...	...	...	...	...	991

Means of egress from the various places—

Stalls, doorways	...	...	...	...	...	15 feet, equal to 21 persons per foot.
Dress circle	...	...	...	...	5	" " 27 " "
Family circle stairs	...	...	...	...	6	" " 89 " "
The three street-doors	...	...	...	...	16	" " 62 " "

## STANDARD THEATRE.

This theatre is situated in Castlereagh-street. The principal entrance and side entrance are from the street. It is not occupied at present.

Considerable alterations have been made to this building since my inspection in June, 1886.

## STAGE.

The stage is divided from the auditorium with a proscenium of wood and canvas, continued to the line of ceiling; a temporary building of wood and iron has been constructed in the small and limited area at the back with openings formed in the back wall at back of stage; the temporary building is used for a scene dock and a property room; the openings are not enclosed with doors; this building obstructs the light and ventilation to the dressing rooms—also the urinals, which are for the use of the public. The area under the stage is at present filled with rubbish, and has no ventilation; it is stifling and dangerous to health.

## DRESS CIRCLE.

The dress circle has been very much altered in shape, but its seating accommodation has not been much increased, only fourteen additional seats. The means of egress from the dress circle has been altered by three or four additional steps.

## STALLS AND PIT.

The seating accommodation and means of egress has not been altered. Egress is by the principal entrance and doors, opening on the right of way at side.

## VENTILATION.

The ventilation provided for the theatre is by windows on the north side only. The southern wall is blank, no opening whatever. There are no other means provided for ventilating the building.

The building is lighted by gas, which is protected on the stage and dressing-room with wire netting.

## WATER HYDRANT.

There is a 2-in. hydrant with a hose on stage, also on gallery, but there is no tank on the roof. The building at present is clean, but requires renovation.

The dress circle will seat	...	...	...	...	...	...	...	...	220
„ stalls	„	...	...	...	...	...	...	...	308
„ pit	„	...	...	...	...	...	...	...	482
									<hr/>
									960

Door opening to street 19 ft. 3in; door opening gives forty-six persons per foot of opening.

## OPERA HOUSE.

This theatre is situated near the corner of King and York streets, an hotel occupying the corner entrances to the theatre are from King and York streets.

The theatre is on the first floor; a row of shops occupy the ground floor in King-street.

## STALLS AND PIT.

The stalls and pit are on the first floor; the gallery is termed the dress circle, the entrance to which is from York-street; the doors on street line are made portable, and are removed during entertainments.

The stairs and means of egress from this portion of the house are defective; the escape stair has no hand rails, and is a dangerous stair; the entrance stair is contracted from 4 feet 6 inches to 3 feet 4 inches by the erection of a ticket office.

Stairs and passages are of wood, with canvas and paper decorations.

The seats are iron fixed chairs; the passages and gangways are sufficient.

## STALLS.

The entrance to which is King-street, by a long passage and stair 5 feet wide; there is also another stair 2 feet 9 inches wide ascending from the same passage; these are the only means of egress from this portion of the house.

## PIT.

The entrance to pit is as described for stalls, stair 5 feet wide; there is also an escape on to passage from the dress circle, and a door on the barrier between the stalls and pit, but both of these doors are kept locked.

## BALCONY.

On the north side and over the footpath to the line of kerbstone is a large balcony, the floor of which is on a level with the floor of stalls, doors open on to the balcony; from the balcony are two trap-ladders, which can be lowered by means of a crab-winch simultaneously; the stairs are remarkable for lightness of construction, and there is only 4 feet headway.

## STAGE.

## STAGE.

The stage is divided from the auditorium by a brick wall, which is only carried up to the line of ceiling on the sides; the archway and decorations of the proscenium are of wood and canvas.

The floors and paint-gallery are constructed of Oregon pine. There is an accumulation of rubbish on the flies and over a portion of the ceiling of the auditorium.

The rubber tubing connecting the gaslights on the flies is in a decayed state, and in some places dangerous. The footlights of the stage are very improperly protected.

There is no fireproof curtain.

## DRESSING-ROOMS.

The dressing-rooms are situated off the stage on the south-east corner, they are of a temporary character, so are the stairs leading to same, and as the only means of escape is by this stair, in the event of fire on the stage escape from the dressing-rooms is impossible.

The stairs leading from the various places of the house are insufficient and dangerous by reason of being constructed of wood.

The water-closets and urinals are situated on the ground floor and are under the stairs; there is little or no ventilation; the water-closets and urinals are defective.

Ventilation from the various places of the house is by the open doors on the balcony and the windows above the level of the dress circle. The lower portion of the house, principally the pit, is very defective in ventilation, it being all on the north side of the house.

## MEANS OF EGRESS.

The means of egress from this theatre are all on the one side of the house, and that furthest from the street. The words "This way out" are not painted on any of the doorways. On some doors a loose ticket is pinned up, with the words "This way out."

## RENOVATION, &amp;c.

This theatre has much need of alterations and renovation in all parts.

## GAIETY THEATRE.

This theatre is situated in Castlereagh-street; the principal and stall entrances are all from this street. The theatre has recently been remodelled and renovated.

The stage has been altered. A new proscenium has been constructed of wood, covered on the side next stage with sheet-iron, and is not continued through the ceiling, and is not fireproof, neither is there a fireproof curtain.

The area under the stage has been excavated to a depth of 8 feet from under side of stage floor, formed of tar paving; at present it is all clear of rubbish.

## DRESSING-ROOMS.

The cottages on the north side have been converted into dressing-rooms. The means of egress from stage to dressing-rooms are good.

A temporary building has been constructed adjoining the theatre on the north side, of wood, covered with corrugated iron, to be used as a property-room and scene dock; there are openings in this wall, which separates the temporary building from the theatre, enclosed with light wood doors covered with sheet-iron. This is a very primitive attempt to render the place fireproof.

The footlights, gas-fittings on or about the stage are protected with wire netting, and most fittings are secure.

## DRESS CIRCLE.

The dress circle is situated in the gallery, and has been remodelled; the accommodation is good; a new stair has been constructed to give increased egress; there are also doors opening into rooms from which egress is by a stair in the private part of the building; on all doors are painted the words "This way out."

## STALLS AND PIT.

The stalls and pit are on the ground-floor; this division of the house has also been remodelled; the gangways and passages have been increased in width, and new escape-doors have been formed on the north side; the ground-floor of a cottage has been converted into a passage 11 feet wide opening on to a right-of-way to the street, and clear of the theatre. The means of egress are sufficient.

## VENTILATION.

The ventilation of this theatre is good. There are doors and large windows on both sides of the building by which a good current of air is obtained. Hydrant with sufficient hose has been provided, both on the stage and auditorium; some of the gas jets are rather close to the ceilings in the passage.

If the proscenium wall had been constructed of brick and carried through the roof and provided with a fire-proof curtain, this theatre would have been the safest of any in the city.

## MEANS OF EGRESS.

The building will seat 600 adults; the door openings are equal to 30 persons per foot of doorway, which is ample.

## ACADEMY OF MUSIC.

This theatre or music hall is situated in Castlereagh-street; principal and side entrance is from this street. The building is old and dilapidated. It is at present closed to the public.

Considerable alterations are contemplated, and will be made before it is again opened for the public.

## ALHAMBRA MUSIC HALL.

THE building was erected for a bazaar or auction room, and afterwards converted into a music hall, and when reported upon in July, 1884, it was called the Haymarket Academy. The building has undergone considerable alterations in the various divisions of the house.

## STAGE.

The stage, although no larger than when reported upon, has been fitted up with the usual wood and canvas proscenium, with arrangements for scene-shifting.

## DRESSING-ROOM.

The dressing-rooms now connected with the hall are a row of stone cottages at the back of the theatre, and are detached. There are two doors opening off the stage as means of egress.

## DRESS CIRCLE.

The dress circle is situated on the ground floor in front of stage, it has been recently reseated with fold-up bottom chairs, they are 2 ft. 2 in. from back to back, which is 4 in. less than they should be.

The seats along the division wall are very narrow, only 15 in. wide; the gangways are not sufficient in width, and on the side next to escape door there is no gangway; the seats are fourteen in one row at present seated for 234; should not be more than 147. Means of egress side door, 5 ft. 6 in., and entrance passage, 3 ft. 3 in.; the means of egress is sufficient.

## STALLS.

The floor of stalls has been raised and sloped, seated at present with fixed forms without backs. The forms are very close together. This division seats 340, which should be 240. The means of egress would be sufficient if seats were properly placed, with sufficient gangways.

## GALLERY.

The gallery has been raised, having now a much greater slope. The seats are fixed forms without backs, seated to hold 320 persons, which should be 135. The means of egress would be sufficient.

The theatre is lighted from a lantern light in roof, a portion of which has shutters which lift up for ventilation. The gallery is the best ventilated place in the house. The stalls are very badly ventilated; the northern wall has no openings; the only ventilation is from the side escape-doors, or from what may come in by the side passage.

## GAS.

The theatre is lighted with gas; the footlights and all brackets are protected with wire netting. The two gas meters are in a recess under the stage, which is locked; beside the meter are three buckets of water, which could not be got if wanted.

There is a 2-inch hydrant on the stage with 36 feet of hose; there is no hydrant in the auditorium. No buckets are provided for any part of the building; no tanks are provided for a supply of water, only a small tank for use of dressing-rooms.

## WATER-CLOSETS, &amp;c.

The water-closets and urinals are in good order, and are kept clean.

The building is in a fair state of cleanliness; the front of gallery is only 2 feet high; there is a rail required to prevent accident. Renovation is necessary to the building, at present seated for,—

Dress circle	...	...	...	...	...	...	...	234
Stalls	...	...	...	...	...	...	...	340
Gallery	...	...	...	...	...	...	...	320
								894

Door-opening, 25 feet; which is almost equal to thirty-five persons per foot opening.



1887.  
(THIRD SESSION.)

LEGISLATIVE ASSEMBLY.  
NEW SOUTH WALES.

JEREMIAH SHEA.  
(PETITION OF.)

*Received by the Legislative Assembly, 2 November, 1887.*

To the Honorable the Speaker and the Honorable the Members of the Legislative Assembly of New South Wales, in Parliament assembled.

The humble Petition of Jeremiah Shea, of Hanging Rock, near Nundle, gold-miner,—

RESPECTFULLY SHOWETH:—

That your Petitioner at the age of seventeen was convicted of stealing a roll of silk from a shop door, of which crime he solemnly assures your Honorable House that he was entirely innocent, and he ventures to appeal to his life ever since as a proof of this.

That your Petitioner, on this conviction, was sent out to this Colony in year 1818, in the ship "Morley," on her second voyage, and was then assigned to Captain William Cox, of Clarendon, near Windsor, and was then sent to a run called Manar, in the Mudgee district, as a stockman. Whilst there he endured great hardships, and underwent many trials from encounters with the natives, in one of which he was tomahawked and laid up in consequence for several months, but he always succeeded in protecting his master's property.

That your Petitioner remained his full time of seven years with Captain Cox without punishment and without even a complaint being made against him, and then received his freedom.

That from that time to the present, when he is eighty-eight years of age, he has never been before a Court or a Magistrate for the slightest offence.

That your Petitioner is informed and verily believes that under the Regulations then in force he was entitled, on receiving his freedom, to a grant of thirty acres of land, or, if he had returned to England with his certificate of freedom, to a pension of four pence a day, and that he has never received that grant if he is so entitled to it.

That your Petitioner was the person who first discovered gold on the northern gold-fields at Swampy Creek, Hanging Rock, in the year 1852, and that he has never received any acknowledgment of this important discovery, although he is informed that it has been the rule to make some acknowledgment to persons who have discovered gold-fields.

That your Petitioner being now so aged and somewhat infirm is no longer able to earn his living as he has been hitherto accustomed.

That your Petitioner humbly conceives that from his faithful service, and his undeviating good conduct, and from the fact that his claims for consideration have been in no way recognized, he has the right humbly to approach your Honorable House and to ask that his case may be considered.

Your Petitioner therefore humbly prays that your Honorable House will take the circumstances detailed in the foregoing petition into careful and favourable consideration and so deal with your Petitioner as to your Honorable House may seem just and right.

And your Petitioner, as in duty bound, will ever pray, &c.

JEREMIAH SHEA.

Sydney, 2 November, 1887.



1887.

(THIRD SESSION.)

NEW SOUTH WALES.

## JUBILEE COINAGE.

(DESPATCH RESPECTING.)

Presented to Parliament by Command.

The Treasury, New South Wales,  
4th August, 1887.

His Excellency the Governor directs the publication, for general information, of the following Proclamation, which appeared in the London Gazette of 17th May last, with reference to the Coinage.

J. F. BURNS.

By the Queen.

## A PROCLAMATION.

VICTORIA, R.

WHEREAS by an Act passed in the thirty-third year of Our reign, intituled "An Act to consolidate and amend the law relating to the Coinage and Her Majesty's Mint," it is amongst other things enacted.

That We, by and with the advice of Our Privy Council, shall from time to time by Proclamation determine the design for any coin.

We have, therefore, thought fit to order that certain of the coins made at the Mint, mentioned in the first schedule to the aforesaid Act of the weight and fineness specified in that schedule, shall bear designs as follows:—

That every Five Pound Piece should have for the obverse impression our effigy, with the inscription "Victoria D. G. Britt: Reg: F. D.," and for the reverse the image of Saint George armed, sitting on horseback, attacking the Dragon with a sword, and a broken spear upon the ground, and the date of the year, with a graining upon the edge; and that every Two Pound Piece should have the same obverse and reverse impression and inscription in all respects as the Five Pound Piece, with a graining upon the edge; and that every Sovereign should have the same obverse and reverse impression and inscription in all respects as the Five Pound Piece, with a graining upon the edge; and that every Half Sovereign should have for the obverse impression the aforesaid effigy, with the inscription "Victoria Dei Gratia," and for the reverse the ensigns armorial of the United Kingdom contained in a garished shield surmounted by the Royal Crown, with the inscription "Britanniarum Regina Fid: Def:" and the date of the year, with a graining upon the edge; and that every Crown should have the same obverse and reverse impression and inscription in all respects as the Five Pound Piece, with a graining upon the edge; and that every Half-crown should have for the obverse impression the aforesaid effigy, with the inscription "Victoria Dei Gratia," and for the reverse the ensigns armorial of the United Kingdom contained in a plain shield surrounded by the Garter, bearing the motto "Honi soit qui mal y pense," and the Collar of the Garter, with the inscription "Britanniarum Regina Fid: Def:" and the date of the year, with a graining upon the edge; and that every Florin should have for the obverse impression the aforesaid effigy, with the inscription "Victoria Dei Gratia," and for the reverse the ensigns armorial of the United Kingdom contained in four shields arranged crosswise, each shield crowned, and between the shields four sceptres surmounted by orbs, a thistle and a harp, and a Star of the Garter in the centre, with the inscription "Britt: Reg: Fid: Def:" and the date of the year, with a graining upon the edge; and that every Shilling should have for the obverse impression the aforesaid effigy, with the inscription "Victoria Dei Gratia Britt: Regina F. D.," and for the reverse the

ensigns armorial of the United Kingdom, contained in a plain shield surrounded by the garter bearing the motto "Honi soit qui mal y pense" and the date of the year with a graining upon the edge; and that every Sixpence should have the same obverse and reverse impression and inscription in all respects as the shilling, with a graining upon the edge; and that certain other pieces of silver money called "The Queen's Maundy Monies," of fourpence, threepence, twopence, and one penny, should have for the obverse impression the aforesaid effigy, with the inscription "Victoria Dei Gratia Britt: Regina F. D.," and for the reverse the respective figures "4," "3," "2," "1" (according to the denomination or value of the piece) in the centre, with the date of the year placed across the figure, and encircled by an oak wreath, surmounted by the Royal crown, with a plain edge:

And whereas by the aforesaid Act it is also enacted, that it shall be lawful for Us, by and with the advice of Our Privy Council, from time to time, by Proclamation, to determine the denominations of coins to be coined at the Mint, and it is by the said Act provided, that any coin of gold, silver, or bronze, of any other denomination than that of the coins mentioned in the first schedule to the aforesaid Act, which is hereafter coined at the Mint shall be of a weight and fineness bearing the same proportion to the weight and fineness specified in that schedule as the denomination of such coin bears to the denominations mentioned in that schedule.

We have therefore further thought fit to order that a new coin, to be called a Double-Florin, should be coined, of the standard weight of 340.09090 grains, and of the fineness of thirty-seven-fortieths fine silver and three-fortieths alloy, and should pass and be received as current and lawful money of the United Kingdom of Great Britain and Ireland at the rate of four shillings or one-fifth of a Pound; and that every such coin should have the same obverse and reverse impression and inscription in all respects as a Florin, with a graining upon the edge.

And whereas pieces of money of the above descriptions respectively have been coined at Our Mint, and will be coined there, in pursuance of orders that We have given for that purpose, We have therefore, by and with the advice of Our Privy Council, thought fit to issue this Our Royal Proclamation; and We do hereby ordain, declare and command that the said pieces of money respectively so coined and to be coined as aforesaid shall be current and lawful money of the United Kingdom of Great Britain and Ireland, and that this, Our Royal Proclamation, shall come into operation on the date hereof.

Given at Our Court at Windsor, this thirteenth day of May, in the year of our Lord, one thousand eight hundred and eighty-seven, and in the fiftieth year of Our reign.

GOD SAVE THE QUEEN!



1887-8.

## NEW SOUTH WALES.

## JUBILEE COINAGE.

(NEW DESIGN FOR SIXPENCE—DESPATCH.)

Presented to Parliament by Command.

[Circular.]

Sir,

Downing-street, 23rd December, 1887.

With reference to my Circular Despatch of the 13th of August last, I have the honour to transmit to you, for the information of the Colony under your Government, the accompanying copy of an Order of the Queen in Council (28 November, 1887), approving the Draft of a Royal Proclamation for giving currency to certain silver coins called "Sixpences," with a new design therein described, and directing the coinage of such coins at the Royal Mint.

I request that you will take steps to publish the Proclamation and Order in Council in the usual manner in the Colony under your Government.

I have, &amp;c.,

H. T. HOLLAND.

The Officer Administering  
the Government of New South Wales.

At the Court at Windsor, the 28th day of November, 1887.

*Present :*

THE QUEEN'S MOST EXCELLENT MAJESTY IN COUNCIL.

WHEREAS there was this day read at the Board the Draft of a Proclamation for giving currency to certain silver coins, called "Sixpences," with a new design therein described :

Her Majesty having taken the same into consideration, was pleased, by and with the advice of Her Privy Council, to approve thereof, and to order, and it is hereby ordered, that the coins described in the Proclamation be coined at Her Majesty's Mint :

And the Lords Commissioners of Her Majesty's Treasury are to give the necessary directions accordingly.

C. L. PEEL.

*Draft Proclamation referred to in the foregoing Order.*

By the Queen.

A Proclamation.

WHEREAS by "The Coinage Act 1870" it is (amongst other things) enacted that it shall be lawful for Us, by and with the advice of Our Privy Council, from time to time by Proclamation to determine the design for any coin :

Now therefore We have, by and with the advice of Our Privy Council, thought fit to determine and do order that certain coins called "Sixpences," made and to be made at the Mint and mentioned in the first Schedule to the aforesaid Act, of the weight and fineness specified in that Schedule, shall bear designs as follows :—

For the obverse impression Our effigy with the inscription "Victoria Dei Gratia Britt: Regina F.D.," and for the reverse the words "Six-pence" placed in the centre of the piece, having an olive branch on one side and an oak branch on the other, surmounted by the Royal Crown, and the date of the year between and below the branches, and a graining upon the edge.

And whereas coins of the above description have been coined at Our Mint, and will be coined there in pursuance of Orders which We have given for that purpose, We have, therefore, by and with the advice of Our Privy Council, thought fit to issue this Our Royal Proclamation, and We do hereby ordain, declare, and command that the said coins so coined, and to be coined as aforesaid, shall be current and lawful money of the United Kingdom of Great Britain and Ireland, and that this Our Royal Proclamation shall come into operation forthwith on the date thereof.

Given at Our Court at Windsor, this twenty-eighth day of November, in the year of Our Lord one thousand eight hundred and eighty-seven, and in the fifty-first year of Our Reign.

God save the Queen.



1887-8.

## NEW SOUTH WALES.

## LANDS FOR PUBLIC PURPOSES ACQUISITION ACT.

(RESUMPTION OF LAND FOR PUBLIC CEMETERY AT SINGLETON.)

Presented to Parliament, pursuant to Act 44 Vic. No. 16.

NOTIFICATION OF RESUMPTION OF LAND UNDER  
44 VICTORIA No. 16.

NEW SOUTH WALES, } By His Excellency The Right Honourable  
to wit. } CHARLES ROBERT, BARON CARRINGTON,  
a Member of Her Majesty's Most  
(L.S.) Honourable Privy Council, Knight  
CARRINGTON, Grand Cross of the Most Distinguished  
Governor. Order of Saint Michael and Saint  
George, Governor and Commander-in-  
Chief of the Colony of New South  
Wales and its Dependencies.

WHEREAS I, the Governor aforesaid, with the advice of the Executive Council of the said Colony, have duly sanctioned the carrying out of certain works for and in connection with the establishment and construction of a Public Cemetery at Singleton, in the said Colony, for and towards the completion of which said works public funds are available; and whereas the lands hereinafter described are required for the construction of the said Works: Now I, the Governor of the said Colony, with the advice of the Executive Council of the said Colony, in pursuance of the powers in this behalf given to or vested in me by the "Lands for Public Purposes Acquisition Act," do, by this notification published in the Gazette and in a newspaper, that is to say, in the "Singleton Argus," circulated in the Police District wherein the said lands are situated, declare that the lands hereinafter described have been resumed for the public purpose hereinafter mentioned, that is to say, for and in connection with the establishment and construction of a Public Cemetery at Singleton, in the said Colony, to the intent that upon the publication of this notification in the Gazette, the legal estate in the said lands shall forthwith be vested in the Minister for Public Works and his successors on behalf of Her Majesty for the purpose of the said last-mentioned Act, for an estate of inheritance in fee-simple in possession, freed and discharged from all trusts, obligations, estate, interests, contracts, charges, rates, rights-of-way, or other easements whatsoever, and to the intent further that the legal estate therein, together with all powers incident thereto or conferred by the said Act, shall be vested in the said Minister as a trustee with the powers stated in the said last-mentioned Act: And I declare that the following are the descriptions of the lands hereinbefore referred to, that is to say:—

1. All that piece or parcel of land situate near Singleton, parish of Whittingham, county of Northumberland, containing an area of 9 acres 0 roods 38½ perches, forming part of J. Earl's (now E. S. Fawcett's 1,500 acres): Commencing at the south-east corner of the present Presbyterian Cemetery; and bounded thence on the north by part of the northern boundary of J. Earl's (now E. S. Fawcett's) 1,500 acres bearing north 89 degrees 49 minutes east 18 chains 33½ links; thence on the east by a line bearing south 5 chains 7 links; thence on the south by a line bearing west 18 chains 33½ links; and thence on the west by a line bearing north 5 chains 1 link, to the point of commencement.

2. All that piece or parcel of land situate near Singleton, parish of Whittingham, county of Northumberland, containing an area of 18 acres 3 roods 30½ perches, forming part of A. M'Dougall's (now G. Loder's) 900 acres: Commencing on the south-eastern side of the road 1 chain wide from Warkworth to Singleton, at the north-west corner of the present Presbyterian Cemetery; and bounded thence on part of the south by the north boundary of that cemetery bearing east 9 chains 24½ links; thence on the west by the east boundary of that cemetery bearing south 3 chains 99 links to the southern boundary of A. M'Dougall's (now G. Loder's) 900 acres; thence on the remainder of the south by part of that boundary bearing north 89 degrees 49 minutes east 18 chains 33½ links; thence on the east by a line bearing north 8 chains 33 links; thence on the north by a line bearing west 25 chains 51½ links to the aforesaid road; and thence on the north-west by part of the south-eastern side of that road bearing south 25 degrees 12 minutes west 4 chains 80½ links, to the point of commencement.

In witness whereof I have hereunto set my Hand, and caused the Great Seal of the Colony to be hereto affixed, at Government House, Sydney, this thirty-first day of December, in the year of our Lord one thousand eight hundred and eighty-seven, and in the fifty-first year of Her Majesty's Reign.

By His Excellency's Command,

JOHN SUTHERLAND.

GOD SAVE THE QUEEN!



1887.

(THIRD SESSION.)

LEGISLATIVE ASSEMBLY.

NEW SOUTH WALES.

**MERCANTILE BROKERS.**

(PETITION FOR LEGISLATION IN REGARD TO.)

*Received by the Legislative Assembly, 14 December, 1887.*

To the Honorable the Legislative Assembly of New South Wales.

The humble Petition of the undersigned Merchants and Mercantile Brokers, of Sydney,—

RESPECTFULLY SHOWETH:—

That we, the undersigned Merchants and Mercantile Brokers of Sydney, are mutually engaged in transactions of great magnitude, in which the utmost confidence is required, and in which honest integrity and ability on the part of the brokers are most essential in the interests of the public.

Your Petitioners are of opinion that the time has arrived when the Mercantile Brokers of Sydney should be regulated by legislative enactment by the issue of licenses, with power to refuse or withdraw on such a basis that whilst affording protection to the public against any dishonest proceedings on the part of the broker, it would be a guarantee of good character, and encourage and foster legitimate transactions, and ensure that confidence which is most necessary in all matters of a fiduciary character.

Your Petitioners, therefore, pray that your Honorable House will pass such a measure as may effect the above objects.

And your Petitioners, as in duty bound, will ever pray, &c.

[*Here follow 54 signatures.*]



1887.

(THIRD SESSION.)

LEGISLATIVE ASSEMBLY.

NEW SOUTH WALES.

**MR. JOHN GARSEED.**

(CORRESPONDENCE.)

*Ordered by the Legislative Assembly to be printed, 25 November, 1887.*

RETURN to an *Order* adopted by the Honorable the Legislative Assembly of New South Wales on the 8th November, 1887, That there be laid upon the Table of this House,—

“(1.) Copies of the letters addressed to the Attorney-General by Mr. John Garsed on dates 8th June and 21st July, 1887; also, Departmental reply “from the Attorney-General’s Department, dated the 14th September, 1887, “having reference to Mr. John Garsed.”

*(Mr. Hurley.)*

J. Garsed, Esq., to The Attorney-General.

O.H.M.S.—The Queen against John Garsed relative to a bill of Exchange for the sum of £680 15s. 3d., tried 5th October, 1859.—Crown Prosecutor, Mr. A. T. Holroyd.

Helsarmel, Leichhardt, 21 July, 1887.

To the Honorable Bernhard R. Wise, Esq., M.L.A., Attorney-General,—

Sir,

I respectfully call your serious attention to the sudden death of Mr. Arthur Todd Holroyd on the 15th June, 1887.

“Truth is a stubborn thing to deal with.”

On Thursday, the 9th of June, 1887, I, in company with Mr. John Hurley, M.L.A., by appointment went to your office; I took with me a parcel consisting of paper writings and a book, the contents of which are printed papers, printed from time to time by order of the Legislative Assembly, and includes two Progress Reports A, I had with me, endorsed—

In the Police Court, City of Sydney.

THE QUEEN on the prosecution of Archibald Ashdown against John Garsed. Copy, information for perjury.

This information was sworn by Archibald Ashdown before Mr. D. Forbes, J.P., on the 31st of March, 1858, at foot.

Summons to issue returnable on Monday.—D.F.

Bench decline to enter into the case.

7th April, 1858.

D. FORBES, J.P.

RANDOLPH NOTT, J.P.

At this early stage Archibald Ashdown and his counsel, Mr. Holroyd, had brought the case to a dead lock.

I will briefly refer to the substance of said information and use figures:—

New South Wales, City of Sydney, to wit—Be it remembered that on this 31st March, 1858, in the City of Sydney, in the Colony of New South Wales, Archibald Ashdown, of Sydney, appears personally before me, the undersigned, and on his oath informs me, that heretofore, to wit, on the 9th of February, 1858, a certain action was commenced in the Supreme Court on a certain bill of

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exchange

[805 copies—Approximate Cost of Printing (labour and material), £3 3s. 3d.]

exchange (£680 15s. 3d.), in which said action one William Dean and the said Archibald Ashdown were the plaintiffs, and one John Garsed was the defendant; and in the course of the proceedings in the said action it became and was necessary, that the said John Garsed should file a plea to the declaration of the said William Dean and Archibald Ashdown, and that the said plea should be accompanied by an affidavit of the truth of such plea, as required by a certain Act of the Legislature passed in the twentieth year of the reign of Her Majesty Queen Victoria, and numbered 30, and intituled "An Act to facilitate the remedies on bills of exchange and promissory-notes," and the said Archibald Ashdown further informs me that afterwards, to wit, on the 26th of February, 1858, the said John Garsed came in his proper person before Edwin Daintrey, Esq., a Commissioner for taking affidavits in Sydney, and produced a certain affidavit of the truth of said plea, in the writing of John Garsed, and before Edwin Daintrey, in due form of law, was sworn concerning the truth of the matters contained in the said affidavit, and upon his oath did depose, and swear in substance, and to the effect following, that is to say: "Before the commencement of this suit I and the plaintiff Ashdown were in partnership together in various transactions. In settlement of those transactions (except certain land and buildings and premises at Onion's Point of the North Shore of the harbour of Port Jackson, in the Colony of New South Wales, and known as Rosherville House and grounds, in which I and Ashdown were jointly interested), I gave Ashdown a bonus of £2,000 or thereabouts, of which £680 15s. 3d., the amount of the bill of exchange now sued upon forms part, as in and by the said affidavit of John Garsed more fully and at large appears."

This Act gives the Judge no power to refer a case like mine to arbitration.

The Crown states the same.

Court.

This joint affidavit, made by Ashdown and Pritchard, and filed 2nd March, 1858, is the perjured affidavit.

Ashdown denies the above, and states, "And whereas in truth and in fact the said sum of £680 15s. 3d., the amount of the said bill of exchange, was the balance due from John Garsed to the firm of Dean & Company, of which firm the said William Dean and Archibald Ashdown are the partners, and was not a debt due to the said Archibald Ashdown alone."

And the said Archibald Ashdown further informs me that after the said action on the said bill of exchange was commenced in the Supreme Court, and in the course of the proceedings of the said action, the said John Garsed filed a plea to the declarations of the said Wm. Dean and Archibald Ashdown, and that afterwards, to wit, on the 2nd day of March, in the year aforesaid, the said Wm. Dean and Archibald Ashdown took out of the Supreme Court a summons, calling upon John Garsed to show cause, on the 4th day of March, why the said plea filed therein should not be struck out, with leave to the plaintiffs to sign judgment, as for the want of a plea, on the grounds that the said plea was so framed as to prejudice, embarrass, and delay the fair trial of the action, and that the said plea was wholly false, and on the further grounds stated and disclosed in the joint affidavit of the said Archibald Ashdown and one Charles Pritchard, sworn and filed in support of the said application, &c., &c., &c.—A. ASHDOWN.

On the 9th of June, 1858, I left with you for examination my book, the contents of which are printed papers, and printed from time to time by order of the Legislative Assembly; and among the papers, viz., "Progress Report," ordered by the Legislative Assembly to be printed, 16th May, 1878, at pages 9 to 12, you will read Mr. Joseph Carroll's evidence:—Chairman (question 3): "You are a professional accountant?—I am." Appendix, page 1, you will read a copy of Dean and another v. Garsed; declaration filed 18th February, 1858. Page 3 you will read a copy of my plea for defence, on equitable grounds. My plea is strictly true; it was prepared by my counsel, a sound lawyer, namely, the late Mr. Justice Wise, from *Agreements and Pritchard's Journal*; copies of same are in your possession. My plea, verified my affidavit, sworn before Edwin Daintrey, Esq., and filed in the Supreme Court 26th February, 1858. Application was made by the plaintiffs to take my plea off the file, on the ground my plea is wholly false, and on the further grounds disclosed in the joint perjured affidavit of A. Ashdown and C. P. Pritchard, sworn and filed 2nd March, 1858. At pages 30 and 31, copy of Ashdown and Pritchard's joint affidavit, filed 2nd March, 1858. From page 36 the above application came on to be heard before Mr. Justice Dickinson (the Judge sitting in Chambers), on the 3rd of March, 1858; and after hearing my counsel (Mr. Wise) and Ashdown's counsel (Mr. Holroyd) application dismissed, without calling upon my counsel to file my affidavit in reply to Ashdown and Pritchard's joint affidavit. On the 4th March, 1858, my attorney, at the request of plaintiffs' attorney, filed my further affidavit.

At page 42 you will read copy "Information for Perjury," signed "Lyttelton H. Bayley, Attorney-General," who held the office of grand jury. From pages 9 to 15 you will read the proceedings at the Police Office in December, 1858. A committal by Mr. D. Forbes, J.P., on the 21st December, 1858, according to law, is not proceeded with unless the Attorney-General, after examining the evidence, says that a *prima facie* case has been made out. In my case the only remedy is, that you, on behalf of Her Majesty the Queen, remove from the proceedings filed in the Supreme Court the said information signed "Lyttelton H. Bayley, Attorney-General," and burn the same in your office in the presence of the Crown Solicitor, myself, and Mr. John Hurley, M.L.A.

I have, &c.,

JOHN GARSED.

P.S.—I appeared on summons at the Police Office, 7th April, 1858. My counsel (Mr. Wise) appeared for me; Mr. Holroyd appeared for A. Ashdown. The Bench, after hearing my counsel, declined to enter into the case.—J.G.

J. Garsed, Esq., to The Attorney-General.

Helsarmel, Leichhardt, 8 June, 1887.

To the Honorable Bernhard R. Wise, Esq., M.L.A., Attorney-General,—

Sir,

In further reply to your letter of the 2nd instant, No. 87-856, I respectfully state that the proceedings in the following action (thanks to John Hurley, Esq., M.L.A.) are published by order of the Legislative Assembly, in 3rd volume Votes and Proceedings, during the session of 1877-8, and a printed copy of one of my long advertisements I sent you in my letter, is the result of the truthfulness of my equitable plea, prepared by your father from documentary evidence before my Select Committee, and not a living witness is required to prove the truth of my plea.

On the 9th day of February, 1858, a certain action was commenced in the Supreme Court of New South Wales, on a bill of exchange for £680 15s. 3d., payment secured, in which said action William Dean and Archibald Ashdown, who traded in Sydney under the name and style of "W. Dean & Co.," auctioneers, were the plaintiffs, and I, John Garsed, was the defendant.

I took the opinion of Mr. Wise, your father, and he prepared from documentary evidence a plea for defence on equitable grounds, that is to say, the plea filed to the declaration of the said plaintiffs, amounted to a plea of want of consideration on the part of William Dean and Company, and strictly true.

A certain Act of the Legislature of this Colony entitled, "An Act to facilitate the remedies on bills of exchange and promissory-notes," required I should verify on affidavit the truth of my plea. This said plea accompanied by my affidavit was filed in the Supreme Court on the 26th day of February, 1858.

If you refer to page 30 of the said 3rd volume you will read a copy of my plea, prepared by my counsel, your father, and if you turn to page 70 you will read a copy of information for perjury, signed Lyttelton H. Bayley, Attorney-General, who prosecuted for Her Majesty his witness Archibald Ashdown.

You will observe on reading said information that the alleged perjury is assigned on my said plea, verified by affidavit filed in the Supreme Court on the 26th February, 1858, and that the Attorney-General informs the Court—"Whereas in truth and in fact the said sum of £680 15s. 3d., the amount of the said bill of exchange was the balance of an account due from John Garsed to the firm of Dean and Company, of which firm William Dean and Archibald Ashdown were the partners, and was not a debt to Archibald Ashdown alone."

It was out of the power of Her Majesty's Attorney-General to prove the truth of his statement; although he held the office of grand jury he filed his information for perjury before reading the proceedings filed in the Supreme Court, or the depositions taken at the Police Office and the result the alleged perjury is assigned on the wrong affidavit.

An application was made to take my plea off the file, on the grounds disclosed in the joint affidavit of Archibald Ashdown and Charles Pearson Pritchard, clerk and book-keeper, in the employ of Ashdown and Garsed, sworn and filed in the Supreme Court on the 2nd March, 1858.

The above application came on to be heard before Mr. Justice Dickinson, the Judge sitting in Chambers, on the 3rd March, 1858, when the said application, after hearing counsel on both sides, was dismissed, and the cause set down for trial.

On the 31st March, 1858, and before trial, the said Archibald Ashdown lodged an information against, on a charge of perjury, on grounds disclosed in said joint affidavit, filed in the Supreme Court on the 2nd March, 1858, and in doing so the said Archibald Ashdown, at this early stage, had brought this action to a dead lock; this you will learn on reading the information sworn by Archibald Ashdown at the Police Office on 31st March, 1858, in connection with Ashdown and Pritchard's joint affidavit filed in the Supreme Court 2nd March, 1858.

I appeared on summons at the Central Police Office to answer the charge. Mr. Holroyd appeared for Ashdown, and Mr. Wise appeared for me, and the Bench after hearing Mr. Wise declined to recognise the case, and the same was dismissed.

Unfortunately this said Act of the Legislature gave his Honor Mr. Justice Dickinson no power in the civil case to refer the same to arbitration.

Copy from page 64 of said 3rd vol. At an early stage in the said action his Honor Mr. Justice Dickinson endeavoured to bring about a reference to arbitration. These efforts were, however, unsuccessful, the plaintiffs' counsel would not consent to a reference, and it was found that his Honor had unfortunately no power to compel a reference in a case of this description, but in summing up, his Honor expressed his opinion that a case of this nature was one which did not come legitimately within the province of a Judge and Jury to decide, and that in England a reference to arbitration would under similar circumstances have been at once assented to when recommended by the Judge.

My counsel, Mr. Wise and Mr. Dalley, if you turn to page 29, volume 3—the case of Mr. John Garsed—Appendix to the evidence of Mr. John Garsed, 16th May, 1877—you will read the opinion of my counsel, the Hon. W. B. Dalley.

#### *Law.*

In this Colony Her Majesty's Attorney-General holds the office of grand jury, and within the last few months we have had three Attorney-Generals. You must admit an Attorney-General, not long in the Colony, may understand the several branches of law in the Supreme Court in its civil jurisdiction, and not understand criminal law; and again, an Attorney-General may not have the time to spare to read and study the evidence sworn in a Police Court, in a case like mine, and leave the information to be prepared by a person anxious to obtain a conviction, as in my case, contrary to the law of the land, the Attorney-General merely signing the information for perjury, as in my case,—Lyttelton H. Bayley, Attorney-General.

In England, the grand jury consist of not less than twenty-three persons. In England had I been committed to take my trial for perjury, instituted by Archibald Ashdown, in that case the information sworn by Ashdown in the Police Court and the depositions, will be taken to the grand jury room; it will then come under the consideration of the grand jury. The witnesses are then called in in the order published in the said 3rd volume, extract from page 39:—"This deponent, Andrew M'Kechnic, on his oath, states: I am one of the clerks of the Supreme Court; I produce the proceedings in the said Court in a case of William Dean and Archibald Ashdown against John Garsed; I produce the declaration, marked A, which was filed on the 18th February, 1858; I produce a plea filed to that declaration by Piddock Arthur Tompson, attorney, marked B; there is affidavit annexed to it; I produce a summons, marked C, dated 2nd March, 1858, issued by the Prothonotary, calling upon the defendant to show cause why the plea should not be struck out (this witness, after a long examination, produced the whole of the affidavits filed in this action, with the exception of one); I have not got an affidavit sworn before Mr. Pownall, 2nd March, 1858, by Ashdown and Pritchard; I am not aware that any such affidavit was ever filed; if it had been filed, and in its proper place, it would have been in the hands of the Prothonotary, and then in my custody, among the papers I produce; I said yesterday that there was an affidavit missing, and I say so again.

The grand jury would insist on this missing affidavit being found (you will read a copy printed on pages 58 and 59 produced by the Prothonotary before my Committee). On reading the same, the grand jury would file a "true bill" against Ashdown and Pritchard for perjury, on the evidence of their joint affidavit, sworn and filed in the Supreme Court on the 2nd March, 1858.

Mr.

Mr. Charles Pearson Pritchard's journal, also a ledger made up by Mr. Humphrey, accountant, from the journal of Mr. Pritchard's keeping, are deposited in the Legislative Chambers, and the Judge in the civil case ruled William Dean and Company are bound by the books kept by Pritchard.

Mr. C. P. Pritchard commenced his journal under the inspection of Archibald Ashdown, and upon the premises occupied by Wm. Dean and Company, on or about the 1st April, 1857. Pritchard's first entry in his journal—sundries to capital stock, £45,170; those sundries consist chiefly of valuable properties, but not any of Ashdown's properties.

I call your attention to two properties entered by Pritchard in his journal (copy):—Bexley Estate, 1,100 acres, more or less, valued at £6,820, situate at Rocky Point, near Cook's River, in the parish of St. George, subdivided into the following farms at the foot of my subdivision; section 1. is all sold; this section contains 49a. 1r. 34p.; in speaking of the residue over 1,050 acres, two bills are filed in the Supreme Court, affecting the title of said 1,050 acres; the plaintiff died suddenly.

Grose Farm Estate, 157 allotments, better known by the name of Camperdown Estate; a bill filed in the Supreme Court affecting the title of this property; the particulars are printed on page 67 of said 3 vol.

Ashdown and Pritchard's joint affidavit, filed in the Supreme Court, 2nd March, 1858, and afterwards taken out of the Supreme Court, and not returned to its proper place of deposit appointed by law until after said information for perjury, signed Lyttleton H. Bayley, Attorney-General was filed, and unless you, on behalf of Her Majesty the Queen, remove from the proceedings in the Supreme Court this said information for perjury filed in said action, Dean and Ashdown v. Garsed, this action, commenced 9th February, 1858, cannot terminate.

You will observe as the law now stands in this Colony as regards grand jury, any one of those gentlemen on my Select Committee are liable to suffer what I have had to suffer, provided they have to defend a similar action in the Supreme Court of New South Wales.

Copy from page 5, of said 3rd volume:

“1877-8.

MR. JOHN GARSED.

*Progress Report.*

THE Select Committee of the Legislative Assembly, appointed on 5th February, 1878, with power to send for persons and papers, to inquire into and report upon a case instituted against one John Garsed, in October, 1859, and to whom was referred on 8th February, 1878, the proceedings and evidence laid upon the Table by the Clerk on 5th February, 1878, have agreed to the following progress report:—

Your Committee having examined the witnesses named in the list [my only witness, Mr. Joseph Carroll, accountant], and received a large amount of documentary evidence, have resolved, owing to the advanced period of the session to report the evidence to your Honorable House, and to recommend that the inquiry be resumed early next Session.

JOHN HURLEY,

Chairman.”

No. 3 Committee Room, Sydney, 14 May, 1878.”

This large amount of documentary evidence and examination of account books was necessary to prove the said information for perjury, signed Lyttleton H. Bayley, Attorney-General, was filed in the Supreme Court in the said action, contrary to common law, also to statute law in criminal cases, and I trust my case will be the means of a reform in the law in this Colony, as regards grand jury.

I have, &c.,

JOHN GARSED.

The Secretary to The Attorney-General to J. Garsed, Esq.

Sir,

Attorney-General's Department, Sydney, 14 September, 1887.

8th June, 1887.  
21st July, 1887.

In reference to your letters, of dates noted in the margin, I am directed to inform you, that after full consideration of all the matters connected with your case, the Attorney-General regrets that he cannot even now see sufficient grounds for reopening it.

I have, &c.,

W. W. STEPHEN.

1887.

(THIRD SESSION.)

## LEGISLATIVE ASSEMBLY.

## NEW SOUTH WALES.

## NATIONAL AND LOCAL WORKS.

(EXPENDITURE ON, FROM 1860 TO 1886.)

*Ordered by the Legislative Assembly to be printed, 28 September, 1887.*

Government Statistician's Office, 27 September, 1887.

The expenditure shown in the following returns does not include the cost of administration and other charges connected with the government or education of the people, but was incurred upon Public Works only. In the category of national works have been included railways, telegraphs, and fortifications, some harbour and navigation works, as well as certain roads and bridges, and other works having a use or an importance apart from the districts in which they were constructed. The Metropolitan Water Supply and Sewerage Works, though in magnitude of conception equal to great national undertakings, have been included amongst local works, as, in actual use, they are intended for local purposes. As far as the works for water supply are concerned, the bulk of the expenditure was in the Districts of Cumberland and Camden; but the whole benefit of it has been set down to the Metropolis. The tramways have also been deemed local works; an exception being made in favour of the Camden tramway, which, as a feeder to the railways, was intended as an experiment to ascertain the probable success of such undertakings, and has, therefore, been deemed a national work.

For several years and in various districts, very small sums appear under the heading of national expenditure. These for the most part denote either the cost of repairs to certain national buildings, such as prisons, and custom-houses in border towns, or else that of short extensions to telegraph lines.

The last table gives the amount expended in each year which could not be distributed. The bulk of this expenditure was for rolling stock and other railway purposes for the benefit of the Colony as a whole. Some portion, however, was for works so vaguely described as to make an accurate distribution impossible.

DISTRICTS according to the Subdivisions shown on Map in connection with the Return of Local and National Expenditure.

Distinguishing Letter on Map.	District.	Electorates comprised in District.	Population on 31 Dec., 1886.
A	Western District ...	Wentworth, Bourke, part of Balranald from the Lachlan River .....	25,073
B	The Murray .....	The Murray, Albury, The Hume .....	24,577
C	The Murrumbidgee..	Murrumbidgee, and part of Balranald up to the Lachlan River .....	28,029
D	Young .....	Yass, Burrowa, Young, Grenfell .....	29,012
E	The Bogan .....	The Bogan, Forbes.....	22,853
F	Gunnedah .....	Namoi, Gwydir, and Gunnedah .....	20,733
G	New England .....	New England, Glen Innes, Liverell, Tamworth, Tenterfield ..	53,335
H	North Coast .....	Richmond, Grafton, Clarence, Macleay, Manning .....	65,159
I	The Hunter .....	Newcastle, Northumberland, Morpeth, Gloucester, Hunter, Upper Hunter, Durham, E. & W. Maitland, Patrick's Plains.	107,916
J	Bathurst .....	Orange, Molong, Carcoar, Bathurst, E. & W. Macquarie.....	58,759
K	The Hawkesbury and Nepean Valley.	Wollombi, Hawkesbury, Camden, Hartley, Nepean ..	55,420
L	Mudgee .....	Mudgee, Wellington .....	22,288
M	Goulburn .....	Argyle, Goulburn .....	21,482
N	Gundagai .....	Gundagai, Tumut .....	17,591
O	Monaro.....	Braidwood, Queanbeyan, Monaro .....	31,533
P	South Coast.....	Shoalhaven, Kiama, Illawarra, Eden.....	43,442
Q	Cumberland .....	Parramatta and Central Cumberland ..	41,455
R	Metropolis .....	E., S., & W. Sydney, St. Leonards, Redfern, Newtown, Paddington, Glebe, Balmain, Canterbury.	332,709
		Total Population.....	1,001,966

AMOUNTS expended on NATIONAL WORKS in the Country Districts and Metropolis during 1860-86,  
with the Amount per Head of Population.

Year.	Country Districts.		Metropolis.		Total.	
	Expenditure.	Rate per Head.	Expenditure.	Rate per Head.	Expenditure.	Rate per Head.
	£	£ s. d.	£	£ s. d.	£	£ s. d.
1860 ... ..	317,526	1 5 8	23,864	0 5 0	341,390	0 19 11
1861 ... ..	435,535	1 14 0	38,442	0 7 10	473,977	1 6 10
1862 ... ..	352,532	1 6 5	46,621	0 9 8	399,153	1 2 0
1863 ... ..	467,988	1 13 11	39,780	0 8 2	507,768	1 7 3
1864 ... ..	469,323	1 12 10	23,857	0 4 10	493,180	1 5 8
1865 ... ..	858,596	2 17 11	31,997	0 6 2	890,593	2 4 0
1866 ... ..	553,666	1 16 0	30,623	0 5 6	584,289	1 7 10
1867 ... ..	604,752	1 18 0	61,304	0 10 4	666,056	1 10 6
1868 ... ..	607,478	1 16 9	54,842	0 8 10	662,320	1 9 2
1869 ... ..	511,557	1 9 10	60,073	0 9 3	571,630	1 4 2
1870 ... ..	491,880	1 7 7	51,232	0 7 8	543,112	1 2 1
1871 ... ..	343,368	0 18 6	45,088	0 6 6	388,456	0 15 3
1872 ... ..	177,876	0 9 3	65,287	0 9 1	243,163	0 9 3
1873 ... ..	145,610	0 7 4	76,893	0 10 4	222,503	0 8 2
1874 ... ..	429,714	1 1 0	63,367	0 8 2	493,081	0 17 5
1875 ... ..	563,942	1 6 7	81,404	0 10 1	645,346	1 2 1
1876 ... ..	732,066	1 13 6	70,250	0 8 4	802,316	1 6 6
1877 ... ..	691,177	1 10 6	115,459	0 13 1	806,636	1 5 8
1878 ... ..	849,739	1 16 1	134,971	0 14 4	984,710	1 9 11
1879 ... ..	1,076,536	2 4 0	344,659	1 14 4	1,421,195	2 1 2
1880 ... ..	1,486,386	2 18 1	164,153	0 15 3	1,650,539	2 5 6
1881 ... ..	1,674,311	3 2 10	345,182	1 10 3	2,019,493	2 13 1
1882 ... ..	1,768,868	3 3 11	216,130	0 17 10	1,984,998	2 9 11
1883 ... ..	2,035,286	3 10 8	316,904	1 4 6	2,352,190	2 16 4
1884 ... ..	2,347,492	3 16 0	452,542	1 12 5	2,800,034	3 3 7
1885 ... ..	2,363,965	3 15 1	513,778	1 13 7	2,877,743	3 1 10
1886 ... ..	1,908,152	2 18 1	531,602	1 12 11	2,439,754	2 9 9

AMOUNTS expended on LOCAL PUBLIC WORKS in the Country Districts and Metropolis during  
1860-86, with Amount per Head of Population.

Year.	Country Districts.		Metropolis.		Total.	
	Expenditure.	Rate per Head.	Expenditure.	Rate per Head.	Expenditure.	Rate per Head.
	£	£ s. d.	£	£ s. d.	£	£ s. d.
1860 ... ..	65,861	0 5 4	21,240	0 4 5	87,101	0 5 1
1861 ... ..	103,250	0 8 0	34,709	0 7 1	137,959	0 7 9
1862 ... ..	118,131	0 8 11	40,612	0 8 5	158,743	0 8 9
1863 ... ..	94,825	0 6 11	15,842	0 3 3	110,667	0 5 11
1864 ... ..	133,591	0 9 4	17,352	0 3 6	150,943	0 7 10
1865 ... ..	109,835	0 7 5	12,168	0 2 4	122,003	0 6 0
1866 ... ..	92,796	0 6 0	9,963	0 1 9	102,759	0 4 11
1867 ... ..	137,405	0 8 7	37,621	0 6 4	175,026	0 8 0
1868 ... ..	163,819	0 9 11	33,701	0 5 5	197,520	0 8 8
1869 ... ..	190,810	0 11 1	21,460	0 3 4	212,270	0 9 0
1870 ... ..	124,540	0 7 0	32,347	0 4 10	156,887	0 6 5
1871 ... ..	169,239	0 9 4	18,009	0 2 7	187,248	0 7 4
1872 ... ..	129,003	0 6 9	40,524	0 5 8	169,527	0 6 5
1873 ... ..	230,385	0 11 7	51,056	0 6 10	281,441	0 10 4
1874 ... ..	265,003	0 13 0	48,211	0 6 3	313,214	0 11 1
1875 ... ..	375,819	0 17 9	47,781	0 6 0	423,600	0 14 5
1876 ... ..	415,025	0 19 0	68,710	0 8 2	483,735	0 16 0
1877 ... ..	497,184	1 2 0	60,141	0 6 10	557,325	0 17 8
1878 ... ..	643,912	1 7 4	86,873	0 9 2	730,285	1 2 2
1879 ... ..	794,983	1 12 5	165,856	0 16 6	960,839	1 7 10
1880 ... ..	793,966	1 11 0	201,734	0 18 10	995,700	1 7 5
1881 ... ..	583,471	1 1 10	357,182	1 11 4	940,653	1 4 9
1882 ... ..	704,892	1 5 5	702,696	2 18 1	1,407,588	1 15 5
1883 ... ..	758,052	1 6 3	931,615	3 12 0	1,689,667	2 0 6
1884 ... ..	940,858	1 11 3	669,209	2 8 0	1,610,067	1 16 6
1885 ... ..	981,951	1 11 6	704,636	2 6 9	1,686,587	1 16 2
1886 ... ..	868,923	1 6 4	767,906	2 7 6	1,636,829	1 13 5

AMOUNTS expended on NATIONAL AND LOCAL WORKS in the Country Districts and Metropolis during 1860-86, with Amount per Head of Population.

Year.	Country Districts.		Metropolis.		Total.	
	Expenditure.	Rate per Head.	Expenditure.	Rate per Head.	Expenditure.	Rate per Head.
	£	£ s. d.	£	£ s. d.	£	£ s. d.
1860 ... ..	383,387	1 11 0	45,104	0 9 5	428,491	1 5 0
1861 .. ...	538,785	2 2 0	73,151	0 14 11	611,936	1 14 7
1862 ... ..	470,663	1 15 4	87,233	0 18 1	557,896	1 10 9
1863 ... ..	562,813	2 0 10	55,622	0 11 6	618,435	1 13 2
1864 ... ..	602,014	2 2 2	41,200	0 8 4	644,123	1 13 6
1865 ... ..	968,431	3 5 4	44,165	0 8 6	1,012,596	2 10 0
1866 ... ..	646,462	2 2 0	40,586	0 7 3	687,048	1 12 9
1867 ... ..	742,157	2 6 7	98,925	0 16 8	841,082	1 18 6
1868 ... ..	771,297	2 6 8	88,543	0 14 3	859,840	1 17 10
1869 ... ..	702,367	2 0 11	81,533	0 12 7	783,900	1 13 2
1870 ... ..	616,420	1 14 7	83,579	0 12 6	699,999	1 8 6
1871 ... ..	512,607	1 7 10	63,097	0 9 1	575,704	1 2 7
1872 ... ..	306,879	0 16 0	105,811	0 14 9	412,690	0 15 8
1873 ... ..	375,905	0 18 11	127,949	0 17 2	503,944	0 18 6
1874 .. ...	694,717	1 14 0	111,578	0 14 5	806,295	1 8 6
1875 ... ..	939,761	2 4 4	129,185	0 16 1	1,068,946	1 16 6
1876 ... ..	1,147,091	2 12 6	138,960	0 16 6	1,286,051	2 2 6
1877 ... ..	1,188,361	2 12 6	175,600	0 19 11	1,363,961	2 3 4
1878 ... ..	1,493,651	3 3 5	221,344	1 3 6	1,714,995	2 12 1
1879 ... ..	1,871,519	3 16 5	510,515	2 10 10	2,382,034	3 9 0
1880 ... ..	2,280,352	4 9 1	365,887	1 14 1	2,646,239	3 12 11
1881 ... ..	2,257,782	4 4 8	702,364	3 1 7	2,960,146	3 17 10
1882 .. ...	2,473,760	4 9 4	918,823	3 15 11	3,392,583	4 5 4
1883 ... ..	2,793,338	4 16 11	1,248,519	4 16 6	4,041,857	4 16 10
1884 ... ..	3,288,350	5 9 3	1,121,751	4 0 5	4,410,101	5 0 1
1885 ... ..	3,345,916	5 6 3	1,218,414	4 0 4	4,564,330	4 18 0
1886 ... ..	2,777,075	4 4 6	1,299,508	4 0 5	4,076,583	4 3 2

AMOUNT expended on NATIONAL WORKS in each of the undermentioned Divisions of the Colony of New South Wales during 1860-86.

Year.	A Western Districts.	B Murray.	C Murrumbidgee.	D Young.	E Bogan.	F Gunnedah.	G New England.	H North Coast.	I Hunter River Valley.	J Bathurst.	K Hawkes- bury and Nepean Valley.	L Mudgee.	M Goulburn.	N Gundagai.	O Monaro.	P S. Coast.	Q Cumber- land.	Total, Country Districts.	R Metropolis.	Total.	Year.
	£	£	£	£	£	£	£	£	£	£	£	£	£	£	£	£	£	£	£	£	£
1860	6,121	4,604	6,881	.....	4,801	202	15,798	1,414	87,068	9,960	113,615	4,166	4,659	8,672	462	121	49,702	317,526	23,864	341,390	1860
1861	6,123	13,491	16,717	8,456	4,082	.....	37,080	.....	101,382	9,224	160,026	8,718	9,983	8,883	2,428	55	48,887	435,535	38,442	473,977	1861
1862	4,579	3,262	3,688	2,293	3,664	40	12,634	3,256	92,180	7,816	151,636	11,007	5,231	2,311	.....	.....	48,945	352,532	46,621	399,153	1862
1863	5,117	9,083	11,387	7,463	7,297	1,062	24,162	1,706	80,692	25,503	231,316	12,633	22,591	7,494	.....	215	20,267	467,988	39,780	507,768	1863
1864	6,885	7,679	10,802	5,472	5,307	2,973	34,072	136	57,559	42,874	232,092	5,317	40,597	5,472	2,016	125	9,945	469,323	23,857	493,180	1864
1865	6,947	2,440	4,674	2,291	3,368	11,041	65,079	61	100,227	66,894	484,541	4,192	86,855	2,328	3,494	.....	14,164	858,596	31,997	890,593	1865
1866	9,627	3,102	.....	3,246	2,610	5,930	38,938	1,196	34,002	53,238	314,468	2,610	63,575	3,102	58	95	17,869	553,666	30,623	584,289	1866
1867	9,790	3,772	3,762	5,268	2,688	3,398	27,461	223	24,752	71,352	364,750	2,688	62,284	3,762	2,522	245	16,035	604,752	61,304	666,056	1867
1868	3,314	2,586	3,549	3,394	2,021	10,095	61,359	1,180	71,315	62,831	299,749	2,021	51,324	2,586	481	3,125	26,048	607,478	54,842	662,320	1868
1869	5,422	8,217	3,412	2,398	2,014	11,795	55,193	2,962	55,840	56,650	227,003	2,514	28,725	2,274	.....	3,663	43,475	511,557	60,073	571,630	1869
1870	3,676	2,534	2,534	2,534	2,128	15,103	83,231	844	67,820	63,893	200,718	2,128	8,222	2,534	.....	2,386	31,590	491,880	51,232	543,112	1870
1871	3,767	6,834	3,417	6,834	2,194	12,296	59,842	943	55,347	41,648	116,801	2,634	7,605	6,834	.....	320	16,052	343,368	45,088	388,456	1871
1872	5,158	1,646	2,469	1,646	1,530	5,819	8,929	458	32,878	26,292	76,514	1,644	1,946	1,646	.....	81	9,220	177,876	65,287	243,163	1872
1873	3,505	3,147	5,477	14,029	1,853	920	11,406	345	15,321	14,480	32,349	1,852	8,933	4,615	.....	168	27,210	145,610	76,893	222,503	1873
1874	1,920	2,824	5,161	148,202	2,289	21,648	31,809	5,324	20,450	28,448	34,527	2,734	86,344	11,454	.....	366	26,214	429,714	63,367	493,081	1874
1875	2,264	2,125	13,663	156,746	3,007	40,090	42,411	5,257	41,405	87,799	56,484	2,736	46,973	32,693	179	1,797	27,713	563,942	81,404	645,346	1875
1876	3,764	3,590	24,730	200,591	5,398	41,334	50,134	4,258	45,970	195,635	33,128	4,828	40,637	55,899	.....	2,621	19,549	732,066	70,250	802,316	1876
1877	28,347	6,402	69,734	150,085	3,962	56,980	64,678	7,990	28,822	96,287	29,599	20,793	9,140	96,503	965	852	20,032	691,177	115,459	806,636	1877
1878	12,232	45,305	110,682	20,698	12,536	79,464	148,853	14,679	57,175	93,689	32,044	93,300	7,391	84,165	333	1,432	35,761	849,739	134,971	984,710	1878
1879	6,280	148,400	204,440	14,465	33,942	108,186	144,439	47,642	32,950	85,403	45,804	95,702	5,788	24,138	2,156	4,000	72,801	1,076,536	344,659	1,421,195	1879
1880	3,993	150,416	440,982	11,960	65,018	26,359	388,675	15,645	39,352	74,848	63,147	130,711	5,643	5,267	2,411	459	61,500	1,486,386	164,153	1,650,539	1880
1881	40,424	60,461	431,324	13,761	68,001	154,844	409,044	13,861	43,701	62,778	70,147	170,271	8,066	9,573	1,844	21,852	94,359	1,674,311	345,182	2,019,493	1881
1882	138,731	15,881	220,078	21,176	209,811	143,397	333,226	4,906	26,936	89,048	82,633	272,422	12,418	16,619	31,293	24,570	125,673	1,768,868	216,130	1,984,998	1882
1883	154,744	139,530	132,762	43,371	242,047	10,617	474,833	2,325	27,180	99,927	75,763	202,602	54,591	13,118	104,770	75,832	181,274	2,035,286	316,904	2,352,190	1883
1884	123,098	113,440	162,466	60,490	206,351	3,546	467,592	9,856	19,823	159,817	114,242	116,647	117,582	122,560	37,366	175,289	337,327	2,347,492	452,542	2,800,034	1884
1885	118,713	13,715	29,123	162,830	106,157	4,694	244,167	8,887	36,411	275,630	190,286	16,397	98,048	110,477	210,880	184,448	553,100	2,363,965	513,778	2,877,743	1885
1886	10,653	12,243	9,508	174,440	20,549	2,058	149,700	10,712	29,120	238,727	164,905	10,708	102,507	43,385	226,515	196,215	506,207	1,908,152	531,602	2,439,754	1886
Totals...	725,184	786,729	1,933,424	1,244,139	1,023,905	774,491	3,484,745	166,066	1,325,728	2,140,696	3,998,287	1,203,975	998,158	688,364	630,173	700,338	2,440,919	24,265,321	4,000,304	28,265,625	Total

NOTE.—The Letters refer to the subdivisions shown on Map.

AMOUNT Expended on LOCAL PUBLIC WORKS in each of the undermentioned Divisions of the Colony of New South Wales during 1860-86.

Year.	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	Total Country Districts.	R Metropolis.	Total.	Year.
	Western Districts.	Murray.	Murrumbidgee.	Young.	Bogan.	Gunnedah.	New England.	North Coast.	Hunter River Valley.	Bathurst.	Hawkes- bury and Neperr Valley.	Mudgee.	Goulburn.	Gundagal.	Monaro.	S. Coast.	Cumber- land.				
	£	£	£	£	£	£	£	£	£	£	£	£	£	£	£	£	£	£	£	£	£
1860	2	6,100	1,765	2,063	119	166	4,150	1,868	21,232	1,433	3,768	7,414	1,013	4,521	6,320	3,263	664	65,861	21,240	87,101	1860
1861	452	14,303	3,909	2,978	1,170	.....	6,540	4,406	18,637	2,155	10,820	8,544	602	3,260	7,395	17,269	810	103,250	34,709	137,959	1861
1862	159	4,532	3,238	4,517	767	415	4,524	6,372	21,688	6,892	2,219	9,821	2,147	1,457	7,057	39,680	2,646	118,131	40,612	158,743	1862
1863	56	7,037	714	6,454	5,345	3,142	6,487	6,411	18,133	3,761	4,700	2,884	2,260	1,867	2,186	22,647	741	94,825	15,842	110,667	1863
1864	2,460	8,970	1,698	6,067	3,914	2,620	6,948	7,625	40,565	5,703	5,458	8,037	754	2,533	5,878	23,007	1,354	133,591	17,352	150,943	1864
1865	2,894	2,810	1,883	2,944	2,925	2,285	14,654	12,580	31,865	2,371	2,777	2,849	302	8,495	1,740	16,223	238	109,835	12,168	122,003	1865
1866	4,428	2,281	2,176	510	4,304	618	2,855	6,221	34,159	1,462	1,063	4,388	619	10,590	3,701	13,371	50	92,796	9,963	102,759	1866
1867	9,655	7,276	12,503	1,252	1,853	469	13,260	13,253	16,868	4,420	7,042	7,069	2,463	4,132	8,355	27,355	180	137,405	37,621	175,026	1867
1868	9,803	5,558	9,550	5,080	904	3,206	14,164	13,980	40,741	11,950	4,010	6,379	1,808	8,951	11,087	16,474	174	163,819	33,701	197,520	1868
1869	7,371	9,163	11,209	9,199	1,921	3,117	10,320	14,766	50,007	23,130	1,360	10,476	2,411	6,598	12,075	17,677	10	190,810	21,460	212,270	1869
1870	2,480	2,783	3,933	5,008	1,505	2,286	8,036	16,168	28,631	10,880	1,185	12,360	3,548	2,122	12,814	10,190	611	124,540	32,347	156,887	1870
1871	31,533	9,313	12,025	6,784	3,645	4,669	11,148	23,322	25,860	6,542	5,807	13,785	4,891	7,225	8,073	14,519	98	169,239	18,009	187,248	1871
1872	10,230	9,190	13,701	2,294	1,006	1,568	9,513	18,178	4,521	8,432	3,711	15,879	2,748	5,633	9,217	12,904	278	129,003	40,524	169,527	1872
1873	4,552	9,176	11,275	8,050	3,742	3,172	22,221	31,918	42,081	20,899	6,602	29,376	5,303	3,065	9,986	17,695	1,272	230,385	51,056	281,441	1873
1874	4,298	8,768	9,353	8,597	6,713	3,796	30,690	37,485	51,755	19,159	9,501	17,362	9,485	3,802	14,594	28,220	1,425	265,003	48,211	313,214	1874
1875	3,994	15,549	10,053	7,655	8,983	10,352	27,894	55,892	101,343	28,897	7,792	26,715	10,097	5,470	20,841	29,604	4,688	375,819	47,781	423,600	1875
1876	6,362	16,194	7,660	13,469	8,484	16,439	42,779	51,198	99,350	41,656	10,570	19,985	13,917	7,587	19,457	25,476	14,442	415,025	68,710	483,735	1876
1877	14,301	27,799	16,133	21,920	10,240	30,452	44,639	70,177	104,124	44,043	11,528	15,026	15,490	8,084	22,921	32,882	7,425	497,184	60,141	557,325	1877
1878	23,113	36,169	24,323	24,405	20,021	29,437	67,544	78,359	106,282	65,142	36,798	22,414	23,002	12,418	23,796	40,775	9,914	643,912	86,373	730,285	1878
1879	54,319	50,930	39,076	37,034	18,856	48,675	58,398	106,950	129,442	77,932	32,758	10,279	18,643	17,461	27,549	57,804	8,877	794,983	165,856	960,839	1879
1880	60,784	37,879	33,399	30,311	37,378	44,343	71,147	87,131	131,061	66,492	39,138	18,776	25,317	12,020	21,329	66,479	10,982	793,966	201,734	995,700	1880
1881	18,196	27,542	18,028	23,182	18,369	35,879	39,062	72,890	95,815	44,060	42,755	18,504	35,499	7,220	23,177	56,124	7,169	583,471	357,182	940,653	1881
1882	19,402	35,241	32,016	25,092	19,736	25,959	56,796	119,191	139,777	63,131	35,764	23,708	32,927	8,229	4,679	45,588	17,656	704,892	702,696	1,407,588	1882
1883	23,805	43,912	23,374	25,845	20,389	36,349	63,156	119,538	141,474	61,103	27,894	17,307	57,570	7,804	27,468	47,297	13,777	758,052	931,615	1,689,667	1883
1884	34,648	54,626	19,570	42,298	26,475	47,965	77,631	104,604	196,248	76,292	36,761	18,595	66,084	13,610	28,087	63,645	33,719	940,858	669,209	1,610,067	1884
1885	36,951	47,008	27,567	31,025	30,080	57,015	81,460	146,695	195,037	85,669	38,063	12,226	38,256	18,222	39,910	71,750	25,017	981,951	704,636	1,686,587	1885
1886	43,577	58,939	30,416	19,352	27,260	40,711	53,459	108,111	174,563	95,155	47,483	13,561	39,020	11,882	34,409	55,905	15,120	868,923	767,906	1,636,829	1886
Totals	409,825	559,048	380,547	373,385	286,104	455,105	849,475	1,335,289	2,061,259	878,761	437,327	373,719	416,176	204,258	414,091	873,823	179,337	10,487,529	5,198,654	15,686,183	Total

NOTE.—The Letters refer to the subdivisions shown on Map.

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AMOUNT Expended on NATIONAL and LOCAL WORKS in each of the undermentioned Divisions of the Colony of New South Wales during 1860-86.

Year.	A Western Districts.	B Murray.	C Murrumbidgee.	D Young.	E Bogan.	F Gunnedah.	G New England.	H New Coast.	I Hunter River Valley.	J Bathurst.	K Hawkes- bury and Nepean Valley.	L Mudgee.	M Goulburn.	N Gundagai.	O Monaro.	P South Coast.	Q Cumber- land.	R Total, Country Districts.	S Metropolis.	T Total.	Year.
	£	£	£	£	£	£	£	£	£	£	£	£	£	£	£	£	£	£	£	£	£
1860	6,123	10,704	8,646	2,063	4,200	368	19,948	3,282	108,300	11,393	117,383	11,580	5,672	13,193	6,782	,384	50,366	383,387	45,104	428,491	1860
1861	6,575	27,794	20,626	11,434	5,252	.....	43,620	4,406	120,019	11,379	170,846	17,262	10,585	12,143	9,823	17,324	49,697	538,785	73,151	611,936	1861
1862	4,728	7,794	6,926	6,810	4,431	455	17,158	9,628	113,868	14,708	153,855	20,828	7,378	3,768	7,057	39,680	51,591	470,663	87,233	557,896	1862
1863	5,173	16,120	12,101	13,917	12,642	4,204	30,649	8,117	98,825	29,264	236,016	15,517	24,851	9,361	2,186	22,862	21,008	562,813	55,622	618,435	1863
1864	9,345	16,649	12,500	11,539	9,221	5,593	41,020	7,761	98,124	48,577	237,550	13,354	41,351	8,005	7,894	23,132	11,299	602,904	41,209	644,113	1864
1865	9,841	5,250	6,557	5,235	6,293	13,326	79,733	12,641	132,092	69,265	487,318	7,041	87,157	10,823	5,234	16,223	14,402	968,431	44,165	1,012,596	1865
1866	14,055	5,383	2,176	3,756	6,914	6,548	41,793	7,417	68,161	54,700	315,531	6,998	64,194	13,692	3,759	13,466	17,919	646,462	40,586	687,048	1866
1867	19,445	11,048	16,265	6,520	4,541	3,867	40,721	13,476	41,620	75,772	371,792	9,757	64,747	7,894	10,877	27,600	16,215	742,157	98,925	841,082	1867
1868	13,117	8,144	13,099	8,474	2,925	13,301	75,523	15,160	112,056	74,781	303,759	8,400	53,632	11,537	11,568	19,599	26,222	771,297	88,543	859,840	1868
1869	12,793	17,380	14,621	11,597	3,935	14,912	65,513	17,728	105,847	79,780	228,363	12,990	31,136	8,872	12,075	21,340	43,485	702,367	81,533	783,900	1869
1870	6,156	5,317	6,467	7,542	3,633	17,389	91,267	17,012	96,451	74,778	201,903	14,488	11,770	4,656	12,814	12,576	32,201	616,420	83,579	699,799	1870
1871	15,300	16,147	15,442	13,618	5,839	16,965	70,990	24,265	81,207	48,190	122,608	16,419	12,496	14,059	8,073	14,839	16,150	512,607	63,097	575,704	1871
1872	15,388	10,836	16,170	3,940	2,536	7,387	18,442	18,636	37,399	34,724	80,225	17,523	4,694	7,279	9,217	12,985	9,498	306,879	105,811	412,690	1872
1873	8,057	12,323	16,752	22,079	5,595	4,092	33,627	32,263	57,402	35,379	38,951	31,228	14,236	7,680	9,986	17,863	28,482	375,995	127,949	503,944	1873
1874	6,218	11,592	14,514	156,799	9,002	25,444	62,499	42,809	72,205	47,607	44,028	20,096	95,829	15,256	14,594	28,586	27,639	694,717	111,678	806,295	1874
1875	6,258	17,674	23,716	164,401	11,990	51,042	70,305	61,149	142,748	116,696	64,276	29,451	57,070	38,163	21,020	31,401	32,401	939,761	129,185	1,068,946	1875
1876	10,126	19,784	32,390	214,060	13,882	57,773	92,913	55,456	145,320	237,291	43,698	24,813	54,554	63,486	19,457	28,097	33,991	1,147,091	138,960	1,286,051	1876
1877	42,648	34,201	85,867	172,005	14,202	87,432	109,317	78,167	132,946	140,330	41,127	35,819	24,630	104,587	23,886	33,740	27,457	1,188,361	175,600	1,363,961	1877
1878	35,345	81,474	135,005	45,103	32,527	108,901	216,397	93,038	163,457	158,831	68,842	115,714	30,303	96,583	24,129	42,207	45,675	1,493,651	221,344	1,714,995	1878
1879	60,599	199,330	243,516	51,499	52,798	156,861	202,837	154,592	162,392	163,335	78,562	105,981	24,431	41,599	29,705	61,804	81,678	1,871,519	510,515	2,382,034	1879
1880	64,777	188,295	474,381	42,271	102,396	70,702	459,822	102,776	170,413	141,340	102,285	149,487	30,960	17,287	23,740	66,938	72,482	2,280,352	365,887	2,646,239	1880
1881	58,620	88,003	449,352	36,943	86,370	190,723	448,106	86,751	139,516	106,838	112,902	188,775	43,565	16,793	25,021	77,976	101,528	2,257,782	702,364	2,960,146	1881
1882	158,133	51,122	252,094	46,268	40,547	169,356	390,022	124,097	166,763	152,179	118,397	296,130	45,345	24,848	35,972	70,158	143,329	2,473,760	918,826	3,392,586	1882
1883	178,549	183,442	156,136	69,216	262,436	46,966	537,989	121,863	168,654	161,030	103,657	219,909	112,161	20,922	132,228	123,129	195,051	2,793,338	1,248,510	4,041,857	1883
1884	157,746	168,066	182,036	102,788	232,826	51,511	545,223	114,460	216,071	236,109	151,003	135,242	183,666	136,170	65,453	238,934	371,046	3,288,350	1,121,751	4,410,101	1884
1885	155,664	60,723	56,692	193,855	136,237	61,709	325,627	155,582	231,448	361,299	228,349	28,623	136,304	128,699	250,790	256,198	578,117	3,345,916	1,218,414	4,564,330	1885
1886	54,230	71,182	39,924	193,792	47,749	42,769	203,159	118,823	203,683	333,982	212,388	24,269	141,527	55,267	260,924	252,120	521,327	2,777,075	1,299,508	4,076,583	1886
Totals	1,135,009	1,345,777	2,313,971	1,617,524	1,310,009	1,229,596	4,334,220	1,501,355	3,336,987	3,019,457	4,435,614	1,577,694	1,414,334	892,622	1,044,264	1,574,161	2,620,256	34,752,850	9,198,958	43,951,808	Totals

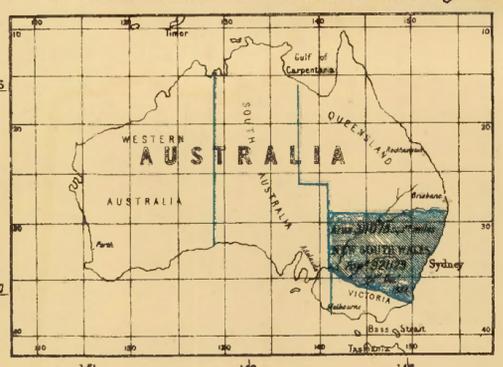
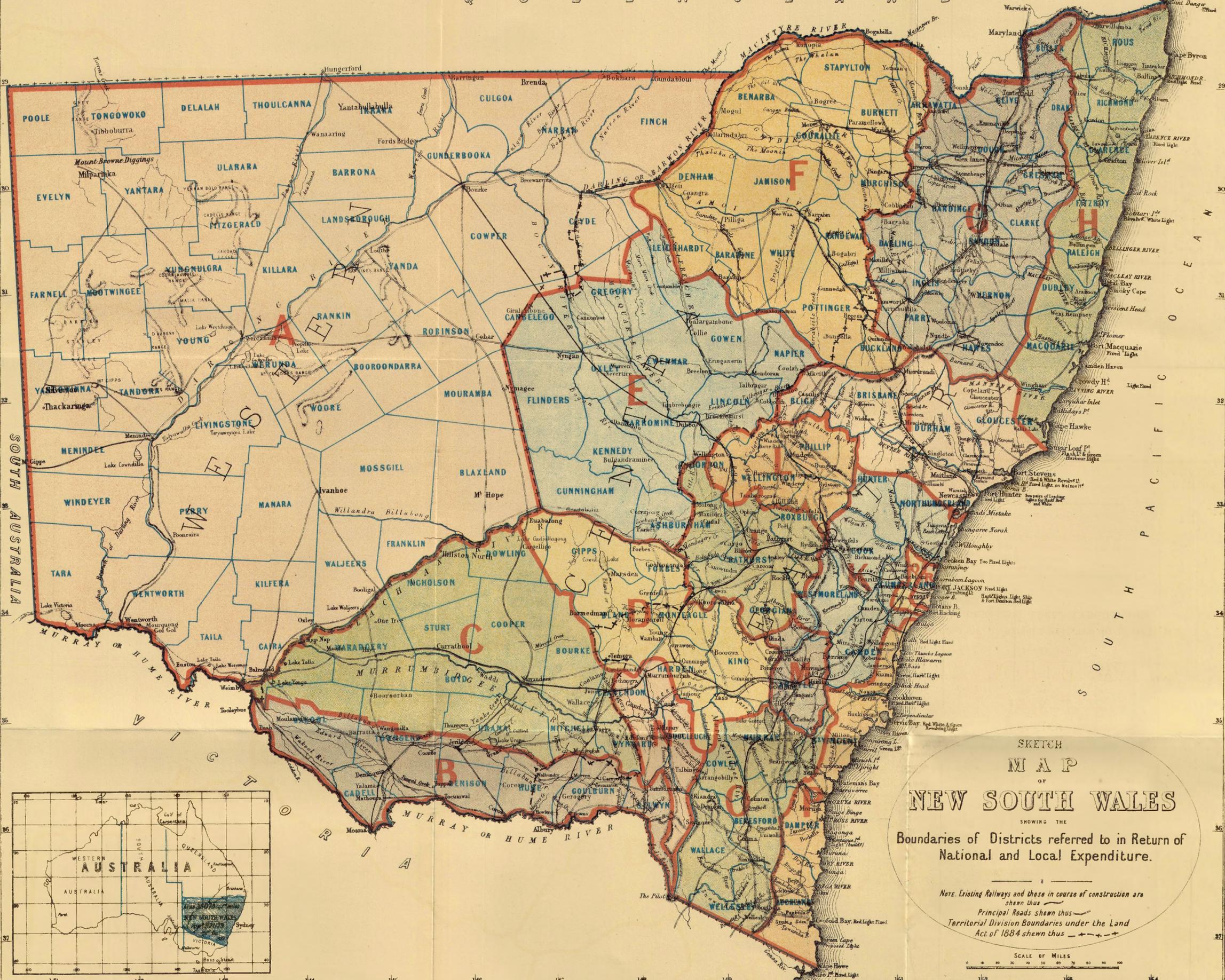
NOTE.—The Letters refer to the subdivisions shown on Map.

## AMOUNTS expended on Public Works but which have not been apportioned amongst the various Districts.

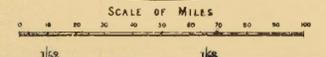
Not apportioned.				Not apportioned.			
Year.	National.	Local.	Total.	Year.	National.	Local.	Total.
	£	£	£		£	£	£
1860 ... ..	3,622	5,173	8,795	1875 ... ..	112,961	118,833	231,844
1861 ... ..	53,740	5,862	61,602	1876 ... ..	115,443	85,089	200,532
1862 ... ..	38,500	41,264	79,764	1877 ... ..	175,822	88,823	264,645
1863 ... ..	2,439	4,819	7,258	1878 ... ..	207,791	80,393	288,184
1864 ... ..	893	11,721	12,614	1879 ... ..	221,868	102,759	324,627
1865 ... ..	67,873	6,631	74,504	1880 ... ..	243,721	99,620	343,341
1866 ... ..	12,228	4,563	16,791	1881 ... ..	211,274	102,442	313,716
1867 ... ..	23,763	6,165	29,928	1882 ... ..	277,351	74,472	351,823
1868 ... ..	24,354	15,312	39,666	1883 ... ..	359,011	99,486	458,497
1869 ... ..	16,061	14,295	30,356	1884 ... ..	411,208	170,921	582,129
1870 ... ..	73,509	9,813	83,322	1885 ... ..	390,285	151,018	541,303
1871 ... ..	78,743	8,900	87,643	1886 ... ..	288,740	138,306	427,046
1872 ... ..	54,196	12,201	66,397				
1873 ... ..	46,272	58,186	104,458	Total ... ..	3,610,256	1,593,206	5,203,462
1874 ... ..	96,588	76,089	172,677				

[1 Map.]

QUEENSLAND



SKETCH  
MAP  
OF  
**NEW SOUTH WALES**  
SHOWING THE  
Boundaries of Districts referred to in Return of  
National and Local Expenditure.  
Note. Existing Railways and those in course of construction are  
shown thus ———  
Principal Roads shown thus ———  
Territorial Division Boundaries under the Land  
Act of 1834 shown thus — + — + —



1887-8.

## NEW SOUTH WALES.

## NEW HEBRIDES.

(CORRESPONDENCE RESPECTING THE EVACUATION OF THE FRENCH MILITARY POSTS IN.)

Presented to Parliament by Command.

The Acting Agent-General to The Colonial Secretary.

Sir, 5 Westminster Chambers, Westminster, S.W., 9 May, 1888.

I have the honor to enclose herein, for your information, copy of a letter which I have received from the Colonial Office, transmitting copy of a communication from the Foreign Office, with its enclosure, containing the official announcement of the evacuation of the French Military posts in the New Hebrides.

C.O. to A.G.,  
5/5/88.  
F.O. to C.O.,  
23/4/88  
M. Jusserand to  
F.O., 19/4/88.

I have, &c.,  
DANIEL COOPER.

[Enclosure.]

Colonial Office to Agent-General.

Sir,

Downing-street, 5 May, 1888.

With reference to the letter from this Department, of the 31st of March, I am directed by Lord Knutsford to transmit to you, for your information, a copy of a letter from the Foreign Office, with its enclosure, containing the official announcement of the evacuation of the French military posts in the New Hebrides.

Despatches have been sent to the Governors of the Australasian Colonies containing similar information.

The Agent-General for New South Wales.

I am, &c.,  
EDWARD WINGFIELD.

[Sub-Enclosure.]

The Under Secretary of State, Foreign Office, to The Under Secretary of State, Colonial Office.

Sir,

Foreign Office, 23 April, 1888.

I am directed by the Secretary of State for Foreign Affairs to transmit herewith, to be laid before the Secretary of State for the Colonies, copy of a note from the French Chargé d'Affaires in this country, reporting the evacuation of the New Hebrides by the French troops.

I am, &c.,  
P. W. CURRIE.

The Under Secretary of State, Colonial Office.

M. le Marquis,

Ambassade de France, Londres, 19 Avril 1888.

Conformément aux termes de la Convention du 16 Novembre 1887 relative aux Nouvelles-Hébrides et aux Îles sous le vent de Tahiti, le premier de ces archipels a été évacué par les troupes françaises.

J'ai l'honneur de faire connaître à Votre Seigneurie que cette opération a été effectuée le 15 du mois dernier.

Veillez agréer, &c.,  
M. JUSSERAND.

M. le Marquis Salisbury, &amp;c., &amp;c.

[Translation.]

Mons. le Marquis,

Embassy of France, London, 19 April, 1888.

In conformity with the terms of the Convention of 16 November, 1887, relative to the New Hebrides and to the Islands to leeward of Tahiti, the first of these archipelagos has been evacuated by the French troops.

I have the honor to acquaint your Lordship that this operation was effected on the 15th of last month.

Accept, &c.,  
M. JUSSERAND.



1887-8.

## NEW SOUTH WALES.

# PATENTS LAW AMENDMENT ACT OF 1887.

(REGULATIONS.)

Presented to Parliament, pursuant to Act 51 Vic. No. 3, sec. 16.

Department of Justice,  
Sydney, 28th March, 1888.

## PATENTS OFFICE REGULATIONS.

HIS Excellency the Governor, with the advice of the Executive Council, has been pleased to make the following Regulations under the Act 51 Victoria No. 3, for carrying into effect the provisions of the Patents Act of New South Wales.

WILLIAM CLARKE.

### REGULATIONS OF THE NEW SOUTH WALES PATENTS OFFICE.

1. The Patents Office will be open to the public on every week-day from 10 a.m. to 3 p.m., except on Saturdays, when it will be open from 10 a.m. to noon.

2. All business with the Patents Office should be transacted in writing, and the action of the Office will be based exclusively on the written record. A personal appearance of the applicant or his representative is not required, unless specially called for by the Examiner.

3. All communications with the Patents Office should be addressed to

“THE EXAMINER OF PATENTS,  
PATENTS OFFICE,  
CHANCERY SQUARE,  
SYDNEY.”

4. The Office is forbidden to respond to enquiries as to the probability of a Certificate or Patent being granted for an alleged invention, when such enquiries are made in advance of an application for such Certificate or Patent; and also to enquiries founded upon vague descriptions, and propounded with a view to ascertain whether, or by whom, alleged improvements have been patented or provisionally protected.

5. Except as to questions connected with official practice and procedure, the Office undertakes no responsibility in regard to expounding the Patent Law; and, subject to the same exception, the officers of the Department are forbidden to give counsel to individuals.

6. In pursuance of the preceding regulation, every person must judge for himself of the propriety of making an application for a Patent or for Provisional Protection.

The records and models may be inspected by himself or his agents, but beyond this the Office can render him no assistance until his application comes regularly before it in the manner prescribed by law.

7. An application for a Patent or for Provisional Protection may be made by any person, whether resident in the Colony or not, provided that he claims to be either—

- (1) the author or designer of an invention;
- (2) the inventor's agent;
- (3) the inventor's assignee;
- (4) the introducer into the Colony of an invention new to the Colony;
- (5) the introducer as to one part of the invention, and the inventor as to the other part; or
- (6) the agent or assignee of any person claiming under any of the four preceding sub-sections.

8. Letters Patent and Certificates of Provisional Protection may also be applied for by trading associations or other corporate bodies; or joint application may be made—

- (1) by individuals;
- (2) by two or more corporate bodies; or
- (3) by an association of one or more corporate bodies with one or more individual applicants.

9. Applications may be made either personally or through a duly authorized agent. In any case of agency or assignment, proof thereof must be furnished to the satisfaction of the Examiner.

10. Interviews with the Examiner concerning applications or other matters pending before the Office may be had in the Examiner's room at such times within office hours as the Examiner may designate.

11. Applicants or their agents will be required to conduct their business with the Office with decorum and courtesy. Papers presented in violation of this requirement will be returned.

12. For gross misconduct the Examiner may refuse to recognise any person as a Patent Agent, either generally or in any particular case; but the reasons for such refusal must be duly recorded, and be subject to the approval of the Minister.

13. Letters Patent or a Certificate of Provisional Protection may be issued to any applicant who (though not the actual inventor, or his agent, or assignee) is the first introducer of an invention into the Colony of New South Wales, and notwithstanding that the invention has been the subject of a Patent elsewhere.

14. An applicant for a Patent or for a Certificate of Provisional Protection in terms of the preceding regulation, must state in his petition that he is the author or designer, by (or partly by, as the fact may be) virtue of a communication from abroad, of the invention in question, which he desires to introduce into the Colony of New South Wales, where it is at the date of application, to the best of his belief, neither made, sold, nor used.

15. Where the invention is partly communicated and partly original, the specification accompanying the application must explicitly discriminate between the part communicated to the applicant and the part invented by him.

16. Joint inventors are entitled to joint Provisional Protection and to a joint Patent; and neither inventor can make separate claim to either privilege.

17. Independent inventors of distinct improvements in the same article cannot ordinarily obtain a joint Patent or joint Provisional Protection for their separate inventions; but where the combination of their improvements appears to the Examiner to produce a single and beneficial result, the inventors may be permitted to unite their claims in an application for a joint Patent or for joint Provisional Protection.

18. The issue of Letters Patent (or their equivalent) by another Colony or country will not disable the inventor from obtaining either a Patent or Provisional Protection in New South Wales, unless—

- (1) the invention has been introduced into public use in New South Wales prior to the application to the Office; or unless
- (2) such invention has been wholly or in part anticipated in any Letters Patent or Certificate of Provisional Protection issued under the authority of regulation 13.

19. Applications for Letters Patent of the Colony of New South Wales must be made to the Examiner; and a complete application should comprise—

- (1) a receipt from the Colonial Treasurer of the payment, in connection therewith, of £5 sterling;
- (2) a petition addressed to the Governor in the form prescribed by law;
- (3) a copy of the specification and drawings attached to the petition; and
- (4) an accompanying letter, enumerating the name and number of the documents annexed.

20. A petition for Letters Patent, if from a single applicant, should indicate the petitioner's title to a Patent; as for example, whether he claims to be—

- (1) the author or designer of the invention;
- (2) the introducer;
- (3) the inventor's agent;
- (4) the inventor's assignee;
- (5) the introducer as to one part of the invention, and the inventor as to the other part; or,
- (6) the agent or assignee of any person claiming under any of the four preceding sub-sections.

21. Where the petition is from more than one applicant it should indicate how each derives his title to a Patent; as for example, whether the petitioners claim to be—

- (1) joint inventors;
- (2) joint introducers;
- (3) joint agents of the inventor;
- (4) joint assignees of the inventor;
- (5) joint introducers as to one part of the invention and joint inventors as to the other part;
- (6) joint agents or assignees of any person claiming under any of the preceding sub-sections 3, 4, or 5;
- (7) the association of the inventor with the assignee of an undivided part of the invention; or
- (8) the association of the inventor's assignee with the holder of a sub-assignment.

22. In addition to disclosing how each petitioner derives his right to apply for the Patent prayed for, the Petition must, as far as possible, observe, in its contents, the following plan of arrangement:—

- (1) The name in full, address, and occupation of each petitioner (or the nominal composition if a trading firm, or registered or legal title if a corporate body).
- (2) The address to which communications from the Patents Office, relative to the application, may be forwarded; and this (to obviate unnecessary delay) should be an address in New South Wales.
- (3) A recital of the payment (in connection with the application) of £5 to the Colonial Treasurer.
- (4) The title of the invention, which must distinctly and specifically indicate the nature and object of the invention.
- (5) A statement that the alleged invention has not been published, or publicly used, or offered for sale, within the Colony; or (if such be the fact) only under the authority of a Certificate of Provisional Protection then in force.
- (6) A statement that a detailed specification (in duplicate) of the invention is annexed to the petition, and (where drawings are necessary) that the specification is illustrated.
- (7) Such information as is within the applicant's knowledge as to whether the invention has been patented elsewhere or not; and if so patented, where, when, and by whom; and
- (8) A distinct prayer for the grant and issue to the petitioner of Letters Patent in protection of the alleged invention.

23. The complete specification must so explicitly reveal the details of the invention that any person, ordinarily proficient in the art or science to which the discovery most closely appertains, may be enabled, by aid of the information so afforded, to make, construct, compound, and use the invention therein described, without resorting to any invention or addition of his own.

24. The specification should observe the following order of arrangement:—

- (1) The preamble, giving the name and residence of the applicant and the title of the invention.
- (2) A summary of the object and nature of the invention.
- (3) A detailed description of the manner of constructing and using the alleged invention, together with a clear enunciation of any preferable method which the petitioner regards as calculated to ensure the fullest efficacy in the application of his discovery.

- (4.) A concise description of the drawings, wherever drawings are either necessary or advantageous to the elucidation of the specification.
- (5.) A claim or claims; and these must not exceed six in number, unless the Examiner certifies in writing that, in his opinion, a greater number is necessary to the adequate protection of the invention from infringement.
- (6.) Signature of applicant or agent (or seal of corporate body).
- (7.) Signature of one witness.

25. A specification of mere improvements should particularly indicate the part or parts to which the improvements relate, and should discriminate between what is old and what is claimed as an improvement. In such cases the descriptions, drawings, and claims should be confined to the specific improvements and such parts as necessarily co-operate with them.

26. A specification must not include a claim to two or more distinct inventions, unless they mutually contribute to produce a single and beneficial result.

27. In a specification containing several independent inventions, the petitioner will be required to limit the description and claims of the pending application to whichever invention he may elect; and the other inventions may then be made the subjects of separate applications bearing even date with the day of the deposit of the original petition therein.

28. Specifications must be either printed, or else written in a fair legible hand on but one side of the paper; and no interlineations or erasures should be made. A wide margin should (except as to drawings) always be reserved on the left-hand side of the page, and all documents should be of foolscap size.

29. The following directions should also be observed in regard to drawings forwarded to the Patents Office in connection with applications for Letters Patent:—

- (1.) One copy of the drawings should be made upon stout, white, smooth-surfaced drawing paper, parchment, or tracing cloth, 13 inches by 8 inches, or 13 inches by 16 inches, with an inch margin all round.
- (2.) The drawings should be of black Indian ink, and any shading should be by lines clearly and distinctly drawn, and as open as is consistent with the required effect.
- (3.) Section lines should not be too closely drawn.
- (4.) All letters and figures of reference should be boldly and distinctly marked, and should correspond with the letters and figures of reference quoted in the specification to which the drawings relate.

30. A working model should accompany a specification when the applicant regards it as necessary either to show the precise operation of the machine, or to facilitate the examination of the specification; and when a material forms an essential feature of a machine, the model should be constructed of that material.

31. Every model should have the name of the applicant firmly fixed thereon.

32. After examination of the specification to which it relates, the model may be either stored in a room in the Patents Office, where it will be open to public inspection within the prescribed office-hours, or, at the Examiner's discretion, it may be returned to the depositor.

33. When a composition is the subject-matter of the invention, the Examiner may require the applicant to furnish such sufficient specimens of the composition and its ingredients as to allow of full experimental examination. These specimens should be forwarded in glass bottles, properly arranged; but explosive or dangerous substances are not to be sent.

34. An application for a Certificate of Provisional Protection should (so far as is applicable to conformity with the Patents Acts of New South Wales) comply with the foregoing regulations regarding applications for Letters Patent. The following material alterations in the details of procedure should be observed by applicants, and the language of the several documents demanded by these regulations should be varied accordingly:—

- (1.) The fee to be paid to the Colonial Treasurer is £2 sterling.
- (2.) A provisional specification (not in duplicate, and giving only the outlines and such material points of the invention as show its nature and scope) should take the place of the complete specification required in an application for Letters Patent.

35. The specification accompanying an application for provisional protection will not be open at any time to public inspection, and will be destroyed at the expiration of one year from the date of deposit unless the Certificate to which it relates has been meanwhile superseded by the issue of Letters Patent.

36. A Petition to supersede a Certificate of Provisional Protection by the issue of Letters Patent for the same invention should be lodged not later than ten months from the date of the original petition for Provisional Protection, so as to allow of the issue of the Patent before the expiration of the period for which the Certificate endures; and such petition should allege the fact that the invention referred to is, at the date of application, the subject of Provisional Protection.

37. A Protest against the issue of a Patent or of a Certificate of Provisional Protection may be filed by any person whomsoever; but an inventor, who has assigned his interest wholly or in part, will not be permitted to lodge any document disparaging the merits of the invention to the prejudice of the interests of his assignee.

38. Any invention or improvement in the Arts or Manufactures may be made the subject-matter of a Patent or of Provisional Protection, unless such invention or improvement appears to be detrimental to public health, public welfare, morality, or the interest of the State. Scientific principles or theories cannot be patented, but the practical application of them to industrial ends may form the subject of a Patent.

39. Assignments of Certificates of Provisional Protection or of Letters Patent, and all licenses or assignments thereof, must be registered in the Patents Office within the following respective periods from the date of execution:—

Within the Colony.....	14 days.
From any of the Australasian Colonies...	30 ,,
Other places .....	90 ,,

Or such extended period as the Minister, on good cause being shown for the delay, may in any particular case approve.

40. The Examiner may, when the complicated character of an alleged invention appears in his judgment to require it, refer any application or protest to a competent Expert or Experts for investigation, comparison, and report; but such references to Experts shall in each case be submitted to the Minister for his approval.

41. Experts will be paid from the Consolidated Revenue such fees as the Minister may approve or fix, and in their reports to the Examiner the Experts should indicate the list of prior Patents with which they have compared the applications referred to them; and where the application is closely allied with a former invention, the Expert's report should differentiate between the two.

42. The Examiner's reports to the Minister should, where necessary, furnish such a synopsis of the law and merits of each application as will enable the Minister to clearly comprehend the essential features involved.

43. The scientific publications and general Patents Literature in the Library of the Patents Office will be available, at the discretion of the Office, for public perusal.

44. Whenever the Examiner reports to the Minister that an informality in any application does not materially affect the merits of such application or intentionally infringe the spirit of the Patent laws, the Minister may in writing direct the relaxation of such of the foregoing regulations as demonstrate and affirm the informality; and thereupon the application will be examined and dealt with as if no such informality existed.

45. The following will be the scale of fees payable to the Colonial Treasury through the Patents Office in connection with the proceedings herein stated:—

Filing a protest against the issue of Letters Patent or of a Certificate of Provisional Protection ... ..	£1 0 0
Registering an assignment of Letters Patent, or of a Certificate of Provisional Protection	0 10 0
Registering a license, or assignment thereof	0 7 6
A general search, <i>i.e.</i> , inspection of five or more Patents and the records thereof ... ..	0 5 0
Inspection of the Register, or of one Patent and the records thereof ... ..	0 1 0

A. G. TAYLOR,  
Examiner of Patents.

1887-8.

NEW SOUTH WALES.

## PATENTS OFFICE.

(REGULATIONS.)

Presented to Parliament, pursuant to Act 51 Vic. No. 3, sec. 16.

Department of Justice,  
Sydney, 21st December, 1887.

## PATENTS OFFICE REGULATIONS.

His Excellency the Governor, with the advice of the Executive Council, has been pleased to make the following Regulations under the Act 51 Victoria No. 3, for carrying into effect the provisions of the Patents Act of New South Wales.

WILLIAM CLARKE.

REGULATIONS OF THE NEW SOUTH WALES  
PATENTS OFFICE.

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- (2) the inventor's agent;
- (3) the inventor's assignee;
- (4) the introducer into the Colony of an invention new to the Colony;
- (5) the introducer as to one part of the invention, and the inventor as to the other part; or
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- (3) by an association of one or more corporate bodies with one or more individual applicants.

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- (1) the invention has been introduced into public use in New South Wales prior to the application to the Office; or unless
- (2) such invention has been wholly or in part anticipated in any Letters Patent or Certificate of Provisional Protection issued under the authority of regulation 13.

19. Applications for Letters Patent of the Colony of New South Wales must be made to the Examiner; and a complete application should comprise—

- (1) a receipt from the Colonial Treasurer of the payment, in connection therewith, of £5 sterling;
- (2) a petition addressed to the Governor in the form prescribed by law;
- (3) a copy of the specification and drawings attached to the petition; and
- (4) an accompanying letter, enumerating the name and number of the documents annexed.

20. A petition for Letters Patent, if from a single applicant, should indicate the petitioner's title to a Patent; as for example, whether he claims to be—

- (1) the author or designer of the invention;
- (2) the introducer;
- (3) the inventor's agent;
- (4) the inventor's assignee;
- (5) the introducer as to one part of the invention, and the inventor as to the other part; or,
- (6) the agent or assignee of any person claiming under any of the four preceding sub-sections.

21. Where the petition is from more than one applicant it should indicate how each derives his title to a Patent; as for example, whether the petitioners claim to be—

- (1) joint inventors;
- (2) joint introducers;
- (3) joint agents of the inventor;
- (4) joint assignees of the inventor;
- (5) joint introducers as to one part of the invention, and joint inventors as to the other part;
- (6) joint agents or assignees of any person claiming under any of the preceding sub-sections 3, 4, or 5;
- (7) the association of the inventor with the assignee of an undivided part of the invention; or
- (8) the association of the inventor's assignee with the holder of a sub-assignment.

22. In addition to disclosing how each petitioner derives his right to apply for the Patent prayed for, the Petition must, as far as possible, observe, in its contents, the following plan of arrangement:—

- (1) The name in full, address, and occupation of each petitioner (or the nominal composition if a trading firm, or registered or legal title if a corporate body).
- (2) The address to which communications from the Patents Office, relative to the application, may be forwarded; and this (to obviate unnecessary delay) should be an address in New South Wales.
- (3) A recital of the payment (in connection with the application) of £5 to the Colonial Treasurer.
- (4) The title of the invention, which must distinctly and specifically indicate the nature and object of the invention.
- (5) A statement that the alleged invention has not been published, or publicly used, or offered for sale, within the Colony; or (if such be the fact), only under the authority of a Certificate of Provisional Protection then in force.
- (6) A statement that a detailed specification (in duplicate) of the invention is annexed to the petition, and (where drawings are necessary) that the specification is illustrated.
- (7) Such information as is within the applicant's knowledge as to whether the invention has been patented elsewhere or not; and if so patented, where, when, and by whom; and
- (8) A distinct prayer for the grant and issue to the petitioner of Letters Patent in protection of the alleged invention.

23. The complete specification must so explicitly reveal the details of the invention that any person, ordinarily proficient in the art or science to which the discovery most closely appertains, may be enabled, by aid of the information so afforded, to make, construct, compound, and use the invention therein described, without resorting to any invention or addition of his own.

24. The specification should observe the following order of arrangement:—

- (1) The preamble, giving the name and residence of the applicant and the title of the invention.
- (2) A summary of the object and nature of the invention.
- (3) A detailed description of the manner of constructing and using the alleged invention, together with a clear enunciation of any preferable method which the petitioner regards as calculated to ensure the fullest efficacy in the application of his discovery.
- (4) A concise description of the drawings, wherever drawings are either necessary or advantageous to the elucidation of the specification.
- (5) A claim or claims; and these must not exceed six in number, unless the Examiner certifies in writing that, in his opinion, a greater number is necessary to the adequate protection of the invention from infringement.
- (6) Signature of applicant or agent (or seal of corporate body).
- (7) Signature of one witness.

25. A specification of more improvements should particularly indicate the part or parts to which the improvements relate, and should discriminate between what is old and what is claimed as an improvement. In such cases the descriptions, drawings, and claims should be confined to the specific improvements and such parts as necessarily co-operate with them.

26. A specification must not include a claim to two or more distinct inventions, unless they mutually contribute to produce a single and beneficial result.

27. In a specification containing several independent inventions, the petitioner will be required to limit the description and claims of the pending application to which-

over invention he may elect; and the other inventions may then be made the subjects of separate applications bearing even date with the day of the deposit of the original petition therein.

28. Specifications must be either printed, or else written in a fair legible hand on but one side of the paper; and no interlineations or erasures should be made. A wide margin should (except as to drawings) always be reserved on the left-hand side of the page, and all documents should be of foolscap size.

29. The following directions should also be observed in regard to drawings forwarded to the Patents Office in connection with applications for Letters Patent:—

- (1.) One copy of the drawings should be made upon stout, white, smooth-surfaced drawing paper, parchment, or tracing cloth, 18 inches by 8 inches, or 13 inches by 16 inches, with an inch margin all round.
- (2.) The drawings should be of black Indian ink, and any shading should be by lines clearly and distinctly drawn, and as open as is consistent with the required effect.
- (3.) Section lines should not be too closely drawn.
- (4.) All letters and figures of reference should be boldly and distinctly marked, and should correspond with the letters and figures of reference quoted in the specification to which the drawings relate.

30. A working model should accompany a specification when the applicant regards it as necessary either to show the precise operation of the machine, or to facilitate the examination of the specification; and when a material forms an essential feature of a machine, the model should be constructed of that material.

31. Every model should have the name of the applicant firmly fixed thereon.

32. After examination of the specification to which it relates, the model may be either stored in a room in the Patents Office, where it will be open to public inspection within the prescribed office-hours, or, at the Examiner's discretion, it may be returned to the depositor.

33. When a composition is the subject-matter of the invention, the Examiner may require the applicant to furnish such sufficient specimens of the composition and its ingredients as to allow of full experimental examination. These specimens should be forwarded in glass bottles, properly arranged; but explosive or dangerous substances are not to be sent.

34. An application for a Certificate of Provisional Protection should (so far as is applicable to conformity with the Patents Acts of New South Wales) comply with the foregoing regulations regarding applications for Letters Patent. The following material alterations in the details of procedure should be observed by applicants, and the language of the several documents demanded by these regulations should be varied accordingly:—

- (1.) The fee to be paid to the Colonial Treasurer is £2 sterling.
- (2.) A provisional specification (not in duplicate, and giving only the outlines and such material points of the invention as show its nature and scope) should take the place of the complete specification required in an application for Letters Patent.

35. The specification accompanying an application for provisional protection will not be open at any time to public inspection, and will be destroyed at the expiration of one year from the date of deposit unless the Certificate to which it relates has been meanwhile superseded by the issue of Letters Patent.

36. A Petition to supersede a Certificate of Provisional Protection by the issue of Letters Patent for the same invention should be lodged not later than ten months from the date of the original petition for Pro-

visional Protection, so as to allow of the issue of the Patent before the expiration of the period for which the Certificate endures; and such petition should allege the fact that the invention referred to is, at the date of application, the subject of Provisional Protection.

37. A Protest against the issue of a Patent or of a Certificate of Provisional Protection may be filed by any person whomsoever; but an inventor, who has assigned his interest wholly or in part, will not be permitted to lodge any document disparaging the merits of the invention to the prejudice of the interests of his assignee.

38. Any invention or improvement in the Arts or Manufactures may be made the subject-matter of a Patent or of Provisional Protection, unless such invention or improvement appears to be detrimental to public health, public welfare, morality, or the interest of the State. Scientific principles or theories cannot be patented, but the practical application of them to industrial ends may form the subject of a Patent.

39. Assignments of Certificates of Provisional Protection or of Letters Patent, and all licenses or assignments thereof, must be registered in the Patents Office within the following respective periods from the date of execution:—

Within the Colony .....	14 days.
From any of the Australasian Colonies ...	30 „
Other places .....	90 „

Or such extended period as the Minister, on good cause being shown for the delay, may in any particular case approve.

40. The Examiner may, when the complicated character of an alleged invention appears in his judgment to require it, refer any application or protest to a competent Expert or Experts for investigation, comparison, and report; but such references to Experts shall in each case be submitted to the Minister for his approval.

41. Experts will be paid from the Consolidated Revenue such fees as the Minister may approve or fix, and in their reports to the Examiner the Experts should indicate the list of prior Patents with which they have compared the applications referred to them; and where the application is closely allied with a former invention, the Expert's report should differentiate between the two.

42. The Examiner's reports to the Minister should, where necessary, furnish such a synopsis of the law and merits of each application as will enable the Minister to clearly comprehend the essential features involved.

43. The scientific publications and general Patents Literature in the Library of the Patents Office will be available, at the discretion of the Office, for public perusal.

44. Whenever the Examiner reports to the Minister that an informality in any application does not materially affect the merits of such application or intentionally infringe the spirit of the Patent laws, the Minister may in writing direct the relaxation of such of the foregoing regulations as demonstrate and affirm the informality; and thereupon the application will be examined and dealt with as if no such informality existed.

45. The following will be the scale of fees payable to the Colonial Treasury through the Patents Office in connection with the proceedings herein stated:—

Filing a protest against the issue of Letters Patent or of a Certificate of Provisional Protection ... ..	£1	0	0
Registering an assignment of Letters Patent, or of a Certificate of Provisional Protection	0	10	0
Registering a license, or assignment thereof	0	7	6
A general search, <i>i.e.</i> , inspection of five or more Patents and the records thereof	0	5	0
Inspection of the Register, or of one Patent and the records thereof	0	1	0

A. G. TAYLOR,  
Examiner of Patents.



1887.

(THIRD SESSION.)

LEGISLATIVE ASSEMBLY.  
NEW SOUTH WALES.

**PREMISES RENTED BY THE GOVERNMENT.**  
(RETURN OF.)

*Ordered by the Legislative Assembly to be printed, 29 November, 1887.*

FURTHER RETURN to an *Order* made by the Honorable the Legislative Assembly of New South Wales, dated 22nd March, 1887, That there be laid upon the Table of this House,—

“ A Return showing the number of houses rented by the various Ministerial Departments, showing the rent paid for each house, with the landlord's name in each case, and total rental paid by all the Departments, and the period for which each has been rented.”

(Mr. McElhone.)

COLONIAL SECRETARY'S DEPARTMENT.  
DEPARTMENT OF AUDIT.

Houses Rented.	Rental paid for each.	Name of Landlord.	Period for which each has been rented.
36 Castlereagh-street .....	£400 per annum ...	W. H. Paling .....	To 30th April, 1887.
50 Castlereagh-street (4 rooms) .....	150 „ ...	E. Fitzgerald Evans .....	To 31st August, 1887.
15 and 17 Bligh-street .....	1,000 „ ...	R. Wynne.....	To 28th February, 1892.

GOVERNMENT ASYLUMS FOR INFIRM AND DESTITUTE.

407, Pitt-street, Sydney (office of the Manager of Government Asylums.)	£180 per annum ...	H. S. S. Bond .....	5 years.
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MEDICAL ADVISER TO THE GOVERNMENT.

108, Phillip-street, used as an office and residence for the Government Medical Officer and Vaccinator for Sydney	£200 per annum ...	Richard Hill, M.L.C.....	For one year.
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CIVIL SERVICE BOARD.

50, Phillip-street .....	£250 .....	Mrs. Want (F. T. Humphrey as trustee).	Three years from 1st Jan., 1885
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CITY OF SYDNEY IMPROVEMENT BOARD.

2 rooms in a house situated at No. 35, Castlereagh-street, Sydney.	For the two rooms, £110 per annum.	Messrs. A. J. Herald and E. O'Farrell.	2 years and 5 months from 1st July, 1886.
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STATISTICIAN.

74, Bridge-street, Lady Young's Terrace	£268 per annum ...	Trustees in the estate of the late J. Browne.	Quarterly.
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[505 copies—Approximate Cost of Printing (labour and material), £8 11s. 3d.]

COLONIAL SECRETARY'S DEPARTMENT—*continued.*

Houses rented.	Rental paid for each.	Name of Landlord.	Period for which each has been rented.
<b>INSPECTOR OF PUBLIC CHARITIES.</b>			
No. 142, Phillip-street .....	£250 .....	R. Carter .....	Five years.
<b>FISHERIES.</b>			
No. 114, Phillip-street, in conjunction with Aborigines Protection Society.	£104 per annum ...	Hon. Richard Hill .....	Not rented for any stated period.
<b>ABORIGINES PROTECTORATE.</b>			
Part of house, 114, Henrietta Terrace, Phillip-street.	£58 .....	The Hon. R. Hill, M.L.C.....	Yearly.
<b>MILITARY.</b>			
No. 94A, Phillip-street .....	£800 .....	Scottish-Australian Investment Company.	Three years from 1 May, 1885.
Store, Berry's Bay.....	£500 .....	D. Berry .....	Annual.

## POLICE DEPARTMENT.

Station.	Premises rented.	Rental.		Landlord.	Period for which each has been rented.
		Per Annum.	Per Week.		
North Shore .....	Cottage and stable for Sub-Inspector Cotter.	£ 60	s. d. ...	Miss Marteno .....	Since 25 July, 1882
Sydney .....	Dwelling-house for Sub-Inspector Atwill.	110	...	Mr. Flavell.....	1 Oct., 1886
Newtown .....	Dwelling-house for Sub-Inspector Larkins.	.. 22	6	Mary J. Herlihy .....	17 Nov., 1884
Kogarah .....	Dwelling-house and stable for Senior-Constable McCole.	...	12 0	Jas. W. Wilkes .....	1 July, 1884
Broadwater.....	Police Station .....	26	..	Henry Cook .....	1 Dec., 1882
Brushgrove .....	do .....	...	8 0	Chas. Saddler .....	18 May, 1883
Chatsworth.....	do .....	...	8 0	John Read .....	3 June, 1886
Coraki .....	do .....	...	12 0	G. Parker .....	12 Nov., 1881
Palmer's Island .....	do .....	...	10 0	Alexr. Ross .....	8 June, 1882
Wardell .....	Police Station and court room .....	52	...	Ernest Carter .....	14 April, 1881
Animbo .....	Barrack, stable, &c.....	25	...	Maurice Harnett.....	1 Oct., 1885
Bowring .....	Constable's quarters .....	...	8 0	Jas. F. Mote.....	6 April, 1887
Bungonia .....	Barrack, stable, &c.....	15	...	J. R. Styles .....	3 Jan., 1880
Bateman's Bay .....	do .....	30	...	Wm. Latta .....	16 Mar., 1880
Captain's Flat.....	do .....	...	12 0	Geo. Osborne .....	8 Sept., 1886
Colombo .....	do .....	...	20 0	Wm. Flanagan.....	7 Mar., 1887
Dalton .....	do .....	...	10 0	R. Dowling .....	Jan., 1881
Eden .....	Barrack.....	40	...	Margaret Murray .....	1 April, 1886
Frogmore .....	Barrack, stable, &c.....	...	12 6	Jno. Sheedy .....	1 July, 1882
Reid's Flat.....	do .....	20	...	Wm. Fogg .....	1 " 1886
Wolumla.....	Barrack, stable, &c.....	...	14 0	John Smith .....	15 Mar., 1884
Wyndham .....	do .....	...	12 0	F. Diversi .....	1 Dec., 1886
Wheeo .....	do .....	20	...	Mary Glennan .....	1 Sept., 1879
Prospect .....	Cottage .....	...	20 0	Margaret Creasey .....	11 Dec., 1882
Ryde .....	do .....	...	14 0	Hy. Hay .....	29 Jan., 1885
Hunter's Hill .....	do .....	...	12 0	E. S. Tribe .....	28 Sept., 1885
Katoomba .....	do .....	...	10 0	H. Edwards .....	4 Jan., 1887
Campbelltown .....	do .....	...	12 0	Jas. Waterworth.....	2 Feb., 1887
Bowral .....	do and cell .....	...	12 0	Augustus Neuch .....	13 " 1882
Robertson .....	do and stable .....	27	...	Wm. Akers .....	1 Nov., 1886
Clifton.....	do do .....	...	8 0	Chas. Stuart.....	8 Oct., 1883
Fig Tree .....	do .....	...	8 0	Jas. Maher .....	19 " 1886
Albion Park .....	do and stable .....	26	...	Wm. Douglas .....	1 " 1884
Kangaroo Valley .....	do do .....	25	...	J. Sullivan .....	5 Sept., 1883
Sofala .....	Police quarters .....	40	...	Bertha S. O'Hern .....	1 Jan., 1876
Hill End.....	do .....	...	20 0	Thos. Wythes .....	About 14 years
Mount Victoria .....	do .....	...	13 0	G. H. Rienitz .....	5 Aug., 1884
O'Connell .....	do .....	20	...	J. Black .....	About 14 years
Dubbo .....	do .....	60	...	J. Samuels, jun. ....	1 April, 1867
Do .....	Lock-up .....	...	15 0	E. Davies .....	14 May, 1885
Collie .....	Police quarters .....	...	20 0	A. J. Flood .....	1 July, 1886
Neveritire .....	do .....	40	...	Thos. Chapman .....	1 Oct., 1886
Tomingley .....	do .....	...	5 0	Thos. Wythes .....	1 April, 1885
Meranburn .....	do .....	15	...	Wm. Williams .....	16 Sept., 1885
Goolagong .....	do .....	40	...	J. Plumb .....	1 Jan., 1883
Kempsey .....	Officer's quarters .....	60	...	Jno. Lawson .....	1 " 1884
Maitland West .....	Sub-Inspector's quarters .....	52	...	Francis Bartlett .....	1 April, 1885
Newcastle .....	do .....	100	...	Dr. Harris .....	1 July, 1884
Miami .....	Police station .....	...	10 0	J. and A. Brown .....	10 July, 1879
Lambton .....	do .....	...	12 0	Jno. Sheedy .....	1 Jan., 1881
Charlestown .....	do .....	...	4 0	Waratah Coal Company..	21 July, 1882

## COLONIAL SECRETARY'S DEPARTMENT—continued.

## Police Department—continued.

Station.	Premises rented.	Rental.		Landlord.	Period for which each has been rented.
		Per Annum.	Per Week.		
		£	s. d.		Since
Adamstown	Police station	25	8 0	Mary Love	20 Aug., 1885
Frederickton	do	20	...	Ed. Debenham	1 July, 1883
Coopernook	do	31	...	Wm. Newton	17 Sept., 1883
Fernmount	do	26	...	Geo. Tyson	1 Aug., 1884
Bowra	do	25	...	W. T. Sullivan	1 May, 1885
Bilalong	do	25	...	Wm. Snape	24 Jan., 1884
Tea Gardens	do	25	...	Chas. Hagen	4 Aug., 1884
Ballast Pit	do	20	0	Amos Bros.	July, 1886
Tamworth, West	Barracks	12	0	J. R. Thomson	28 Feb., 1883
Meroe	do	15	...	P. C. Watt	Oct. 1876
Warialda	Barracks and stables	17	0	Alfred Hoy	1 Nov. 1885
Narrabri, West	Barracks	12	0	E. H. Wall	1 Jan., 1886
Meroe	do	8	0	W. Thomson	24 Nov., 1885
Collarendabri	Barracks and court room	80	...	Wm. Reed	4 Sept., 1882
Grawin	Police barracks	20	...	R. Chase	1 July, 1883
Tatalla	do	35	...	W. L. Taylor	25 Oct., 1883
Curranyalpa	do	25	...	G. & H. Sutton	1 Jan., 1883
Louth	do	46/16	...	Bank of New South Wales, Bourke.	12 July, 1877
Girilambone	do	10	0	T. L. Richardson	24 Oct., 1886
Bourke	Superintendent's quarters	130	...	Alex. O. Grant	10 Nov., 1886
Bringonia	Police barracks	20	0	Robt. Kerrigan	1 July, 1886
Carinda	do	30	...	Tom Higgings	1 April, 1887
Mathoura	Barracks, court room, and lock-up	50	...	W. R. Virgoe	26 " 1886
Tocumwal	Barracks and lock-up	52	...	E. Hillson	24 Oct., 1873
Hay	Sub-inspector's quarters	25	0	Wilkinson & Lavender	14 " 1884
Whitton	Police barracks	40	...	Joseph Kelly	23 July, 1885
Euabalong	Barracks and lock-up	30	...	Amelia McLean	23 May, 1876
Hatfield	Police quarters	10	0	Barry & Muir	16 Oct., 1886
Broken Hills	do	25	0	Walter Sully	23 April, 1886
Purnamoota	Police barracks and lock-up	25	0	Chas. Chapple	30 Mar., 1885
Albury	Superintendent's office	25	0	H. A. Allan	14 Feb., 1884
Do	Quarters at Bridge	10	0	Jas. Riley	1 April, 1883
Ournie	Police station	40	...	Cobb & Co.	1 Oct., 1883
Gundagai, South	Quarters	11	0	John Potter	12 April, 1886
Shepherdstown	Police station	7	0	Rose Gorman	1 Jan., 1874
Reedy Flat	do	18	...	Peter Bourke	1 July, 1878
Coolac	do	12	0	W. Hoare	1 June, 1884
Wagga Wagga	Quarters (North Wagga)	12	0	W. S. Eaton	21 April, 1883
Do	do (Newtown)	12	0	G. W. Cummins	1 Aug., 1882
Coolaman	Police station	15	0	Chas. Spiller	1 May, 1886
Tamberumba	Stables	35/	per month.	R. D. Matthews	15 April, 1887

Total amount of rental paid per annum, £3,383.

Total annual amount paid by the Colonial Secretary's Department, £7,653.

## POST OFFICE DEPARTMENT.

Office.	Landlord.	Tenancy.	From	Rent per Annum.
Adaminahy	S. Mackay	Yearly	8 April, 1880	£ 40 0 0
Angledool	Hatfield and Jacobs	3 years	13 July, 1886	31 4 0
Balmain	C. Chape	Quarterly	1 July, 1885	104 0 0
Barmedman	R. Cassin	Yearly	4 Aug., 1883	52 0 0
Baringun	T. Lees	3 years	6 May, 1885	78 0 0
Bendemeer	H. Fisher	Yearly	21 Oct., 1880	36 0 0
Berrima	Executors, late John Mills	Monthly	1 Jan., 1883	40 0 0
Boat Harbour	J. Redstone	Yearly	1 Nov., 1886	26 0 0
Botany	W. Pemberton	"	19 Aug., 1886	31 4 0
Bowral	H. Pain	Monthly	6 Oct., 1884	104 0 0
Broadwater	Colonial Sugar Refining Company	Yearly	2 Aug., 1886	13 0 0
Broken Hill	W. J. Cummings	Monthly	2 Aug., 1886	78 0 0
Brunswick	R. S. Marshall	3 years	19 Sep., 1885	36 8 0
Bulahdelah	J. Donaldson	Yearly	1 Oct., 1883	40 0 0
Bulli	G. S. Turnbull	"	25 Aug., 1879	24 0 0
Bungendore	D. Leahy	3 years	11 Oct., 1886	65 0 0
Burrangaw	Barrett Bros.	5 "	8 Mar., 1886	52 0 0
Cambewarra	S. Matthews	Yearly	1 Mar., 1885	15 0 0
Camperdown	P. Cullen	7 years	15 Jan., 1887	156 0 0
Canowindra	T. Glyburn	3 "	1 Dec., 1885	40 0 0
Chatsworth Island	U. Nettleton	Yearly	1 June, 1886	30 0 0
Clarence-st. (groom's residence)	A. J. Fowler	2 years	1 Jan., 1886	78 0 0
Clarence-st. (stablemen's residence)	V. Tompkins	3 "	1 Jan., 1886	208 0 0
Clifton	T. Hale	Yearly	18 Feb., 1881	33 0 0
Cobargo	P. Quinn	"	15 Sept., 1885	40 0 0

## POST OFFICE DEPARTMENT—continued.

Office.	Landlord.	Tenancy.	From	Rent per Annum.
				£ s. d.
Cobbora	J. Williams	Yearly	17 Nov., 1882	20 0 0
Copmanhurst	J. Phenister	3 years	7 July, 1885	28 0 0
Coraki	Parker Brothers	Yearly	1 July, 1884	31 4 0
Croki	R. Gibson	Quarterly	1 Jan., 1887	26 6 0
Crookwell	W. Clements	Yearly	1 " 1884	70 0 0
Cundletown	W. J. Smith	"	20 Oct., 1882	26 0 0
Darlington	F. Kaehler	"	10 July, 1885	104 0 0
Deepwater	R. Collins	"	1 Jan., 1884	26 0 0
Delegate	B. Witton	"	16 Oct., 1885	14 0 0
Denman	Mrs. Trevana	"	20 July, 1885	30 0 0
Eden	T. Rawlinson	2 years	14 " 1885	75 0 0
Exchange, The	Exchange Co.	5 "	20 April, 1886	100 0 0
Fermount	H. Bird	Yearly	11 Sept., 1883	26 0 0
Frederickton	E. Debenham	5 years	17 Jan., 1887	52 0 0
George-street West	Mrs. Ducker	1 to 7 years	1 July, 1881	130 0 0
Gilgandra	Hannah Morris	Yearly	26 Oct., 1883	45 10 0
Gladstone	C. Hibbard	3 years	11 " 1886	26 0 0
Gloucester	Mrs. M'Innes	5 "	21 Jan., 1884	52 0 0
Gresford	Messrs. Lindeman	Yearly	30 April, 1885	40 0 0
Gulgumbone	Polin and Kearney	"	1 Sept., 1883	40 0 0
Harwood Island	S. Macnaughton	"	22 May, 1886	36 8 0
Haymarket	Executors of late W. Watkins	10 years	1 Jan., 1887	300 0 0
Howlong	A. O. Boyle	Yearly	10 July, 1885	52 0 0
Hunter's Hill	J. Quirk	3 years	1 June, 1884	65 0 0
Ivanhoe	G. Williamson	Yearly	30 Aug., 1882	50 0 0
Katoomba	Mrs. Dunn	"	19 May, 1885	26 0 0
Kelso	J. E. Marsden	"	1 Jan., 1883	20 0 0
King-street	W. Day	10 years	3 Feb., 1878	*130 0 0
"	Trustees of late W. Holt	10 "	17 July, 1882	208 0 0
Kogarah	T. E. South	Monthly	22 Nov., 1886	26 0 0
Leichhardt	T. Heylan	1 year and thereafter monthly	1 Jan., 1887	65 0 0
Louth	Bank of New South Wales	Can vacate at any time.	1 Nov., 1880	50 0 0
Maclean	S. Macnaughton	3 years	1 Feb., 1884	60 0 0
Mamilla	S. Veness	Yearly	19 Mar., 1884	40 0 0
Marrickville	J. A. Davis	3 years	15 June, 1886	100 0 0
Marsden	M. N. Carter	Yearly	4 Mar., 1881	26 0 0
Merimbula	A. L. Munn	"	6 Sept., 1884	40 0 0
Michelago	A. Ryrie	"	1 Nov., 1885	30 0 0
Miller's Point	Mrs. Yard	Quarterly	14 April, 1887	156 0 0
Millie	J. Duff	5 years	22 " 1886	50 0 0
Minmi	A. Johnson	Yearly	16 Sept., 1885	39 0 0
Mitchell	Hudson Brothers	2 years	2 Dec., 1885	91 0 0
Mittagong	W. W. Coull	2 "	1 April, 1886	65 0 0
Moruya	W. Constable	Monthly	17 Jan., 1886	†35 0 0
"	J. McKeon	"	22 Aug., 1882	50 0 0
Moss Vale	Hon. A. Campbell	5 years	1 July, 1887	100 0 0
Mount Hope	Wilcomb & Fullarton	3 "	4 Oct., 1884	52 0 0
Mundooran	T. Diggs	Yearly	16 May, 1883	45 0 0
Mungindi	Mrs. Walker	"	1 Dec., 1882	35 0 0
Murrurundi	R. S. Sims	Quarterly	1 April, 1879	54 0 0
Murwillumbah	Colonial Sugar Co.	5 years	15 Dec., 1866	52 0 0
Nambucca	A. McKay	Yearly	9 Dec., 1884	24 0 0
Obley	A. J. S. Bank	Monthly	15 Mar., 1887	25 0 0
Oxford-street	J. M. Wright	5 years	15 July, 1883	290 0 0
Palmer's Island	A. Ross	Yearly	6 July, 1880	20 0 0
Pambula	Mary Behl	5 years	1 April, 1886	30 0 0
Park-street	T. Saywell	3 "	17 April, 1886	300 0 0
Peat's Ferry	A. McKeye	Special arrangement	4 Mar., 1887	15 0 0
Pelican Flat	R. F. Talbot	Yearly	1 Oct., 1883	20 16 0
Pictou	G. W. Webster	5 years	1 July, 1886	60 0 0
Pymont	F. Buckle	5 "	12 Aug., 1885	100 0 0
Randwick	Trustees of the late Captain Watson	3 "	18 Nov., 1884	90 0 0
Ryde	G. M. Pope	Yearly	1 Nov., 1884	30 0 0
St Leonards	J. White	"	1 Sept., 1886	65 0 0
St Peter's	A. McKechnie	2 years	1 July, 1886	56 0 0
Silverton	J. De Baun	3 "	1 Sept., 1885	104 0 0
South Woodburn	H. Dawson	2 "	1 Nov., 1886	45 0 0
Stables, York-street	G. Hill	Weekly	2 Sept., 1884	234 0 0
Stanmore Road	C. Zeitz	Yearly	30 June, 1886	104 0 0
Surry Hills	H. Lauder	"	27 Aug., 1883	190 0 0
Taralga	M. Tynan	Quarterly	1 July, 1883	45 0 0
Tathra	D. Gowing	Yearly	5 Nov., 1883	26 0 0
Terara	J. G. Pooley	5 years	1 April, 1886	50 0 0
Tingha	W. Litchfield	Yearly	19 Oct., 1881	52 0 0
Tinonee	Mrs. Gollan	"	5 June, 1880	26 0 0
Tuens	D. Bremner	"	1 Jan., 1882	30 0 0
Tumberumba	H. M. Langford	Quarterly	1 July, 1886	52 0 0
Wallerawang	J. Clatworthy	5 years	1 May, 1883	40 0 0
Wardell	E. Carter	Yearly	15 Aug., 1881	40 0 0
Waterloo	T. L. Fusedale	5 years	1 June, 1883	85 0 0
Waverley	J. Kinlock	Monthly	1 Dec., 1879	83 0 0
West Tamworth	C. W. Bedwell	3 years	15 Jan., 1885	39 0 0
Wickham	G. A. Phillips	Yearly	7 July, 1885	65 0 0
Wollmra	H. Fowler	5 years	26 Sept., 1884	35 0 0
Woolahra	W. Ford	Yearly	1 July, 1884	100 0 0
Woodburn	W. Gollan	3 years	22 Mar., 1885	30 0 0

Total Rent paid by Post Office Department.....£7,101 14 0

Number of premises rented.....111.

\* Sub-let at £132 12s. per annum.

† Rented as private dwelling for Postmaster.

## ELECTRIC TELEGRAPH DEPARTMENT.

Station.	Name of Landlord.	Rent.	Period for which each has been rented.
1. Appin .....	M. L. Armstrong .....	£26 per annum .....	No time stated—from 18 May, 1880.
2. Ballina .....	H. Bassman .....	£36 " .....	do do
3. Bodalla .....	J. Evans .....	£26 " .....	do do
4. Bateman's Bay .....	P. O'Hehir .....	£30 " .....	do do
5. Bell Brook .....	F. G. Panton .....	£35 " .....	do from 7 Jan., 1879.
6. Brushgrove .....	T. H. Foggo .....	£31 4s. " .....	do " 1 July, 1879.
7. Baradine .....	M. T. Kennedy .....	£40 " .....	do " 1 April, 1880.
8. Cudal .....	S. Landauer .....	£20 " .....	do " 1 Sept., 1880.
9. Cudgellico .....	W. Jones & Co. ....	£52 " .....	do " 20 June, 1881.
10. Bualalong .....	R. McLean .....	£40 " .....	do " 1 Nov., 1880.
11. Fordwich .....	J. Clark .....	£25 " .....	do " 22 Feb., 1882.
12. Gongolgon .....	A. P. Gunning .....	15/- per week .....	do " 1 April, 1881.
13. Greenwell Point .....	A. McLean .....	2/6 " .....	do " 1 Jan., 1882.
14. Marengo .....	W. West .....	£20 per annum .....	do " 1 Sept., 1880.
15. Mulwala .....	P. Dunne .....	£30 " .....	do " 6 Aug., 1881.
16. Mogil Mogil .....	B. Walker .....	£37 " .....	do " 5 Nov., 1881.
17. Mossiel .....	H. A. Laird .....	£52 " .....	do " 1 Jan., 1883.
18. Morangarell .....	J. G. Davidson .....	£26 " .....	do " 12 July, 1882.
19. Newton Boyd .....	A. Rogers .....	£13 " .....	do " 1 April, 1880.
20. Nelligen .....	P. J. Clinton .....	£20 " .....	do " 11 Nov., 1878.
21. Nundle .....	J. Flock .....	£28 " .....	12 months—from 1 Mar., 1882.
22. North Richmond .....	E. Winter .....	£15 " .....	No time stated—from 1 Sept., 1884.
23. Poocarie .....	C. Hammatt .....	£50 " .....	do " 1 Oct., 1878.
24. Pilliga .....	F. G. Dangar .....	£52 " .....	do " 1 April, 1878.
25. Smithtown .....	M. Thomson .....	£39 " .....	do do
26. Stores, Clarence-street .....	J. B. Rundle .....	£550 " .....	3 years—from 1 Jan., 1884.
27. " Kent-street .....	J. Pimmloch .....	£300 " .....	5 years—from 1 Sept., 1885.
28. Tabulam .....	C. H. Chauvel .....	10/- per week .....	No time stated—from 7 July, 1878.
29. Tocumwal .....	Trustees late D. Forsyth .....	£52 per annum .....	3 years—from 13 Mar., 1882.
30. Tumbulgum .....	A. Brown .....	10/- per week .....	No time stated—from 13 Oct., 1884.
31. Wagga Wagga .....	G. W. Commins .....	£80 per annum .....	do " 1 April, 1884.
32. Wiseman's Ferry .....	M. A. Black .....	£50 " .....	do do
33. Wee Waa .....	M. Thurlow .....	£40 " .....	do " 28 Dec., 1878.
34. Whecney Creek .....	F. McDonald .....	15/- per week .....	do " 18 July, 1884.
35. Yetman .....	W. Rainbow .....	£50 per annum .....	do " 1 Oct., 1878.

Total Rental paid by Electric Telegraph Department, £2,001 14s. per annum.

## DEPARTMENT OF MINES.

No. of houses rented.	Rent paid for each house.	Name of Landlord.	Total rent paid by Department.	Period for which each has been rented.
Three	Phillip-street, Sydney	Commercial Building and Investment Company (Limited). Mrs. E. Armstrong .....	£2,461 10s. per annum.	Ten years, from 1st July, 1883.
	Macquarie-street, Sydney.			Three years, from 13th September, 1884.
	George-street West, Sydney.			Weekly tenant.

## ATTORNEY-GENERAL'S DEPARTMENT.

TOTAL annual amount paid, £275.

RETURN of Premises rented, as a Branch Office, by the Clerk of the Peace.

Room No. 36, in Denman Chambers, Phillip-street.  
Rent, £75 per annum.  
Owner, Joshua Frey Josephson, Esquire.  
Tenancy, yearly.

RETURN of Premises rented by the Parliamentary Draftsman.

Two rooms in house, 127, Macquarie-street.  
Rent (including cleaning and fuel), £200 per annum.  
Owner, Michael Metcalfe.  
Tenancy, yearly.



1887.

(THIRD SESSION.)

LEGISLATIVE ASSEMBLY.

NEW SOUTH WALES.

**PRESBYTERIAN CEMETERY AT MACLEAN.**

(PETITION TO APPEAR BEFORE SELECT COMMITTEE—REV. WILLIAM BAIN.)

*Received by the Legislative Assembly, 8 November, 1887.*

To the Honorable the Speaker and Members of the Legislative Assembly of New South Wales, in Parliament assembled.

The Petition of the General Assembly of the Presbyterian Church of New South Wales,—

HUMBLY SHOWETH:—

That a Petition was received by your Honorable House on the eleventh day of May now last past, praying that your Honorable House would restore to the persons therein named the Presbyterian Cemetery, Maclean, as their legal rights, and reinstate them as Trustees.

That the said persons named in the Petition aforesaid were legally removed from their Trusteeship by your Petitioners.

And that your Petitioners have good grounds for opposing the granting of the prayer of the Petition aforesaid.

Your Petitioners therefore humbly pray that leave may be given to them to be represented by Counsel or Solicitor before the Select Committee appointed by your Honorable House in connection with the Petition aforesaid.

And your Petitioners, as in duty bound, will ever pray, &c.

WILLIAM BAIN,  
Moderator of the General Assembly of the  
Presbyterian Church of New South Wales.

Dated this 7th day of November, A.D. 1887.



1887-8.

LEGISLATIVE ASSEMBLY.

NEW SOUTH WALES.

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**PRODUCTION OF WINE.**

(PETITION FROM CERTAIN WINEGROWERS OF NEW SOUTH WALES.)

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*Received by the Legislative Assembly, 23 July, 1888.*


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To the Honorable the Members of the Legislative Assembly.

The Petition of the undersigned winegrowers of New South Wales,—

HUMBLY SHOWER:—

That the industry of the production of wine is one which requires a considerable investment of capital, and demands, in addition to constant trouble and care, the application of the highest branches of agricultural science.

That to the development of the industry has been devoted the entire capital and energy of your Petitioners and others with the result that many new fields of labour are opened, and a considerable addition made to the natural productive wealth of the country.

That your Petitioners, nevertheless, aver that the wine industry suffers several and many burdens, the removal of which they believe will materially assist the industry, and lead to the opening of new wine-producing areas, giving additional avenues for the profitable employment of capital and labour.

That the following provisions be embodied in an Act to amend that section of the present Licensing Act that deals with the sale of Australian wines. That there should be three distinct Licenses,—

First.—A wine-grower's license, authorizing the holder to sell wine in any quantities at his cellars or homestead, wherever situated, at an annual fee of £1, the definition of the words "wine-growers" to apply only to persons having not less than 5 acres of vines under cultivation, the same being cultivated for wine-making purposes.

Second.—A wine merchant's license, authorizing the holder to sell wines made from grapes grown within the Colony by wholesale and by retail, at an annual fee of £5 in respect of premises situate in the metropolis, and £3 for premises situate in country towns and districts.

Third.—A grocer's license, authorizing the holder to sell bottled wines in quantities of not more than six bottles of the same kind of wine at one time, and not to be consumed on the premises, at an annual fee of £3.

That provision be made for the removal of wine licenses.

For the reasons set forth in this Petition your Petitioners humbly pray that relief be given them from the burdens under which the wine-producing industry labours.

And, as in duty bound, your Petitioners will ever pray.

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[Here follow 52 signatures.]



1887.

(THIRD SESSION.)

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LEGISLATIVE ASSEMBLY.  
NEW SOUTH WALES.

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**PUBLIC WORKS BILL.**

(MESSAGE No 7)

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*Ordered by the Legislative Assembly to be printed, 10 November, 1887.*

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CARRINGTON,  
*Governor.*

*Message No. 7.*

In accordance with the provisions contained in the 54th section of the Constitution Act, the Governor recommends for the consideration of the Legislative Assembly the expediency of making provision to meet the requisite expenses in connection with a Bill to provide for the constitution of an authority to investigate and report upon proposals for Public Works submitted to Parliament, to make better provision for the acquisition of land for carrying out such works, and for other purposes in connection therewith.

*Government House, Sydney,*  
*9th November, 1887.*



1887-8.

## NEW SOUTH WALES.

**REAL PROPERTY ACT.**

(RETURNS UNDER, FOR 1887.)

Presented to Parliament by Command.

RETURN of the Number of Applications, with amount of Fees, &amp;c., under the Real Property Act, from 1st January to 31st December, 1887.

Months.	No. of Applications.	No. of Properties.	Area.						Fees.														
			Town and Suburban.			Country.			Value.		Assurance.	Com-missioners.	Certificates and other Dealings.	Total.									
			a.	r.	p.	a.	r.	p.	£	s.	d.	£	s.	d.	£	s.	d.	£	s.	d.			
January	14	20	14	2	21½	645	0	32	22,392	0	0	46	13	0	21	10	0	1,194	1	0	1,262	4	0
February	25	52	103	0	9	1,870	0	5½	55,882	0	0	116	8	5	48	15	0	1,420	9	0	1,585	12	5
March	26	37	53	2	21½	2,410	2	15½	47,853	0	0	99	13	11	49	10	0	1,669	2	4	1,818	6	3
April	35	51	58	1	1½	4,631	1	29½	72,097	0	0	150	4	1	67	0	0	1,482	6	8	1,699	10	9
May	22	45	21	1	4½	3,416	1	16	24,984	0	0	52	1	1	32	10	0	1,537	19	8	1,622	10	9
June	32	57	611	0	8½	115	3	8	113,778	0	0	237	0	9	66	0	0	1,509	19	8	1,813	0	5
July	37	80	226	2	33½	12,125	2	29½	141,552	0	0	294	18	0	73	5	0	1,639	8	4	2,007	11	4
August	30	57	69	3	21½	2,778	3	9	145,990	0	0	304	2	11	50	15	0	1,673	14	8	2,028	12	7
September	33	58	99	2	25½	4,565	3	27	233,196	0	0	485	16	7	61	0	0	1,658	9	8	2,205	6	3
October	31	37	176	3	4	6,784	2	30	116,959	0	0	243	13	6	68	10	0	1,659	17	8	1,972	1	2
November	28	52	108	2	6½	3,066	1	27	91,066	0	0	189	14	6	49	0	0	1,699	15	0	1,938	9	6
December	30	84	121	2	7½	3,242	1	13½	74,406	0	0	155	0	4	60	10	0	1,568	10	8	1,784	1	0
Totals	343	630	1,665	0	5½	45,653	1	3	1,140,155	0	0	2,375	7	1	648	5	0	18,713	14	4	21,737	6	5

The above Return is exclusive of seven applications which have been withdrawn.

E. G. WARD,  
Registrar-General.

RETURN of the Number of Crown Grants registered under the Real Property Act during the year ended 31st December, 1887.

Months.	No. of Grants.	Area						Total Area.	Value.	Assurance.						
		Town and Suburban.			Country.											
		a.	r.	p.	a.	r.	p.	£	s.	d.	£	s.	d.			
January	368	53	3	39	78,649	0	2	78,703	0	1	53,951	3	3	112	9	4
February	280	275	2	10	30,320	1	20	30,695	3	30	40,285	0	8	83	19	4
March	299	377	3	37	3,874	2	0	4,252	1	37	18,338	2	10	38	8	7
April	451	169	1	1½	26,814	1	32	26,983	2	33½	45,392	16	2	94	15	9
May	373	302	1	35½	29,060	3	32	29,363	1	27½	35,429	18	3	73	17	9
June	358	268	0	22	21,232	3	0	21,500	3	22	27,622	12	7	57	10	4
July	449	266	2	1½	36,392	3	28	36,659	1	29½	57,565	6	5	120	1	7
August	384	92	0	8½	42,451	1	31	42,543	1	34½	51,976	10	0	108	7	3
September	252	104	3	29½	20,381	0	23	20,486	0	11½	24,713	10	11	51	11	4
October	259	120	2	23½	8,617	0	8	8,737	2	31½	16,112	3	0	33	11	1
November	414	113	2	37½	50,267	0	6½	50,380	3	3½	57,447	3	9	119	16	2
December	468	273	3	33	32,168	2	3	32,442	1	36	41,826	10	2	87	7	0
Totals	4,350	2,419	0	31½	380,230	0	25½	382,649	1	17	470,660	18	0	981	15	6

NOTE.—Amount of consideration-money for Transfers under the Act for the year 1887 .. .. . £2,784,853 0 0  
Amount secured by Mortgage under the Act for the year 1887 .. .. . 6,030,665 0 0  
Total area under the Act at end of 1887—15,531,247 acres 3 roods 16 perches.  
Total declared value of land under the Act at end of 1887 .. .. . £26,983,789 15 0

Land Titles Office, Registrar-General's Department,  
Sydney, 30th June, 1888.E. G. WARD,  
Registrar-General.

## RETURN of Memorials registered under the Real Property Act, for the year ending 31st December, 1887.

Months.	Transfers.	Consideration of Transfers.	Mortgages.	Consideration of Mortgages.	Discharges.	Consideration of Discharges.	Transfers of Mortgage.	Foreclosures of Mortgage.	Encumbrances.	Consideration of Encumbrances.	Transfers of Encumbrance.	Leases.	Transfers of Lease.	Survendors of Lease.	Re-entry of Lease.	Caveat.	Withdrawal of Caveat.	Writs or Warrants.	Satisfaction of Writs or Warrants.	Notices of Death.	Notices of Marriage.	Notices of Resumption.	Vesting Orders.	Powers of Attorney.	Registered Proprietary (Official Assignee).	Transmissions by Indorsement.	Total.
		£		£		£																					
January .....	585	298,791	288	1,085,399	154	383,558	10	...	...	...	...	2	...	...	...	36	13	4	1	9	1	3	...	...	3	35	1,144
February .....	688	179,604	327	483,924	174	173,141	4	...	...	...	...	10	...	1	...	34	16	7	1	12	1	...	1	...	1	18	1,304
March .....	783	165,737	410	565,630	193	180,318	21	...	1	...	...	14	4	...	...	29	21	12	1	9	...	2	...	1	2	26	1,529
April .....	693	174,580	304	429,676	168	258,857	13	...	...	...	...	8	4	...	...	29	18	6	...	9	...	2	1	...	5	27	1,227
May .....	685	155,873	356	557,903	182	169,324	9	...	...	...	...	7	2	...	...	41	19	12	...	10	...	2	...	...	3	18	1,346
June .....	708	245,139	341	581,481	168	208,633	14	...	1	...	...	9	2	2	...	48	19	9	2	15	1	...	1	1	3	27	1,371
July .....	729	157,467	375	649,562	227	285,971	9	2	1	...	...	8	6	...	...	40	28	7	1	11	2	2	1	...	2	29	1,483
August .....	806	233,995	406	477,756	225	224,785	22	...	...	...	...	11	3	2	...	42	32	8	4	5	...	1	1	2	4	22	1,596
September .....	776	246,970	362	612,343	233	323,493	17	2	1	...	...	14	1	1	...	38	22	12	4	14	...	3	...	...	4	32	1,536
October .....	875	454,834	348	598,821	224	511,601	19	...	...	...	...	13	4	1	...	20	30	5	...	12	2	1	2	...	5	40	1,601
November .....	781	270,467	360	500,865	233	235,579	15	1	...	...	...	16	3	4	...	36	28	5	1	9	1	2	1	...	5	22	1,523
December .....	726	202,496	362	437,305	250	200,158	15	...	...	...	...	15	4	2	...	31	18	6	1	11	3	...	3	...	2	38	1,487
Totals .....	8,775	2,784,853	4,239	6,980,665	2,481	3,185,418	168	5	4	...	...	136	33	13	...	424	264	93	16	129	11	18	11	4	30	834	17,147

Note.—Total number of Indorsements .. 21,043  
Total number of New Certificates .. 6,822

Land Titles Office, Registrar-General's Department,  
Sydney, 30th June, 1888.

E. G. WARD,  
Registrar-General.

1887.

(THIRD SESSION.)

LEGISLATIVE ASSEMBLY.

NEW SOUTH WALES.

## ROOKWOOD AND WAVERLEY CEMETERIES.

(CHURCH OF ENGLAND CHAPLAINS TO, AND AMOUNTS PAID TO EACH, FOR THE YEARS 1886 AND 1887.)

*Ordered by the Legislative Assembly to be printed, 15 November, 1887.**[Laid upon the Table of the House in accordance with promise made in answer to Question No. 2 of 15 November, 1887.]*

## Church of England Cemetery, Rookwood.

AMOUNTS paid in 1886.

Names of Chaplains.	Amounts.
	£ s. d.
Rev. G. King ... ..	20 16 8
Rev. E. A. Colvin ... ..	187 10 0
Rev. T. Harrison ... ..	129 3 4
Rev. T. W. Unwin ... ..	83 6 8

AMOUNTS paid in 1887.

Names of Chaplains.	Amounts.
	£ s. d.
Rev. E. A. Colvin ... ..	208 6 8
Rev. T. W. Unwin ... ..	166 13 4

## Waverley Cemetery.

Chaplain—The Rev. Robert M'Keown.

Fees—1886, £94 17s. 6d.; 1887, £76 10s.

NOTE.—No exclusive right is given to the Rev. R. M'Keown to officiate. The friends of deceased persons may engage whom they please, and the minister officiating receives the fee paid by the friends of the deceased.



1887.

(THIRD SESSION.)

LEGISLATIVE ASSEMBLY.

NEW SOUTH WALES.

## STAMP DUTIES ACT.

(ALLEGED FRAUD UNDER.)

*Ordered by the Legislative Assembly to be printed, 23 November, 1887.*

RETURN to an *Order* of the Legislative Assembly, dated 4th October, 1887, That there be laid upon the Table of this House,—

“Copies of all the papers, correspondence, and telegrams in the recent alleged case of fraud under the Stamp Duties Act, in connection with certain land resumed for railway purposes at Queanbeyan.”

*(Mr. O'Sullivan.)*

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## STAMP DUTIES ACT.

## No. 1.

Notice of Lands taken for Railway Purposes by the Commissioner for Railways.  
Goulburn and Cooma Railway—From Goulburn to Cooma.

To John Bull,—

WHEREAS by an Act of Council, made and passed in the twenty-second year of the reign of Her Majesty Queen Victoria, intituled "An Act to make more effectual provision for the construction by the Government of Railways in the Colony of New South Wales and for the regulation of the same," the Commissioner for Railways in the said Colony is empowered to enter into and upon the lands and grounds of any person whomsoever, and to take and appropriate for the purposes in the said Act mentioned such parts thereof as may be necessary and proper for the laying out, making, and using any Railway and all other works, matters, and conveniences connected therewith: And whereas the Commissioner for Railways in the said Colony has under and by virtue of the powers given to him in and by the said Act of Council, taken as a portion of the land required for an extension of the Goulburn and Cooma Railway from Bungendore to Micalago, the land set out in the Schedule hereto annexed: You are therefore hereby required to take notice that the Commissioner for Railways has as aforesaid taken the said land set out in the said Schedule, and hereby demands from you the particulars of your title in such lands and of the claims made by you in respect thereof: That the said Schedule contains a true particular of the lands so taken, and that the Commissioner for Railways is willing to treat as to the compensation to be paid to all parties for the land taken and the damage sustained, or that may be sustained, by you by reason of the said Act of Council, and everything done by the Commissioner for Railways as thereunder.

In witness whereof, the Commissioner for Railways hath caused his common seal to be hereto affixed at Sydney, in the Colony aforesaid, this 20th day of January, A.D. 1886.

[L.S.]

C. A. GOODCHAP,  
Commissioner for Railways.

The common seal of the Commissioner for Railways was duly affixed hereto in presence of,—  
L. P. IREDALE.

Schedule referred to in the foregoing notice.

ALL that parcel of land situate in the parish of Queanbeyan in the county of Murray, containing by admeasurement 3 roods 8 perches, more or less, and more particularly described in the plan hereunto annexed or endorsed hereon, and therein coloured red, being the land referred to in the Book of Reference of the said line of railway as No. 79B.

## No. 2.

W. Price, Esq., to The Commissioner for Railways.

Sir,

Pitt-street, Sydney, 23 March, 1886.

With reference to your notice sent to John Bull on the 25th January last *re* resumption of land at Queanbeyan for railway purposes, and for which said land I am now the trustee,—

I have the honor to send herewith my statement of claim for damage done to said property in consequence of said resumption.

I claim the amount stated in the schedule of claim on the following grounds:—

The whole of the property of which the piece resumed forms part was subdivided and pegged out into a township last April, and the land now resumed will cut off the frontage to about 400 feet of the best building sites, the value of which I consider to be £800.

Access has been cut off from Mr. Tompsitt's property (the Oaks), the said property having been sold by us to him, and an agreement made between us that he should have free access to and from the said property, and the present resumption will compel us to leave another street (1 chain wide) through the estate to give such access.

The plans and surveys of the estate are at present useless, on account of new streets and alterations of allotments having to be made.

I also send herewith a plan of the estate, as subdivided by Mr. C. B. Dawson, licensed surveyor.

I have, &c.,

WILLIAM PRICE.

Land Valuer.—D.C.M'L., 23/3/86.

Report herewith.—J.B.T., 17/5/86.

[Enclosure.]

Goulburn-Cooma Railway—Extension from Goulburn to Cooma.

I HEREBY offer to accept from the Commissioner for Railways, as purchase money for the land (including buildings and fences erected thereon) of which I am the trustee delineated on the tracing plan attached to the notice of land taken, and numbered , which I hereby acknowledge to have received, containing acres roods and perches, more or less, and as compensation for damage by severance, by the railway, or otherwise caused by the execution of the railway works, as particularly set forth in the subjoined schedule of claim, the sum of £1,000, which sum I declare to be my full claim in respect of the matters aforesaid.

Dated this 23rd day of March, 1886.

WILLIAM PRICE,  
C/o H. Bull & Co., Sydney.

To the Commissioner for Railways, Sydney.

Schedule

Schedule of Claim.

Damage by severance or otherwise.....	£1,000
Total amount of claim .....	£1,000
	WILLIAM PRICE.

Land Valuer.—D.C.M'L., 23/3/86. Report herewith.—J.B.T., 17/5/86.

Government Railways—Land Claims Branch.

Report on M.P., No. 86/1,957.

Goulburn to Cooma Railway—Extension from Bungendore to Micaligo.

Particulars of claim :—Claimant and owner (trustee), Mr. Price; reference number, 79B; area taken, 3 roods 8 perches; amount of claim, £1,000.

REPORT.—This is extra land taken for station purposes at Queanbeyan. Mr. Price had a subdivision made, which included the land now taken, and a slight modification of the survey will be necessary, as shown on the accompanying tracing, the cost of which and some depreciation in the value of a few of the allotments is included in the valuation. Tracing herewith. Appendix B

3 roods 8 perches at £50 per acre .....	£ s. d.
Allegation of survey required .....	40 0 0
5 allotments damaged, 10 per cent. of value.....	5 10 0
Damage to Railway-street by alteration .....	11 5 0
Forced sale at 10 per cent. .....	25 0 0
	4 0 0
	85 15 0

J. B. THOMPSON,  
Railway Land Valuer, 17/5/86.

The Commissioner for Railways, Sydney.

Claim £1,000 valuation, £85 15s.—J.B.T., 17/5/86. Approved for Schedule.—CHAS. A. G. Land Valuer, B.C., 20/5/86. Scheduled.—J.B.T. (per A.B.), 25/5/86. Ex. Min., 86/25, 16/6/86.

Schedules herewith in quadruplicate of land claim for submission to the Executive Council—Bungendore to Micaligo—No. of minute paper 86-1,957—Price William.—J.B.T. (per A.B.), 25/5/86. For Governor and Ex. Council.—W.J.L., 29/5/86. Under Sec. Pub. Wks., B.C.

LIST of Land Claims on the Extension of the Goulburn and Cooma Railway, from Bungendore to Micaligo.

No. M.P.	Name of Claimant.	Description of Property taken.	Quantity of land required for Railway Purposes.	Amount of Original Claim.	Amount of Valuation by Land Valuator.	Amount recommended by Commissioner.
86-1,957	Price William .....	Building land .....	a. r. p. 0 3 8	£ s. d. 1,000 0 0	£ s. d. 85 15 0	£ s. d. 85 15 0

J.B.T. (per A.B.), 25/5/86.

No. 3.

Minute for the Executive Council.  
Schedule of Railway Land Claims.

Department of Public Works, Sydney, 2 June, 1886. THE Secretary for Public Works submits, for the approval of His Excellency the Governor and the Executive Council, schedule, as per margin, of claims for lands taken for Railway purposes, showing the amount of the original claim, the quantity of land taken, the valuation of the valuator, the sum recommended by the Commissioner for Railways, the amount of award of arbitration, and a column in blank for the insertion of the amount fixed by the Executive Council to be offered in each case, in terms of the Act 22 Victoria No. 19.

Goulburn and Cooma Railway.—Extension Bungendore to Micaligo. William Price, £85 15s.

WILLIAM JOHN LYNE.

The Executive Council advise that the amount recommended by the Commissioner for Railways, as set forth in schedule, be paid to the claimants mentioned, in full satisfaction of compensation for land taken and damage sustained by reason of the making of the Railway extension referred to.—A. C. BUDGE, Clerk of the Council. Min. 86/25, 8/6/86. Confirmed, 16/6/86. Approved.—CARRINGTON, 8/6/86. Offer made.—J.B. (per A.B.), 28/6/86.

No. 4.

The Commissioner for Railways to W. Price, Esq.

Department of Public Works, Railway Branch,  
Sydney, 28 June, 1886.

Sir,

With reference to your letter of the 23rd day of March, 1886, claiming as trustee the sum of £1,000 as compensation for loss of 3r. Sp. of land taken for the Goulburn and Cooma Railway, and damages occasioned thereby, I have the honor to inform you that the loss and damage has been subjected to competent valuation, and such valuation having been confirmed by His Excellency the Governor and Executive Council, I have to offer you the sum of £85 15s., in full satisfaction of all claims for the said loss and damage and all injuries of every nature which may be sustained by you by reason of the taking of the said land and of the railway works; and in case you should not accept the amount offered, I have to request that you will proceed as required by the Government Railways Act, 22 Victoria, No. 19, that the matter may be settled without delay. The

The offer is made subject to your producing a satisfactory title to the estate, or interest claimed by you in the land referred to. Should the above offer be accepted, I have to request that you will be good enough to transmit an abstract of your title to this office, in order that the Crown Solicitor may be instructed to prepare the necessary conveyance.

I have, &c.,  
CHAS. A. GOODCHAP,  
Commissioner for Railways.

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No. 5.

T. Ewing, Esq., M.P., to The Commissioner for Railways.

Sir,

I should be glad if you would cause action in this case to be expedited as much as possible.

7 September, 1886.  
Yours, &c.,  
THOS. EWING.

Land valuer.—D.C.M'L., 8/9/86.

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No. 6.

W. Price, Esq., to The Commissioner for Railways.

Sir,

Sydney, 7 September, 1886.

With reference to your letter of the 28th June, offering the amount of £85 15s. as compensation for resumption of 3 roods 8 perches of land, adjoining station at Qucanbeyan, we have the honor to submit to you, that the information upon which you based your award must have been incorrect, which a statement of the facts must make apparent. Your award values the land taken at about £50 per acre. We can demonstrate to your satisfaction, from our records of the transaction, that we gave £7,500 for somewhat over 80 acres of land, a price approaching to £100 per acre. This transaction, being for a large block, would reasonably cause the land to be sold more cheaply than if such an area as the one (3 roods 8 perches) under dispute were negotiated.

In addition, the land taken is a choice piece, almost immediately adjoining the station, and is indisputably more valuable than land further away. Under these circumstances the lowest price, at an ordinary sale, which we could put on the land is £500. You will, we think, see the equity of our claim.

In addition to the above, we will require to resurvey part of the land and alter our design. The design (as is apparent from plan) which we must now accept will not be so saleable as our original one. This will entail considerable expense and loss upon us.

We have no doubt, also, you will allow us the ordinary consideration for a forced sale.

We desire only a fair settlement of our claim; and hope you will offer us for this land (which we do not desire to sell under any circumstances in the shape it has taken) an amount which we feel we can accept.

We have, &c.,  
WILLM. PRICE,  
Trustee for Shareholders, 104, Pitt-street.

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No. 7.

Minute by Mr. Railway Land-Valuer Thompson to The Commissioner for Railways.

Railway Department, Land Valuator's Office,  
Sydney, 22 September, 1886.

MINUTE PAPER.

*Subject:* Application of Mr. W. Price for a reconsideration of an offer of compensation made to him for certain land on the extension from Bungendore to Micaligo.

THE only weighty reason given by Mr. Price for a reconsideration of the offer made to him with a view to its increase is his statement that he "can demonstrate to your satisfaction from his records of the transactions that he gave £7,500 for somewhat over 80 acres of land—a price approaching £100 per acre."

In order to verify this statement—of the strict accuracy of which I felt some doubt—I had had careful inquiries made, and regret to say that, as far as I can ascertain, the statement quoted above is an enormous exaggeration of the amount actually paid, which appears to have been only £2,000 for about 85 acres, or about £23 10s. per acre.

Under these circumstances I cannot recommend any increase in the amount offered, but in order to avert the endless correspondence and negotiations to which such claimants usually resort, Mr. Price might be requested to furnish proof of the correctness of his statement, upon which, should the proof be satisfactory, the offer made would be promptly reconsidered under the altered conditions, but that in the absence of such proof the offer already made will be adhered to.

J. B. THOMPSON,  
Railway Land Valuer.

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No. 8.

Minute by The Commissioner for Railways.

INFORM that I have reason to believe that he is mistaken in the statement he made that he gave nearly £100 per acre for the land; that if he will furnish proof of his having done so the claim will be reconsidered.

Cn.A.G., 24/9/86.

Informed, 28/9/86. Land valuer.—D.C.M'L., B.C., 28/9/86.

## No. 9.

The Commissioner for Railways to T. Ewing, Esq., M.P.

Sir,

Railway Branch, Sydney, 28 September, 1886.

Referring to your letter of the 7th instant, applying for a reconsideration of the offer made to Mr. Price for certain land taken for the extension, Bungendore to Michelago, in which it is stated that Mr. Price can prove from the records of his transactions that he gave £7,500 for somewhat over 80 acres of land, a price approaching £100 per acre, I have the honor to inform you that the matter has had attention, and I have reason to believe from reports made to me that Mr. Price is mistaken in the statement he makes, but if he will furnish proof of such a sum having been paid for the land in question the claim will be reconsidered.

I have, &amp;c.,

CHAS. A. GOODCHAP,

Commissioner for Railways,  
(Per D.V.)

## No. 10.

Certificate by Mr. W. Price.

Sydney, 28 September, 1887.

I HEREBY certify that the statement contained in my letter of 7th September, 1886, relative to the amount of purchase money for the land adjoining the railway station at Queanbeyan are correct in every particular.

WILLIAM PRICE.

## No. 11.

Minute by Mr. Railway Land-Surveyor Thompson to The Commissioner for Railways.

IN accordance with the Commissioner's letter of 28/9/86, Mr. Price has, as proof of the accuracy of his statement that he paid £7,500 for the land in question, handed in the annexed certificate. I have had inquiries made at the same time, and have ascertained that John Bull transferred the land to Wm. Price by a conveyance dated 4th May, 1885 (Reg. book 309, No. 906), for the consideration money of £2,000. Since the date of that conveyance Mr. Price has applied to bring the land under Torrens' Act, and upon his application made a statutory declaration that the land, containing about 93 acres, is not over the value of £2,000. I therefore submit that, in view of these transactions respecting the land, Mr. Price's certificate and statement cannot be accepted as sufficient or satisfactory proof of the alleged payment of £7,500 having been actually made by him.

J.B.T., 5/10/86.

[Enclosure.]

CERTIFICATE by Mr. W. Price.

Sydney, 28 September, 1886.

I HEREBY certify that the statements contained in my letter of September 7th, 1886, relative to the amount of purchase money for the land adjoining the railway station at Queanbeyan are correct in every particular.

WILLM. PRICE.

Witness--J. M. MARSH, J.P.

Inform offer cannot be increased.—CH.A.G., 9/10/86.

## No. 12.

The Commissioner for Railways to W. Price, Esq.

Sir,

Railway Branch, Sydney, 11 October, 1886.

With reference to your letter of the 7th ultimo, asking for reconsideration of an offer of compensation made to you for certain land on the Bungendore to Michelago extension, I have the honor to inform you that the matter has had attention, but, under the report of the land valuer, I am unable to sanction any increase in the offer made to you.

I have, &amp;c.,

CHAS. A. GOODCHAP,

Commissioner for Railways,  
(per D.V.)

## No. 13.

Minute by The Commissioner for Railways to Mr. Railway Land-Surveyor Thompson.

I HAVE seen Mr. Price, who has endeavoured to explain to me how it was that the declaration was made for £2,000 while the property had been purchased for £7,500.

CH.A.G., 4/4/87.

Mr. Thompson, for further report, B.C.

## No. 14.

## Minute by Mr. Railway Land-Surveyor Thompson to The Commissioner for Railways.

SHOULD the Commissioner admit—on the solemn assurance of Mr. Price—that the land in question cost £7,500, the valuation made accordingly would be as follows:—

	£	s.	d.
3 roods 8 perches, taken at £80 per acre ... ..	64	0	0
Alteration of survey ... ..	5	10	0
Allotments damaged, 10 per cent. of value ... ..	11	5	0
Damage to Railway-street ... ..	25	0	0
Forced sale at 10 per cent. ... ..	6	8	0
	£112	3	0

This is an advance of £26 8s. on the former valuation. The offer, if made, should be without prejudice.

J.B.T., 7/4/87.

## No. 15.

## Minute by The Commissioner for Railways to Mr. Railway Land-Surveyor Thompson.

WHAT would be the difference between what Mr. Price has paid under Stamp Act for property, the sworn value of which was £2,000, and now asserted to be £7,500?

CH.A.G., 15/4/87.

## No. 16.

## Minute by Mr. Railway Land-Surveyor Thompson to The Commissioner for Railways.

	£	s.	d.
STAMP duty on £2,000 ... ..	10	0	0
"      "      7,500 ... ..	37	10	0
Difference ... ..	£27	10	0

J.B.T., 18/4/87.

## No. 17.

## The Commissioner for Railways to The Secretary for Public Works.

It seems to me that we must accept the statement that the land cost £7,500, though declared, for purposes of stamp duty, to be worth only £2,000.

We shall have to pay for the small quantity we have taken £26 8s., in addition to the sum we have offered—in all. £112 3s.: but it is only right that the Commissioner for Stamps should be informed of the under charge for stamp duty purposes of the sum of £27 10s.

CH.A.G., 19/4/87.

For Minister's approval. Approved—J.L., 26/4/87. Land Valuer, B.C., 26-29/4/87.—A.R.

## No. 18.

## The Commissioner for Railways to The Commissioner of Stamps.

Sir,  
 Department of Railways, Sydney, 27 April, 1887.  
 I have the honor to inform you that a portion of land adjoining the Railway Station at Queanbeyan has been resumed for railway purposes from Mr. William Price (a trustee) of 104, Pitt-street. Upon his assurance that the land cost him £7,500, the offer of compensation made by the Department has been amended. I think it right, however, to advise you that for the purposes of stamp duty the land in question was declared to be worth only £2,000.

I have, &c.,  
 CHAS. A. GOODCHAP,  
 Commissioner for Railways.

## No. 19.

## The Commissioner of Stamps to The Commissioner for Railways.

WILL the Commissioner for Railways be pleased to state in whose estate Mr. Price is trustee?

Land Valuer, B.C., 5/5/87.—A.R. Mr. Rae, 10/5/87.—J.B.T. (pro A.B.)

W. HEMMING, 2/5/87, B.C.

## No. 20.

Minute by Mr. F. G. Rac to The Secretary of Railways.

THIS land is being brought under 'Torrens' Act in the name of William Price. The certificate of title has not yet been issued. The application number is 6,456, which is sufficient to identify it in the Land Titles Office. F.G.R., 10/5/87.

Secretary, B.C., 10/5/87. J.B.T. (*pro* A.B.)

## No. 21.

Minute by The Secretary of Railways to The Commissioner of Stamps.

THE Commissioner of Stamps.

A.R. (*pro* Comm.), B.C., 11/5/87.

## No. 22.

Minute by The Commissioner of Stamps to The Commissioner for Railways.

A CONVEYANCE of this property was stamped according to the consideration money expressed—£2,000—with a £10 stamp, not to W. Price as a trustee, but to him absolutely. I should be glad to learn if the consideration stated is not the true one. W. HEMMING, 13/5/87.

The Commissioner for Railways, B.C.

## No. 23.

Minute by The Secretary of Railways to Mr. Railway Land-Surveyor Thompson.

LAND Valuer.

A.R., B.C., 14/5/87.

## No. 24.

Minute by Mr. Railway Land-Surveyor Thompson to The Secretary of Railways.

I do not know anything of the consideration actually paid, except Mr. Price's assurance to the Commissioner that the amount was £7,500. J.B.T., 19/5/87.

Submitted, 25/5/87.—A.R.

## No. 25.

Minute by The Secretary of Railways to The Commissioner for Railways.

I do not know that we can tell Mr. Hemming anything more than we have already conveyed to him in this letter. A.R., 25/5/87.

## No. 26.

The Commissioner for Railways to The Secretary of Railways.

MR. PRICE admitted in my office, in the presence of Mr. Thompson, the land valuer, that the value of the land was understated, and if called upon he would pay the difference in stamp duty between a property valued at £2,000 and £7,500. Our valuation of the property was based upon the valuation declared when transfer was made. Mr. Price objected, and referred the Department to his books to show that the actual value of the land was £7,500. Please take this paper to Mr. Hemming, and explain the matter to him. CH.A.G., 25/5/87.

## No. 27.

The Secretary of Railways to Mr. O'Brien.

MR. O'BRIEN,—Please do this.

A.R., 26/5/87.

Done.—M.O'B., 26/5/87.

## No. 28.

Minute by Mr. Railway Land-Surveyor Thompson to The Commissioner for Railways.

ON the occasion referred to by the Commissioner, Mr. Price repeatedly asserted that the actual cost of the land was £7,500, although the value declared was only £2,000, for purposes of stamp duty. I beg to point out that in Mr. Price's letter to the Commissioner, of 7th September last, he states that "we can demonstrate to your satisfaction from our records of the transaction that we gave £7,500 for somewhat over 80 acres of land." And further, on 28th September last, Mr. Price furnished a certificate, signed before a Magistrate, as follows:—"The statements, contained in my letter of September 7th, 1886,"—quoted above—"relative to the amount of purchase money for the land adjoining the Railway Station, at Queanbeyan, are correct in every particular."

J.B.T., 26/5/87.

No. 29.

No. 29.

Minute by The Secretary of Railways to The Commissioner of Stamps.

COMMISSIONER for Stamps.

B.C., 26/5/87.

A. R.  
(Pro Commissioner).

No. 30.

Minute by The Commissioner of Stamps to The Commissioner for Railways.

Will the Commissioner for Railways please kindly forward all papers in connection therewith?

B.C., 30/5/87.

W. HEMMING.

No. 31.

Minute by The Secretary of Railways to The Commissioner of Stamps.

HEREWITH please make copies as early as possible.

B.C., 30/5/87.

A.R.  
(Pro Commissioner).

No. 32.

Minute by The Commissioner of Stamps to The Under Secretary for Finance and Trade.

LETTER and information herewith.

W. HEMMING.

The Under Secretary for Finance and Trade, B.C., 7/6/87.

[Enclosures.]

Registrar-General's Department, Land Titles Office, Sydney, 31 May, 1887.  
Application 6,456—Price.

Sir,

Pursuant to request I beg to forward herewith copy conveyance "Bull to Price," together with copy application.  
I have, &c.,

H. NEWCOMBE,  
Dep. Registrar-General.

The Commissioner for Stamp Duties.

(No. 12,273).

IMPRESSED STAMPS.

REQUIRED by Messrs. Bull & Bull, Temple Court, King-street, Sydney, duties' stamps of the following numbers and denominations:—

Numbers.	Denominations.	Amount.
1	Conveyance .....	£ s. d. 10 0 0
	Amount .....	£10 0 0

(Date)—21/5/85.

(Signature of Applicant)—A. J. MARSHALL.

ABSTRACT of instrument requiring to be stamped after execution.

Date of Instrument.	Nature of Instrument.	Names of Parties.	Consideration Money.
4/5/85	Conveyance .....	John Bull, William Price .....	£ s. d. 2,000 0 0

(Date of application)—21 May, 1885.

(Signature of Applicant)—A. J. MARSHALL.

New South Wales.

(No. 6,456 A.)

APPLICATION TO BRING LANDS UNDER THE PROVISIONS OF THE REAL PROPERTY ACT (26 VICTORIA No. 9).

CAUTION.—Applicants are reminded that by section 132 the penalties of perjury are attached to a false declaration concerning any matter or procedure under the Act, and that the utmost care is therefore necessary in framing (or reading over, if the form be filled up by an attorney) every particular statement herein.

It is further provided by section 117, that any applicant procuring a certificate through any fraud, error, omission, misrepresentation, or misdescription, will, notwithstanding the issue of such certificate, remain liable for damages to any person thereby prejudiced. And any person who fraudulently procures, assists in fraudulently procuring, or is privy to the fraudulently procurement of any Certificate of Title, is declared guilty of a misdemeanor, and liable to a penalty not exceeding £500, or imprisonment not exceeding 3 years; and any certificate thereby procured is rendered void as between all parties or privies to the fraud.

PER-SIMPLE.

## FEE-SIMPLE.

I, WILLIAM PRICE, of Sydney, in the Colony of New South Wales, merchant, do solemnly and sincerely declare that I am seized for an estate in fee-simple of all that piece or parcel of land situated in the parish of Queanbeyan, county of Murray, Colony of New South Wales, being part of R. Campbell's 1,040 acres, containing, by admeasurement, 93 acres and 37 perches, exclusive of area resumed for railway purposes, commencing at a point on the western side of the Queanbeyan River, 106 links north from the north-west corner of the Queanbeyan Town Reserve, and bounded thence on the east by a line bearing south 12 chains 50 links; thence on the south by other part of R. Campbell's 1,040 acres, being a fenced line bearing westerly in all 41 chains 71 links; thence on the west by other part of said 1,040 acres, being a fenced line bearing northerly in all 17 chains 36½ links to the Queanbeyan River; thence on the north by that river bearing easterly to the north-west corner of G. Tompsitt's property, known as "The Oaks;" thence again on the east by said property, being a fenced line bearing southerly 5 chains 52½ links; thence again on the north by said property, bearing easterly 3 chains 43 links; thence again on the west by said property, being a fenced line bearing northerly 9 chains 35½ links to the Queanbeyan River; thence on the north-west by that river, bearing north-easterly to the north-western corner of other property of the said G. Tompsitt; thence on the north-east by that property, bearing south-easterly 14 chains 46 links; thence again on the north-west by said property, bearing north-easterly 7 chains 6½ links to the Queanbeyan River; and thence again on the east by that river, bearing southerly to the point of commencement, which land (including all improvements) is of the value of £2,000 and no more, and is part of 1,040 acres, originally granted to Robert Campbell by Crown grant, under the hand of Major-General Sir Richard Bourke, Governor of the Colony, dated the 30th day of January, 1837. And I further declare, that I verily believe there does not exist any lease or agreement for lease of the said land, register purchase of land No. 1, page 42. Also that there does not exist any mortgage, lien, writ of execution, charge or encumbrance, will or settlement, or any deed or writing, contract, or dealing (other than such lease or tenancy as aforesaid) giving any right, claim, or interest in or to the said land, or any part thereof, to any other person than myself, and I further declare that there is no person in possession or occupation of the said lands adversely to my estate or interest therein, and that the owners and occupiers of adjacent lands are as follows:—On the north, G. Tompsitt, owner and occupier of two separate portions of 2 acres 2 roods and 18 perches, and 12 acres 1 rood 3 perches, respectively (the Queanbeyan River being the boundary in other parts) on the south and west. The executors of the late George Campbell owners and occupiers; and on the east the said land is bounded partly by the Queanbeyan River and partly by the Queanbeyan Town Reserve. And I further declare, that I was married to my present wife on the 5th day of March, 1855. And I further declare that the annexed Schedule, to which my signature is affixed, and which is to be taken as part of this declaration, contains a full and correct list of all settlements, deeds, documents, or instruments, maps, plans, and papers relating to the land comprised in this application, so far as I have any means of ascertaining the same, (distinguishing such as being in my possession or under my control, are herewith lodged, and indicating where or with whom, so far as known to me, any others thereof are deposited; also, that there does not exist any fact or circumstance whatever material to the Title which is not hereby fully and fairly disclosed to the utmost extent of my information and behalf, and that there is not, to my knowledge and belief, any action or suit pending affecting the said land, nor any person who has or claims any estate, right, title, or interest therein, or in any part thereof, otherwise than by virtue and to the extent of some lease or tenancy hereby fully disclosed. And I make this solemn declaration, conscientiously believing the same to be true.

Dated at Sydney, this tenth day of August, 1885.

Made and subscribed by the abovenamed William Price, this }  
tenth day of August, 1885, in the presence of,—  
ALEX. DEAN, J.P.

WILLM. PRICE.

To the Registrar-General,—

I, William Price, the above declarant, do hereby apply to have the land described in the above declaration brought under the provisions of the Real Property Act, and request you to issue the Certificate of Title in the name of myself.

Dated at Sydney, this 10th day of August, 1885.

Witness to signature,—

ALEX. DEAN, J.P.

WILLM. PRICE.

Schedule referred to—(to be signed by applicant.)

30th January, 1837—Attested copy grant to Robert Campbell of 1,040 acres, county Murray.

24th and 25th April, 1840—Conveyance, Robert Campbell to Charles Campbell of 100 acres, registered, 790 B.R.

12th and 13th August, 1841—Mortgage, Charles Campbell to the trustees and executors of the will of late William Cox, registered, 1,425 B.X.

11th November, 1870—Reconveyance, Alexander Gamaack to Charles Campbell, registered, No. 569, book 122.

28th August, 1877—Conveyance, the Honorable Charles Campbell to John Bull, registered, No. 252, book 179.

14th May, 1885—Conveyance, John Bull to William Price, registered, No. 936, book 309.

ALEX. DEAN, J.P.

WILLM. PRICE.

N.B.—Section 104 requires that the following certificate be signed by applicant or his solicitor, and renders liable any person falsely or negligently certifying, to a penalty of £50; also, to damages recoverable by parties injured.

I CERTIFY that the within application is correct for the purposes of the Real Property Act, and that I am the solicitor of the within named applicant.

SYDNEY JOHN BULL,

Temple Court, King-st., Sydney.

State to whom all correspondence relating to this application should be sent with address, as under, viz. :—Messrs. Bull and Bull, Solicitors, Temple Court, King-st., Sydney.

### No. 33.

The Commissioner of Stamps to The Commissioner for Railways.

Sir,

Stamp Office, Sydney, New South Wales, 6 June, 1887.

I do myself the honor to return herewith the papers obtained from you on the 30th ultimo respecting the application of Mr. William Price for compensation for land resumed at Queanbeyan for railway purposes.

Respecting this matter I may just state that I have prepared a report of the whole of the circumstances, which will be duly forwarded to the Under Secretary for Finance and Trade.

I have, &c.,

W. HEMMING,

Commissioner, Stamp Duties.

### No. 34.

The Commissioner of Stamps to The Under Secretary for Finance and Trade.

Sir,

Stamp Office, Sydney, New South Wales, 6 June, 1887.

I do myself the honor to forward the accompanying papers relating to the evasion of the provisions of the 9th section of the Stamp Duties Act, and to request you will be pleased to move the Honorable the Treasurer to instruct the Crown Law Officers to prosecute the parties informed against by the Commissioner for Railways for the evasion above referred to. This

This is a case of a most glaring nature, and it would produce a very beneficial effect if the penalties, viz., £50, were imposed on each of the parties concerned.

The statement of Mr. Price, the purchaser of the property, to the Commissioner for Railways, shows most conclusively that the consideration was falsely stated for the purposes of the stamp duty, and the signature to the conveyance by the vendor, Mr. John Bull, and the receipt expressing the amount of consideration money as being £2,000, and not £7,000 (whereby the Government is defrauded to the extent of £27 10s.), renders them both liable to forfeit £50.

The conveyance, Bull to Price, was prepared by Messrs. Bull & Bull, solicitors for the parties, whereby they are liable to forfeit £50 each.

It was executed by John Bull, in the presence of G. Tompsitt, whose address is not given.

The application to bring the land under the operation of the Land Titles Act is declared to be by the said William Price, and the value placed on the land is £2,000, and not £7,500. It is dated the 10th day of August, 1885.

The deed of conveyance, Bull to Price, is included in the schedule of deeds annexed to the application, which is also signed by the said William Price.

The application for bringing land under the provisions of the Real Property Act contains, among other things, the following caution:—"Caution—Applicants are reminded that by section 132, the penalties of perjury are attached to a false declaration concerning any matter of procedure under the Act, and that the utmost care is therefore necessary in framing (or reading over, if the form be filled up by an attorney) every particular statement herein. It is further provided by section 117, that any applicant procuring a certificate through any fraud, error, omission, misrepresentation, or misdescription will, notwithstanding the issue of such certificate, remain liable for damages to any person thereby prejudiced. And any person who fraudulently procures, assists in fraudulently procuring, or is privy to the fraudulent procurement of any certificate of title, is declared guilty of a misdemeanour, and liable to a penalty not exceeding £500, or imprisonment not exceeding three years; and any certificate thereby procured is rendered void as between all parties or privies to the fraud."

Notwithstanding the caution above set out, the said William Price made the declaration that the land, including all improvements, is of the value of £2,000, and no more."

The solicitor for the applicant, who indorsed the application in the following manner: "I certify that the within application is correct for the purposes of the Real Property Act, and that I am the solicitor of the within named applicant—SIDNEY JOHN BULL, Temple Court, King-street, Sydney," is also warned by the following caution, endorsed on the form of application in the following words:—"N.B.—Section 104 requires that the following certificate be signed by applicant or his solicitor, and renders liable any person falsely or negligently certifying to a penalty of £50; also, to damages recoverable by parties injured."

I informed the Registrar-General of the transaction by letter as follows:—

Stamp Office, Sydney, 28th May, 1887. Sir,—I am instructed by the Commissioner for Railways that an application has been made by William Price to bring certain land, situated at Queanbeyan, under the Real Property Act. The number of the application is 6,456. The consideration money expressed in the conveyance to William Price is £2,000, which is also the value placed upon the land for the purposes of the application. The Commissioner for Railways, however, in the matter of compensation for land resumed for railway purposes, elicited from Mr. Price that the consideration paid for the land was £7,500, and not £2,000, as stated, but that the latter amount was expressed for the purposes of stamp duty. As I am about to report the matter to the Honorable the Treasurer, I do myself the honor to request you will be pleased to furnish me, with as little delay as possible, with a copy of the conveyance, John Bull to William Price, and the application to bring the land under the Real Property Act as lodged.—I have, &c., W. HEMMING, Commissioner, Stamp Duties."

In reply to the above I obtained the copy of the conveyance and application forwarded herewith.

For the reasons before set forth I most respectfully beg to recommend that the several parties be prosecuted for direct evasion of the Stamp Act.

I have, &c.,

W. HEMMING,

Commissioner of Stamp Duties.

Forward to the Crown Solicitor for such action as he may think is called for in the public interests.—J.F.B., 9/6/87. The Crown Solicitor, B.C., 9/6/87.—J.T. (for U.S.)

### No. 35.

#### Conveyance, John Bull to William Price.

[£10 stamp, 21/5/85., J.]

THIS INDENTURE made the fourth day of May in the year of our Lord one thousand eight hundred and eighty-five between John Bull of Tarago in the Colony of New South Wales farmer and grazier (hereinafter called vendor) of the one part and William Price of Sydney in the said Colony warehouseman (hereinafter called purchaser) of the other part Whereas the said vendor has agreed with the said purchaser for the absolute sale to him of the land and hereditaments hereinafter described (except as hereinafter excepted) and intended to be hereby released and the inheritance thereof in fee-simple in possession at or for the price or sum of two thousand pounds Now this indenture witnesseth that in pursuance of the said agreement and in consideration of the sum of two thousand pounds in hand well and truly paid by the said purchaser to the said vendor at or immediately before the execution of these presents the receipt whereof is hereby acknowledged He the said vendor doth by these presents grant bargain sell alien release and convey unto the said purchaser and his heirs all that parcel of land containing by admeasurement one hundred acres more or less situated in the county of Murray in the said Colony bounded on the east by the village reserve and Queanbeyan River twenty-six and a half chains on the west by a line twenty-one and a quarter chains on the north by the Molonglo River and on the south by a line forty-four chains the said land being a portion of one thousand and forty acres granted by the Crown to Robert Campbell by grant dated the thirtieth day of January one thousand eight hundred and thirty-seven (excepting thereout all the land particularly described in the schedule hereunder written conveyed

conveyed by the said John Bull unto one George Tompsitt by indenture dated the twelfth day of March one thousand eight hundred and eighty-five registered number 161 book 306) Together with the messuages buildings way waters watercourses privileges and appurtenances whatsoever to the said parcel of land belonging or in anywise appertaining and all the estate right title interest claim and demand at law and in equity of him the said vendor therein or thereto to have and to hold the said piece or parcel of land hereditaments and premises with the appurtenances unto and to the use of the said purchaser his heirs and assigns for ever and the said vendor doth hereby for himself his heirs executors and administrators covenant with the said purchaser his heirs and assigns in manner following that is to say that notwithstanding any act matter or thing by the said vendor or any person claiming under him made or done to the contrary he the said vendor now hath in himself good right and absolute authority by these presents to grant and release the said hereditaments and premises and every part thereof with the appurtenances unto the said purchaser and his heirs to the use and in manner aforesaid And that it shall be lawful for the said purchaser his heirs and assigns at all times hereafter peaceably and quietly to enter upon hold occupy possess and enjoy the said hereditaments and premises and to receive and take the rents and profits thereof for his and their own use without any eviction interruption or denial by the said vendor or any person or persons claiming or to claim from under or in trust for him And the said hereditaments and premises are free from all charges and incumbrances whatsoever made or occasioned by the said vendor or any person claiming as aforesaid And also that the said vendor and his heirs and every person whomsoever legally claiming any estate or interest in the said hereditaments and premises through under or in trust for him or them will from time to time and at all times hereafter at the request and costs of the said purchaser his heirs or assigns execute and perfect every such lawful act deed or assurance in the law for more satisfactorily assuring the said hereditaments and premises and every part thereof to the uses and in manner aforesaid as by the said purchaser his heirs and assigns shall be devised or required In witness whereof the said parties to these presents have hereunto set their hands and seals the day and year first before written.

THE SCHEDULE REFERRED TO.

All that allotment or parcel of land in the Colony of New South Wales containing by admeasurement two acres two roods and twenty-two perches more or less situate in the parish of Queanbeyan county of Murray and being portion of one hundred acres of land known as "The Oaks" commencing at a point on the left bank of the Queanbeyan River and bounded thence on the east by a line bearing south thirty minutes east nine chains thirty-six links thence on the south by a line bearing south eighty-five degrees forty-eight minutes west three chains forty-three links thence on the west by a line bearing north four degrees eight minutes west five chains fifty-three links to the Queanbeyan River and thence by that river upwards to the point of commencement on which land is erected the messuage or dwelling-house known as "The Oaks" And also all that piece or parcel of land in the said Colony containing by admeasurement twelve acres and one rood more or less situated in the parish of Queanbeyan county of Murray and being portion of one hundred acres of land known as "The Oaks" commencing at a peg on the left bank of the Queanbeyan River near the tan pits drying ground and bounded thence by a line bearing south sixty-six degrees three minutes west seven chains seven links to a peg at corner of log fence thence by a line bearing north thirty-two degrees thirty minutes west fourteen chains forty-eight links to the Queanbeyan River thence by that river upwards to the point of commencement.

(L.S.) JOHN BULL.

Signed sealed and delivered by the said John Bull in the presence of,—  
G. TOMPSITT.

Received on the day and year first before written of and from the within named William Price the sum of £2,000 being the consideration money within expressed to be paid by him to me,—  
JOHN BULL.

Witness—GEORGE TOMPSITT.

Received into the Office for the Registration of Deeds &c. at Sydney this 22nd day of May A.D. 1885 at 20 minutes past 10 o'clock in the forenoon from Arthur James Marshall of Temple Court Sydney a true copy of the within deed verified by the said Arthur James Marshall and numbered 936 Book 309.

W. A. ABBOTT,  
Deputy Registrar-General.

[Indorsement.]

[Dated 4th day of May A.D. 1885—John Bull to William Price—(copy) Conveyance, Bull and Bull.]

No. 36.

The Crown Solicitor to W. Price, Esq.

Sir,

Crown Solicitor's Office, Sydney, 5 July, 1887.

I am directed by the Honorable the Attorney-General to inform you, with reference to a report which has been received from the Commissioner for Stamps, to the effect that you have made declarations or statements as to the consideration paid by you on the conveyance of land at Queanbeyan (a portion of which has been taken for railway purposes), which are not in accordance with the facts, that from statements made to the Attorney-General by the Honorable the Minister for Justice and the Honorable the Minister for Education as to this transaction, he is willing to give you an opportunity of explaining how the land above referred to came to be valued at £2,000 for the purposes of stamp duty, when it appears from your letter of date 7th September, 1886, that you and others gave £7,500 for the same, which statement is confirmed by your own declaration of September 23rd, 1886, in which that sum is spoken of as the purchase money.

You will, of course, distinctly understand that the Attorney-General will be at liberty to make what use he may think proper of your reply to this letter.

I am, &c.,

JOHN WILLIAMS,  
Crown Solicitor.

No. 37.

## No. 37.

W. Price, Esq., to The Crown Solicitor.

Sir,

Pitt-street, Sydney, 9 July, 1887.

I have the honor to acknowledge receipt of your letter of the 5th instant, and thank the honorable the Attorney-General for the opportunity afforded me of explaining the matters to which your letter refers. The facts are briefly these:—

Early in April, 1885, my partner, Henry Bull, who resides in England, paid a short visit to this Colony. His brother, John Bull, of Queanbeyan, was at the time largely indebted to him, and in a settlement of accounts between the brothers Henry Bull took over the Oaks Estate from John Bull, the owner, as an equivalent of two thousand pounds (£2,000) of the latter's indebtedness.

Soon after this settlement of accounts Henry Bull, who had been my partner for some ten years in the firm of Henry Bull & Co., suggested that, as in the course of time the land would doubtless become very valuable, that a nominal value should be placed upon it and shares be taken by myself and other two partners in the venture.

It was consequently arranged that there should be fifteen shares of five hundred pounds (£500) each, and that Henry Bull himself should be regarded as the owner of eleven shares, to enable him to settle ten of these shares on his daughter in London (recently married), and the remaining four shares were to be allotted to myself, my two partners, and a mutual friend of the firm.

When this arrangement was concluded Mr. Bull instructed his solicitors to prepare a conveyance from his brother to myself as trustee for all concerned. I had nothing to do with these instructions, and presume that the sum of two thousand pounds (£2,000) was mentioned in the conveyance by the direction of Henry Bull, who I believe regarded the consideration allowed to his brother as the real purchase money, and looked upon the subsequent arrangement as a private matter between his friends and himself. —Subsequently, that is, in July, 1885 (my partner having returned to England in May), I instructed Henry Bull's solicitors to bring the property under the "Real Property Act," and in the month of August following the solicitors brought me a printed form to sign in which the property was valued at two thousand pounds (£2,000) as expressed in the conveyance from John Bull to myself, which I signed. I can assure you when this was done I took it for granted that the actual value allowed to John Bull in settlement was that which ought to be inserted, that everything had been regularly done by the solicitors, and that all legal requirements had been complied with; having had very little to do during my lifetime with the purchase of, or dealing in, land (speculative or otherwise), it never occurred to me for one moment that the property ought to be estimated at more than the value agreed upon when taken over by Henry Bull from his brother.

It may no doubt be thought strange that within so short a period of time the property taken by Henry Bull for two thousand pounds (£2,000) should be regarded as of such an increased value, and that I should be so foolish as to give five hundred pounds (£500) for a fifteenth share of it, but at the time of that arrangement the mania for land speculation was at its height, and I thought that in all probability when the railway was opened to Queanbeyan the land could be subdivided and sold in allotments at a very considerable profit, its prospective value looking very large, so that it seemed to me I should not be likely to make any loss, and was at the same time able to conform with my partner's views, who suggested the idea for the purpose as before stated of settling ten of the shares on his daughter.

Having now unreservedly stated all the facts, the matter being entrusted to a reputable firm of solicitors in this city, and the documents presented by them for me to sign in good faith when my time was fully occupied by ordinary office duties incidental to a large business, I submit with all due respect that the worst construction that can possibly be imputed to my action is carelessness.

In conclusion I may say that I have been engaged in mercantile transactions in this city for a period of upwards of thirty-four years, and have always borne an honorable reputation; in view of this I ask is it likely, that for the sake of a paltry saving in stamp duty of £2 10s., such being my share of the cost of the extra stamp duty, that I would knowingly with intent attempt to defraud the revenue? I may, and possibly have been careless, but nothing more, and I trust the Attorney-General will do me the justice to view the matter in this light; if, however, after the perusal of the foregoing (which I am prepared to verify by statutory declaration) the Attorney-General still thinks that a second transaction in the land actually took place, necessitating payment of extra stamp duty, I am willing, rather than the slightest stain should remain on my hitherto unsullied reputation, to pay what may be legally demanded of me.

I am, &amp;c.,

WILLM. PRICE.

## No. 38.

The Crown Solicitor to The Under Secretary for Finance and Trade.

Sir,

Crown Solicitor's Office, Sydney, 16 July, 1887.

I have the honor to return herewith the papers referring to the evasion of the provisions of the 9th section of the Stamp Duties Act, and to inform you that Mr. Attorney-General Wise, to whom they were submitted, directs that my letter to Mr. Price, a copy of which will be found with the papers, and his reply thereto, be forwarded to the Commissioner of Stamps for information and for any observation he may wish to make thereon, after which they might be sent to the Commissioner for Railways.

The Attorney-General asks if any information can be obtained as to the selling value of the land at the date of conveyance.

I have, &amp;c.,

JOHN WILLIAMS,  
Crown Solicitor.

## No. 39.

Minute by The Under Secretary for Finance and Trade to The Commissioner of Stamps.

THE Commissioner for Stamps.

G.E., 20/7/87.

No. 40.

13

No. 40.

Minute by The Commissioner of Stamps to The Under Secretary for Finance and Trade.

I HAVE no observation to make on this transaction, and request that the same be forwarded to the Commissioner for Railways. W. HEMMING, 20/7/87.

The Under Secretary for Finance and Trade, B.C.

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 No. 41.

Minute by The Under Secretary for Finance and Trade to The Commissioner for Railways.

The Commissioner for Railways.

G.E., 22/7/87, B.C.

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 No. 42.

Minute by The Secretary of Railways to Mr. Railway Land-Surveyor Thompson.

PERHAPS land valuer can furnish the information asked for in last paragraph of Crown Solicitor's letter. A.R., B.C., 25/7/87.

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 No. 43.

Minute by Mr. Railway Land-Surveyor Thompson to The Secretary of Railways.

I CANNOT supply the information required by the Attorney-General, as I cannot ascertain whether any sales were effected about the date mentioned. J.B.T., 19/8/87.

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 No. 44.

Minutes by The Secretary and Commissioner for Railways.

A.R., 20/8/87. Secn.—CH. A.G., 20/8/87. Returned to Under Secretary for Finance and Trade.—CH. A.G., B.C., 20/8/87.

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 No. 45.

Minutes by the Under Secretary for Finance and Trade, and J. Thomson, Esq.

Mr. Thomson.—G.E., 13/9/87.

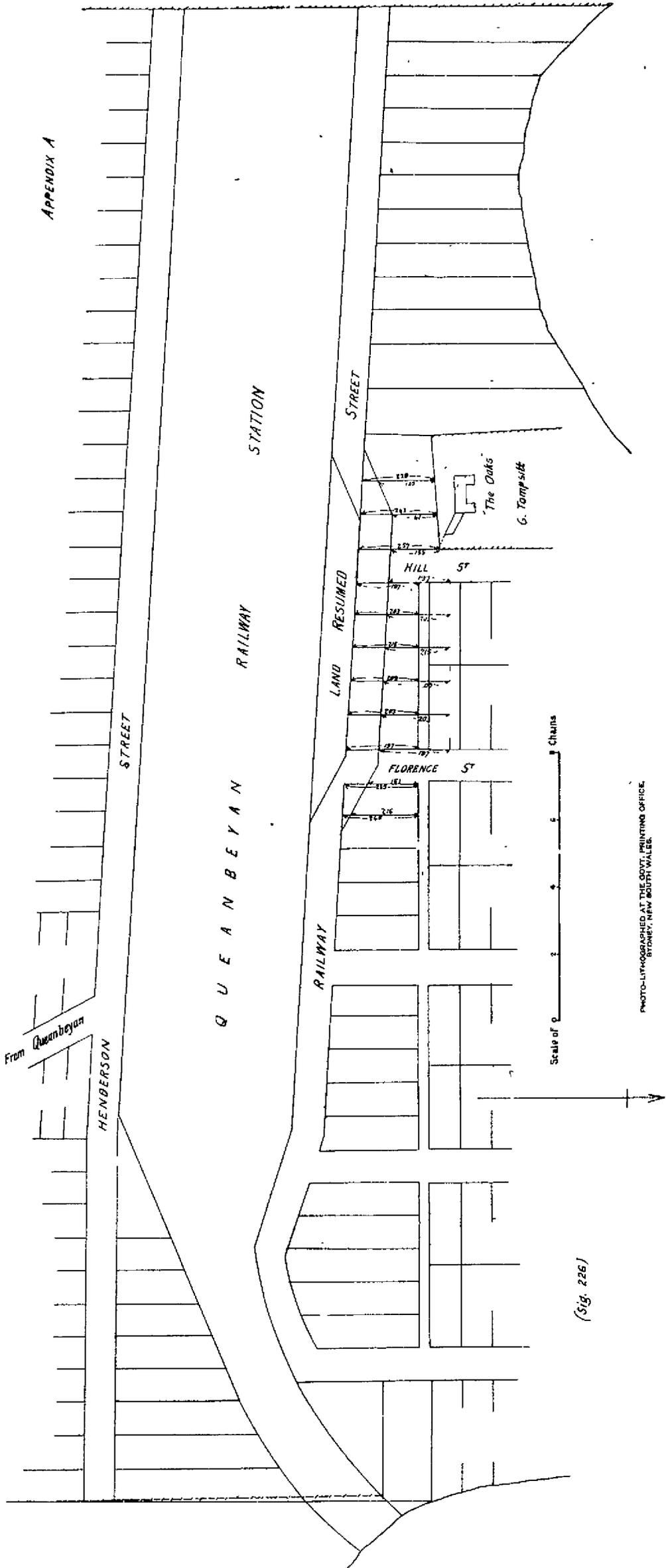
As no information, seemingly, can be obtained as to the selling value of the land at the time of conveyance, the matter would appear to be at an end. The papers might, however, be returned to the Crown Solicitor to show the result of the references to the Commissioner of Stamps and the Commissioner for Railways. J.T., 15/9/87.

The Crown Solicitor.—G.E., B.C., 16/9/87.

[Two plans ]

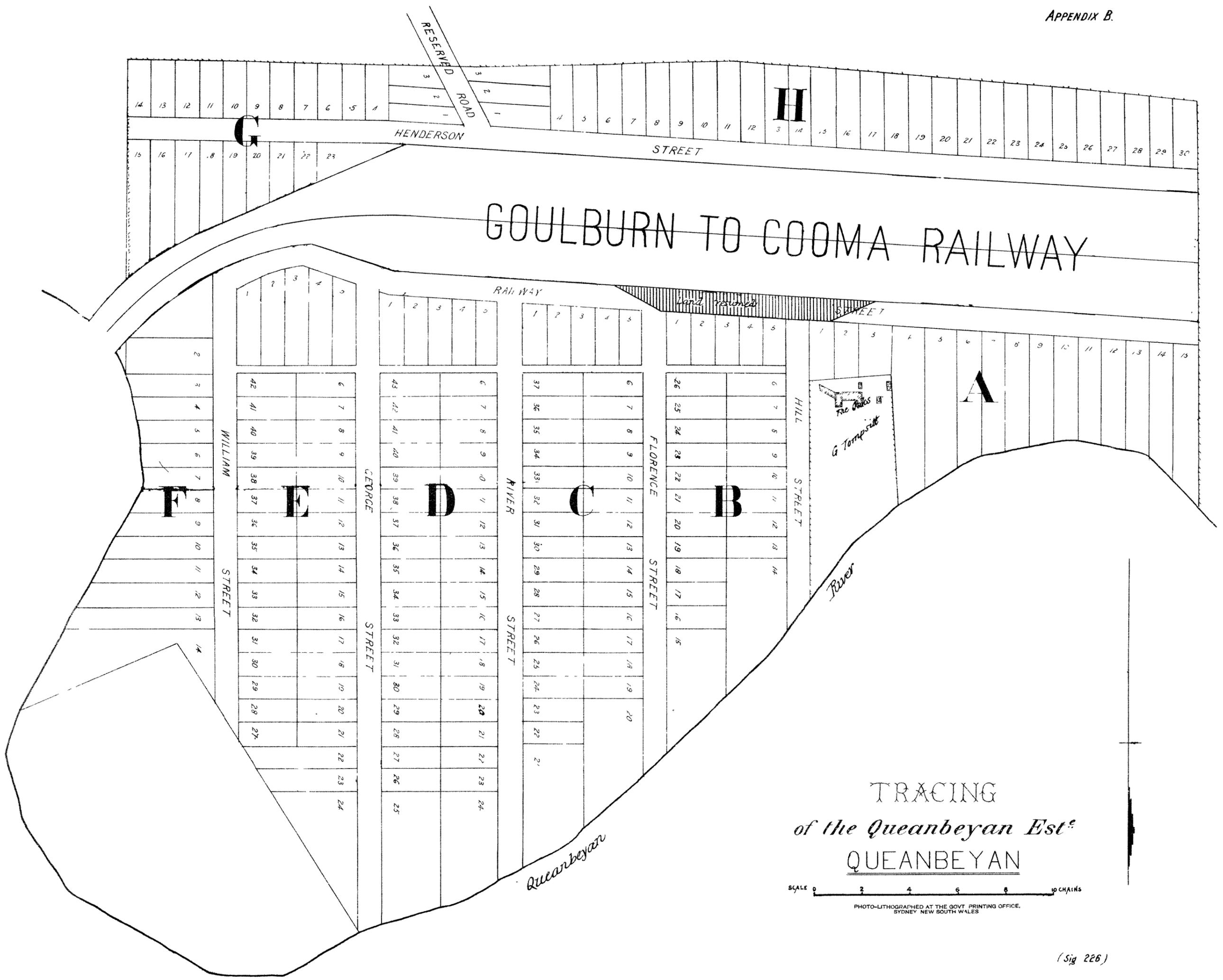


APPENDIX A



(Sig. 226)

PHOTO-LITHOGRAPHED AT THE GOVT. PRINTING OFFICE,  
SYDNEY, NEW SOUTH WALES.



TRACING  
of the *Queanbeyan Est<sup>e</sup>*  
**QUEANBEYAN**

SCALE 0 2 4 6 8 10 CHAINS

PHOTO-LITHOGRAPHED AT THE GOVT. PRINTING OFFICE,  
 SYDNEY NEW SOUTH WALES

1887.

(THIRD SESSION.)

LEGISLATIVE ASSEMBLY.

NEW SOUTH WALES.

## STATE HOUSE.

(REPORT OF BOARD ON COMPETITIVE DESIGNS FOR.)

*Ordered by the Legislative Assembly to be printed, 30 November, 1887.*

The President of the State House Board to The Principal Under Secretary.

Sir, State House Board, 7, Bent-street, 24 November, 1887.

I have the honor to hand you herewith the report of the Board appointed to open, examine, and report upon the competitive designs for the proposed State House for the information of the Honorable the Colonial Secretary.

I have, &amp;c.,

JOHN HAY,

President.

## Report of the State House Board.

To the Honorable Sir Henry Parkes, K.C.M.G., Premier and Colonial Secretary,—

Sir,

The Board appointed by His Excellency the Governor and the Executive Council, to open and examine the competitive designs sent in for the State House to be erected in the Centennial Park, now begs to report as follows:—

1. In the execution of this duty the Board has endeavoured to follow the terms of its appointment, which were "to select such of the designs as in its judgment merited the award of the prizes offered by the Government, and to report generally in regard to such designs, as they might deem advisable." The amended invitation by the Government to the Architects of New South Wales, as published in the Government Gazette of the 4th of August last, was examined with particular relation to the conditions therein laid down.

2. The Board found that forty-six (46) sets of designs had been sent in, and after a careful examination selected out of these eighteen (18) designs as in its opinion worthy of further consideration. With a view to facilitate an estimate of the probable cost of buildings erected in accordance with these various designs, the Board sought the assistance of professional men from the Colonial Architect's Department, and these were employed to ascertain the cubical contents indicated by the plans. The Board at the same time took means to determine what would be the probable minimum cost per cubic foot of such buildings. As this work proceeded, it was felt that a great difficulty would be found in selecting any design which would be entirely satisfactory for a State House, and which, in the opinion of the Board, would come within the limit of £150,000, supposing the building to be erected of the materials specified in the conditions. Under these circumstances a communication was addressed to yourself, representing the difficulties in which the Board found itself, and seeking for such an enlargement of powers as would enable it to tender an opinion which might be of some use to the Government. In reply the Board received your letter, in which you suggested that it should "report the results of its examinations and consultations under two heads:—

1st.—The designs most entitled to consideration without reference to estimated cost.

2nd.—The designs most entitled to consideration which, in the judgment of the Board, would not exceed the cost of £150,000.

3.

3. In accordance with this variation of instructions, the Board has gone into the matter with the object of reporting on the first head, viz. :—The design most entitled to consideration, without reference to estimated cost, and has determined that out of the eighteen selected designs it will recommend as the most deserving of approval those bearing the mottoes :—1st. *Rei Publicæ Domus* ; 2nd. *Esto perpetua* ; 3rd. *Pantheon* in blue circle ; and in the order of merit affixed to them as above.

4. It is to be noted, however, with respect to this determination, that the design first named, judged by its cubical contents, would, for its execution, much exceed in cost that required for either of the other two. And it may be added that the design bearing the motto *Ad rem* would have been placed high in the award had it not involved a costly, and, in the opinion of the Board, useless and undesirable substructure.

5. In further reporting, in accordance with the second head of your suggestions, viz., “the design most entitled to consideration which would not exceed the cost of £150,000,” the Board is compelled to conclude that, of the eighteen designs reserved as entitled to consideration, only one comes, in the opinion of the Board, within the authorized limit of cost, and this the Board is not prepared to recommend as an adequate design for a Great National Memorial.

6. As it may be felt that something more has to be done with respect to the plans submitted in response to the Government notice, the Board has not opened the sealed packets sent in with them. It has, therefore, only referred in this report to the mottoes on the designs, leaving the Government to take any future steps that may be deemed advisable.

7. The Board cannot conclude its report without bearing testimony to the ability and care shown by the competitors in preparing their plans, many of which are of much merit and great beauty, showing that there is an amount of talent in the Colony of which we may be justly proud.

Certified under our hands and seals, this 24th day of November, 1887.

(SIGNED.)	}	JOHN HAY, President.	(L.S.)
		ALFRED BARRY, D.D., Bishop of Sydney.	(L.S.)
		JAMES BARNET.	(L.S.)
		J. S. MITCHELL.	(L.S.)
		EDW. KNOX.	(L.S.)
		G. ALLEN MANSFIELD.	(L.S.)
		*ALEX. OLIVER.	(L.S.)

\* Without in the slightest degree dissenting from the recommendations of my colleagues, I desire to place on record, as an individual member of the Board, my admiration of many parts of the design bearing the motto “Athenia,” which is, in my opinion, the best example of the columnar type of the Corinthian Order submitted for competition. The Phillip Hall in this design being to a large extent open, or “hypæthral,” has, however, been considered open to serious objection, and the Central Portico, or Tribune, is so designed that a speaker from it could only address a very limited audience. There are other blemishes and defects in this design ; but its elevation and principal features, regarded as an architectural composition, appear to me to possess great merit.

A.O.

1887-8.

NEW SOUTH WALES.

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**SURRENDER OF FUGITIVE CRIMINALS.**  
(DESPATCH RESPECTING.)

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Presented to Parliament by Command.

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Department of Justice,  
Sydney, 22nd July, 1887.

His Excellency the Governor directs the publication, for general information, of the following Despatch, dated 24th March, 1887, from the Principal Secretary of State for the Colonies.

WILLIAM CLARKE.

[Circular.]

Downing-street,  
24th March, 1887.

Sir,

I have the honor to transmit to you, for information and publication in the Colony under your Government, an extract from the *London Gazette*, containing an Order of the Queen in Council of the 7th of March, 1887, for carrying into effect the Treaty for the mutual surrender of fugitive Criminals, signed between Great Britain and Russia on the 24th of November last.

The Treaty came into operation on the 21st of March of this year, in conformity with Article XIX.

I have, &c.,

H. T. HOLLAND.

The Officer Administering  
the Government of New South Wales.

[Extract from the London Gazette of Friday, March 11, 1887.]

At the Court at Windsor, the 7th day of March, 1887.

Present :—

THE QUEEN'S MOST EXCELLENT MAJESTY.

Lord President, | Lord John Manners,  
Lord Chamberlain.

WHEREAS by the "Extradition Acts, 1870 and 1873, it was amongst other things enacted that, where an arrangement has been made with any foreign State with respect to the surrender to such State of any fugitive criminals, Her Majesty may, by Order in Council, direct that the said Acts shall apply in the case of such foreign State; and that Her Majesty may, by the same or any subsequent Order, limit the operation of the Order, and restrict the same to fugitive criminals who are in or suspected of being in the part of Her Majesty's dominions specified in the Order, and render the operation thereof subject to such conditions, exceptions, and qualifications as may be deemed expedient; and that if, by any law made after the passing of the Act of 1870 by the Legislature of any British possession, provision is made for carrying into effect within such possession the surrender of fugitive criminals who are in or suspected of being in such British possession, Her Majesty may, by the Order in Council applying the said Acts in the case of any foreign State, or by any subsequent Order, suspend the operation within any such British possession of the said Acts, or of any part thereof, so far as it relates to such foreign State, and so long as such law continues in force there and no longer.

And whereas, in accordance with section 18 of "The Extradition Act, 1870, the Legislature of the Dominion of Canada has, by laws passed in the years 1877 and 1882, and respectively styled "The Extradition Act, 1877," and "An Act to Amend the Extradition Act, 1877," made provision for carrying into effect within the Dominion the surrender of fugitive criminals who are in, or are suspected of being in the Dominion.

And whereas a Treaty was concluded on the twenty-fourth day of November, one thousand eight hundred and eighty-six, between Her Majesty and His Majesty the Emperor of Russia, for the mutual extradition of fugitive criminals, which Treaty is in the terms following :—

HER Majesty the Queen of the United Kingdom of Great Britain and Ireland, Empress of India, and His Majesty the Emperor of all the Russias, having judged it expedient, with a view to the better administration of justice and to the prevention of crime within the two countries and their jurisdictions, that persons charged with or convicted of the crimes hereinafter enumerated, and being fugitives from justice, should, under certain circumstances, be reciprocally delivered up; their said Majesties have named as their Plenipotentiaries to conclude a Treaty for this purpose, that is to say :

Her Majesty the Queen of the United Kingdom of Great Britain and Ireland, Empress of India, the Right Honorable Stafford Henry Earl of Idlesleigh, Viscount St. Cyres, a Peer of the United Kingdom, and a Baronet of Great Britain, Knight Grand Cross of the Most Honorable Order of the Bath, a Member of Her Majesty's Most Honorable Privy Council, Her Majesty's Principal Secretary of State for Foreign Affairs, &c., &c. ;

And His Majesty the Emperor of All the Russias, M. Georges de Staal, Privy Councillor, Grand Cross of several Russian and foreign Orders, his Ambassador Extraordinary and Plenipotentiary to Her Majesty the Queen of the United Kingdom of Great Britain and Ireland, Empress of India, &c., &c. ;

Who, having communicated to each other their respective full powers, found in good and due form, have agreed upon and concluded the following Articles :—

#### ARTICLE I.

The High Contracting Parties engage to deliver up to each other those persons who, being accused or convicted of a crime or offence committed in the territory of the one Party, shall be found within the territory of the other Party, under the circumstances and conditions stated in the present Treaty.

#### ARTICLE II.

The crimes or offences for which the extradition is to be granted are the following :—

1. Murder, or attempt, or conspiracy to murder.
2. Manslaughter.
3. Counterfeiting or altering money, or uttering counterfeit or altered money.
4. Forgery, counterfeiting, or altering or uttering what is forged, or counterfeited, or altered.
5. Embezzlement or larceny.
6. Malicious injury to property if the offence be indictable.
7. Obtaining money or goods by false pretences.
8. Crimes against bankruptcy law.
9. Fraud by a bailee, banker, agent, factor, trustee, or director, or member or public officer of any Company, made criminal by any law for the time being in force.
10. Perjury, or subornation of perjury.
11. Rape.
12. Carnal knowledge, or any attempt to have carnal knowledge, of a girl under sixteen years of age.
13. Indecent assault.
14. Administering drugs or using instruments with intent to procure the miscarriage of a woman.

SA Majesté la Reine du Royaume-Uni de la Grande Bretagne et d'Irlande, Impératrice des Indes, et Sa Majesté l'Empereur de Toutes les Russies, ayant jugé convenable, en vue d'une meilleure administration de la justice, et pour prévenir les crimes dans les deux pays et leurs juridictions, que les individus accusés ou convaincus des crimes ci-après énumérés, et qui se seraient soustraits par la fuite aux poursuites de la justice fussent, dans certaines circonstances, réciproquement extradés; les dites Majestés ont nommé pour leurs Plenipotentiaries, à l'effet de conclure un Traité dans ce but, savoir :

Sa Majesté la Reine du Royaume-Uni de la Grande-Bretagne et d'Irlande, Impératrice des Indes, le Très Honorable Stafford Henry Comte d'Idlesleigh, Vicomte St. Cyres, Pair du Royaume-Uni, Baronnet de la Grande-Bretagne Chevalier Grand-Croix du Très Honorable Ordre du Bain, Membre du Très Honorable Conseil Privé de Sa Majesté, Principal Secrétaire d'Etat de Sa Majesté pour les Affaires Etrangères, &c., &c.

Et Sa Majesté l'Empereur de Toutes les Russies, M. Georges de Staal, Conseiller Privé Actuel, Grand-Croix de plusieurs Ordres Russes et étrangers, son Ambassadeur Extraordinaire et Plenipotentiare près la Cour de Sa Majesté la Reine du Royaume-Uni de la Grande-Bretagne et d'Irlande, Impératrice des Indes, &c., &c. ;

Lesquels, après s'être communiqués leur pleins pouvoirs respectifs, trouvés en bonne et due forme, ont arrêté et conclu les Articles suivants :—

#### ARTICLE I.

Les Hautes Parties Contractantes s'engagent à se livrer réciproquement les individus qui, poursuivis ou condamnés pour un crime ou un délit commis sur le territoire de l'une des Parties, seraient trouvés sur le territoire de l'autre, dans les circonstances et sous les conditions prévues par le présent Traité.

#### ARTICLE II.

Les crimes et délits pour lesquels l'extradition sera accordée sont les suivants :—

1. Meurtre, ou tentative de meurtre, ou complot ayant ce crime pour but.
2. Homicide sans préméditation ou guet-apens.
3. Contrefaçon ou altération de monnaie, mise en circulation de monnaie contrefaite ou altérée.
4. Faux, contrefaçon, ou altération, ou mise en circulation de ce qui est falsifié, ou contrefait, ou altéré.
5. Détournement frauduleux, ou vol.
6. Destruction ou dégradation de toute propriété, lorsque le fait incriminé est punissable de peines criminelles ou correctionnelles.
7. Escroquerie d'argent, ou d'autres objets, sous de faux prétextes.
8. Crimes contre les lois sur la banqueroute.
9. Fraude (abus de confiance) par un administrateur, banquier, agent, commissionnaire, curateur, ou directeur, ou membre ou fonctionnaire d'une Société quelconque, pour autant que le fait est puni par les lois en vigueur.
10. Faux serment ou subornation de témoins.
11. Viol.
12. Commerce charnel avec une jeune fille âgée de moins de 16 ans, ou tentative à ce fait.
13. Attentat à la pudeur avec violence.
14. Administration de substances ou emploi d'instruments dans l'intention de provoquer l'avortement.

15. Abduction.
16. Child stealing.
17. Kidnapping and false imprisonment.
18. Burglary or housebreaking.

19. Arson.
20. Robbery with violence.
21. Maliciously wounding or inflicting grievous bodily harm.
22. Threats by letter, or otherwise, with intent to extort.
23. Piracy by law of nations.
24. Sinking or destroying a vessel at sea, or attempting or conspiring to do so.
25. Assaults on board a ship on the high seas, with intent to destroy life, or to do grievous bodily harm.
26. Revolt, or conspiracy to revolt, by two or more persons on board a ship on the high seas against the authority of the master.
27. Dealing in slaves in such a manner as to constitute a criminal offence against the laws of both States.

Extradition is also to be granted for participation in any of the aforesaid crimes, provided such participation be punishable by the laws of both the Contracting Parties.

Extradition may also be granted, at the discretion of the State applied to, in respect of any other crime for which, according to the laws of both the Contracting Parties for the time being in force, the grant can be made.

#### ARTICLE III.

Either Government may, in its absolute discretion, refuse to deliver up its own subjects to the other Government.

#### ARTICLE IV.

The extradition shall not take place if the person claimed on the part of the British Government, or the person claimed on the part of the Russian Government has already been tried and discharged or punished, or is still under trial, within the Russian or British dominions respectively, for the crime for which his extradition is demanded.

If the person claimed on the part of the British Government, or if the person claimed on the part of the Russian Government should be under examination, or is undergoing sentence under a conviction, for any other crime within the Russian or British dominions respectively, his extradition shall be deferred until after he has been discharged, whether by acquittal or on expiration of his sentence, or otherwise.

#### ARTICLE V.

The extradition shall not take place if, subsequently to the commission of the crime, or the institution of the penal prosecution, or the conviction thereon, exemption from prosecution or punishment has been acquired by lapse of time, according to the laws of the State applied to.

#### ARTICLE VI.

A fugitive criminal shall not be surrendered if the offence in respect of which his surrender is demanded is one of a political character, or if he prove that the requisition for his surrender has in fact been made with a view to try or punish him for an offence of a political character.

#### ARTICLE VII.

A person surrendered can in no case be kept in prison, or be brought to trial in the State to which the surrender has been made, for any other crime or on account of any other matters than those for which the extradition shall have taken place, until he has been restored or had an opportunity of returning to the State by which he has been surrendered.

This stipulation does not apply to crimes committed after the extradition.

#### ARTICLE VIII.

The requisition for extradition shall be made through the Diplomatic Agents of the High Contracting Parties respectively.

The requisition for the extradition of an accused person must be accompanied by a warrant of arrest issued by the competent authority of the State requiring the extradition, and by such evidence as, according to the laws of the place where the accused is found, would justify his arrest if the crime had been committed there.

If the requisition relates to a person already convicted, it must be accompanied by the sentence of condemnation passed against the convicted person by the competent Court of the State that makes the requisition for extradition.

A sentence passed in contumacium is not to be deemed a conviction, but a person so sentenced may be dealt with as an accused person.

#### ARTICLE IX.

If the requisition for extradition be in accordance with the foregoing stipulations, the competent authorities of the State applied to shall proceed to the arrest of the fugitive.

15. Enlèvement.
16. Vol d'enfants.
17. Séquestration ou détention illégale.
18. Effraction ou escalade d'une habitation et de ses dépendances dans le but de commettre un crime.
19. Incendie volontaire.
20. Vol avec violence.
21. Blessures ou graves injures corporelles infligées avec mauvaise intention.
22. Menaces écrites ou autres faites en vue d'extorsion.
23. Piraterie considérée comme crime par le droit des gens.
24. Submersion, échouement ou destruction d'un navire en mer, ou tentative ou complot ayant ce crime pour but.
25. Attaque à bord d'un navire en haute mer dans le but d'homicide ou afin de porter de graves lésions corporelles.
26. Révolte ou complot de révolte par deux ou plusieurs personnes à bord d'un navire en haute mer, contre l'autorité du capitaine.
27. Traite des Esclaves telle qu'elle est punie par les lois des deux pays.

L'extradition aura également lieu pour complicité à un des crimes ci-dessus mentionnés, pourvu que la complicité soit punissable par les lois des deux Parties Contractantes.

Il dépendra de l'Etat requis d'accorder également l'extradition pour tout autre crime à raison duquel l'extradition peut avoir lieu d'après les lois en vigueur des deux Parties Contractantes.

#### ARTICLE III.

Chacun des deux Gouvernements aura liberté pleine et entière de refuser à l'autre l'extradition de ses propres sujets.

#### ARTICLE IV.

L'extradition ne sera pas accordée si l'individu réclamé par le Gouvernement du Royaume-Uni ou par celui de l'Empire de Russie, a déjà été jugé, acquitté ou puni, ou se trouve encore sous jugement, soit dans l'Empire de Russie, soit dans le Royaume-Uni, pour le crime à raison duquel l'extradition est demandée.

Si la personne réclamée par le Gouvernement du Royaume-Uni ou par celui de l'Empire de Russie est en état de prévention ou si ayant été condamnée elle subit la peine qui lui a été infligée dans l'Empire de Russie ou dans le Royaume-Uni, pour un autre crime, son extradition sera différée jusqu'à sa remise en liberté, soit qu'elle ait été acquittée, soit qu'elle ait purgé sa peine ou pour toute autre raison.

#### ARTICLE V.

L'extradition n'aura pas lieu si depuis la perpétration du crime, les poursuites ou la condamnation, la prescription des poursuites ou de la peine est acquise d'après les lois du pays auquel la demande est adressée.

#### ARTICLE VI.

Le criminel fugitif ne sera pas extradé si le délit pour lequel l'extradition est demandée, est considéré comme un délit politique, ou si l'individu prouve que la demande d'extradition a été faite en réalité dans le but de le poursuivre ou de le punir pour un délit d'un caractère politique.

#### ARTICLE VII.

L'individu qui aura été livré ne pourra en aucun cas, dans le pays auquel l'extradition a été accordée, être maintenu en état d'arrestation ou poursuivi pour aucun crime ou faits autres que ceux qui ont motivé l'extradition à moins qu'il n'ait été réintégré ou n'ait eu l'occasion ou retourner de lui-même dans l'Etat qui l'avait extradé.

Cette stipulation n'est pas applicable aux crimes commis après l'extradition.

#### ARTICLE VIII.

L'extradition sera demandée par l'organe des Agents Diplomatiques respectifs des deux Hautes Parties Contractantes.

La demande d'extradition d'un prévenu devra être accompagnée d'un Mandat d'Arrêt décerné par l'autorité compétente de l'Etat requérant, et des preuves qui, d'après les lois de l'endroit où le prévenu a été trouvé, justifieraient son arrestation, si l'acte punissable y avait été commis.

Si la demande d'extradition concerne une personne déjà condamnée, elle doit être accompagnée de l'Arrêt de Condamnation qui a été rendu contre le coupable par le Tribunal compétent de l'Etat requérant.

Un Arrêt rendu par contumace ne sera pas considéré comme une condamnation, mais une personne ainsi condamnée pourra être traitée comme une personne poursuivie.

#### ARTICLE IX.

Si la demande d'extradition s'accorde avec les stipulations précédentes, les autorités compétentes de l'Etat requis procéderont à l'arrestation du fugitif.

## ARTICLE X.

If the fugitive has been arrested in the British dominions, he shall forthwith be brought before a competent Magistrate, who is to examine him and to conduct the preliminary investigation of the case, just as if the apprehension had taken place for a crime committed in the British dominions.

In the examinations which they have to make in accordance with the foregoing stipulations, the authorities of the British dominions shall admit as valid evidence the sworn depositions or the affirmations of witnesses taken in Russia, or copies thereof, and likewise the warrants and sentences issued therein, and certificates of, or judicial documents stating the fact of a conviction, provided the same are authenticated as follows :—

1. A warrant must purport to be signed by a Judge, Magistrate, or officer of the Russian State.

2. Depositions or affirmations or the copies thereof must purport to be certified under the hand of a Judge, Magistrate, or officer of the Russian State, to be the original depositions or affirmations, or to be true copies thereof, as the case may require.

3. A certificate of, or judicial document stating the fact of conviction must purport to be certified by a Judge, Magistrate, or officer of the Russian State.

4. In every case such warrant, deposition, affirmation, copy, certificate or judicial document must be authenticated either by the oath of some witness, or by being sealed with the official seal of the Minister of Justice, or some other Minister of the Russian State; but any other mode of authentication, for the time being permitted by the law of the British dominion, where the examination is taken, may be substituted for the foregoing.

## ARTICLE XI.

If the fugitive has been arrested in Russia his surrender shall be granted if upon examination by a competent authority it appears that the documents furnished by the British Government furnish sufficient *prima facie* evidence to justify the extradition.

The Russian authorities shall admit as valid evidence records drawn up by the British authorities of the depositions of witnesses, or copies thereof, and records of conviction or other judicial documents or copies thereof: Provided that the said documents be signed or authenticated by an authority whose competence shall be certified by the seal of a Minister of State of Her Britannic Majesty.

## ARTICLE XII.

The extradition shall not take place unless the evidence be found sufficient, according to the laws of the State applied to, either to justify the committal of the prisoner for trial, in case the crime had been committed in the territory of the said State, or to prove that the prisoner is the identical person convicted by the Courts of the State which makes the requisition, and that the crime of which he has been convicted is one in respect of which extradition could, at the time of such conviction, have been granted by the State applied to. And the fugitive criminal shall not be surrendered until the expiration of fifteen days from the date of his being committed to prison to await his surrender.

## ARTICLE XIII.

If the individual claimed by one of the two High Contracting Parties in pursuance of the present Treaty should be also claimed by one or several other Powers on account of other crimes or offences committed upon their respected territories, his extradition shall be granted to that State whose demand is earliest in date.

## ARTICLE XIV.

If sufficient evidence for the extradition be not produced within two months from the date of the apprehension of the fugitive, or within such further time as the State applied to, or the proper Tribunal thereof shall direct, the fugitive shall be set at liberty.

## ARTICLE XV.

All articles seized which were in the possession of the person to be surrendered, at the time of his apprehension, shall, if the competent authority of the State applied to for the extradition has ordered the delivery thereof, be given up when the extradition takes place; and the said delivery shall extend not merely to the stolen articles, but to everything that may serve as a proof of the crime.

## ARTICLE XVI.

All expenses connected with extradition shall be borne by the demanding State.

## ARTICLE X.

Si le fugitif est arrêté sur le territoire Britannique, il sera aussitôt amené devant un Magistrat compétent qui devra l'entendre et procéder à l'examen préliminaire de l'affaire de la même manière que si l'arrestation avait eu lieu pour un crime commis sur territoire Britannique.

Les autorités de la Grande-Bretagne quand elles procéderont à l'examen établi par les stipulations précédentes devront admettre comme preuves entièrement valables les dépositions assermentées ou les affirmations faites en Russie, ou les copies de ces pièces, de même que les Mandats d'Arrêt et les sentences rendues dans ce pays, ainsi que les certificats de condamnation ou les pièces judiciaires constatant le fait d'une condamnation, pourvu que ces documents soient rendus authentiques de la manière suivante :—

1. Un mandat doit être signé par un Juge, Magistrat, ou officier de l'Empire Russe.

2. Les dépositions ou affirmations ou les copies de ces pièces doivent porter la signature d'un Juge, Magistrat, ou officier de l'Empire Russe, constatant que ces dépositions ou ces affirmations se trouvent être en expédition originale ou en copie vidimée selon le cas.

3. Un certificat de condamnation ou un document judiciaire constatant le fait d'une condamnation doit être certifié par un Juge, Magistrat, ou officier de l'Empire Russe.

4. Ces mandats, dépositions, affirmations, copies, certificats, ou documents judiciaires doivent être rendus authentiques dans chaque cas, soit par le serment d'un témoin, soit par l'apposition du sceau officiel du Ministre de la Justice, ou de tout autre Ministre de l'Empire Russe; cependant, les pièces susénoncées pourront être rendues authentiques de toute autre manière qui serait reconnue par les lois locales en vigueur dans la partie du territoire Britannique, ou l'examen de l'affaire aura lieu.

## ARTICLE XI.

L'extradition d'un fugitif arrêté en Russie sera accordée, s'il résulte de l'examen qui en sera fait par une autorité compétente que les documents fournis par le Gouvernement Britannique contiennent des preuves *prima facie* suffisantes pour justifier l'extradition.

Les autorités Russes devront admettre comme preuves entièrement valables les procès-verbaux des dépositions de témoins dressés par les autorités Britanniques, ou les copies de ces procès-verbaux; ainsi que les procès-verbaux des condamnations ou autres documents judiciaires, ou les copies de ces actes; pourvu que ces documents soient signés ou rendus authentiques par une autorité dont la compétence, sera certifiée par le sceau d'un Ministre d'Etat de Sa Majesté Britannique.

## ARTICLE XII.

L'extradition n'aura lieu que dans le cas où les preuves fournies auront été trouvées suffisantes, d'après les lois de l'Etat requis, soit pour justifier la mise sous jugement du prisonnier dans le cas où le crime aurait été commis sur le territoire du dit Etat, soit pour constater l'identité du prisonnier avec l'individu condamné par les Tribunaux de l'Etat requérant et prouver que le crime dont il a été reconnu coupable aurait pu causer son extradition par l'Etat requis à l'époque de sa condamnation. L'extradition du fugitif n'aura lieu qu'à l'expiration d'un terme de quinze jours à dater de son emprisonnement en vue de l'extradition.

## ARTICLE XIII.

Si l'individu réclamé par l'une des Hautes Parties Contractantes en exécution du présent Traité est aussi réclamé par une ou plusieurs autres Puissances, du chef d'autres crimes ou délits commis sur leurs territoires respectifs, son extradition sera accordée à l'Etat dont la demande est la plus ancienne en date.

## ARTICLE XIV.

Le fugitif sera mis en liberté si les preuves suffisantes à l'appui de la demande en extradition ne sont pas produites dans l'espace de deux mois à partir du jour de l'arrestation ou de tel autre terme plus éloigné qui aura été indiqué par l'Etat requis ou le Tribunal compétent de cet Etat.

## ARTICLE XV.

Les objets saisis en la possession de l'individu réclamé au moment de son arrestation seront, si l'autorité compétente de l'Etat requis en a ordonné la remise, livrés lorsque l'extradition aura lieu; cette remise ne comprendra pas seulement les objets volés, mais encore tout ce qui peut servir de pièce de conviction.

## ARTICLE XVI.

Toutes les dépenses occasionnées par une demande d'extradition seront à la charge de l'Etat requérant.

## ARTICLE XVII.

When, for the purposes of a criminal matter, not being of a political character, pending in any of its Courts or Tribunals, either Government shall desire to obtain the evidence of witnesses residing in the other State, a "Commission Rogatoire" to that end shall be sent through the diplomatic channel, and which shall be executed in conformity with the law of the State where the evidence is to be taken.

The Government which sends the "Commission Rogatoire" will, however, take all necessary steps and pay all expenses for finding and procuring the attendance before the Magistrate of the witnesses named for examination in such Commission.

## ARTICLE XVIII.

The stipulations of the present Treaty shall be applicable to the Colonies and foreign possessions of Her Britannic Majesty, so far as the laws for the time being in force in such Colonies and foreign possessions respectively will allow.

The requisition for the surrender of a fugitive criminal who has taken refuge in any of such Colonies or foreign possessions may be made to the Governor or chief authority of such Colony or possession by the Chief Consular Officer of the Russian Empire in such Colony or possession.

Such requisitions may be disposed of, subject always, as nearly as may be, and so far as the law of such Colony or foreign possession will allow, to the provisions of this Treaty, by the said Governor or chief authority, who, however, shall be at liberty either to grant the surrender, or to refer the matter to his Government.

Her Britannic Majesty shall, however, be at liberty to make special arrangements in the British Colonies and foreign possessions for the surrender of Russian criminals who may take refuge within such Colonies and foreign possessions, on the basis, as nearly as may be, and so far as the law of such Colony or foreign possession will allow, of the provisions of the present treaty.

Requisitions for the surrender of a fugitive criminal emanating from any Colony or foreign possession of Her Britannic Majesty shall be governed by the rules laid down in the preceding Articles of the present Treaty.

## ARTICLE XIX.

The present Treaty shall come into force ten days after its publication, in conformity with the forms prescribed by the laws of the High Contracting Parties. It may be terminated by either of the High Contracting Parties at any time on giving to the other six months' notice of its intention to do so.

The Treaty shall be ratified, and the ratifications shall be exchanged at London as soon as possible.

In witness whereof the respective Plenipotentiaries have signed the same, and have affixed thereto the seal of their arms.

Done at London, the twenty-fourth day of November, 1856.

(L.S.) HDBESLEICH.  
(L.S.) STAAL.

And whereas the ratifications of the said Treaty were exchanged at London, on the second day of February, one thousand eight hundred and eighty-seven.

Now, therefore, Her Majesty, by and with the advice of Her Privy Council, and in virtue of the authority committed to Her by the said recited Acts, doth order, and it is hereby ordered that from and after the twenty-first day of March, one thousand eight hundred and eighty-seven, the said Acts shall apply in the case of Russia, and of the said Treaty with His Majesty the Emperor of Russia.

Provided always, and it is hereby further ordered, that the operation of the said Acts shall be suspended within the Dominion of Canada so far as relates to the Russian Empire and to the said Treaty, and so long as the provisions of the Canadian Acts aforesaid continue in force, and no longer.

C. L. PEEL.

## ARTICLE XVII.

Lorsque dans la poursuite d'une affaire pénale non politique, l'un des deux Gouvernements jugera nécessaire l'audition de témoins domiciliés dans l'autre Etat, une Commission Rogatoire sera envoyée à cet effet par la voie diplomatique et il y sera donné suite en observant les lois du pays où l'audition des témoins devra avoir lieu.

L'Etat requérant s'engage à faire les démarches nécessaires et de pourvoir aux dépenses pour la recherche et la citation devant le Magistrat des témoins indiqués dans la Commission Rogatoire.

## ARTICLE XVIII.

Les stipulations du présent Traité seront applicables aux Colonies et possessions étrangères de Sa Majesté Britannique pour autant que faire se pourra d'après les lois en vigueur dans ces Colonies et possessions étrangères respectivement.

La demande d'extradition d'un criminel qui s'est réfugié dans une de ces Colonies ou possessions étrangères pourra être faite au Gouverneur ou à l'autorité supérieure de cette Colonie ou possession par l'autorité Consulaire principale de l'Empire de Russie dans cette Colonie ou possession.

Le Gouverneur ou l'autorité supérieure mentionné ci-dessus, décidera à l'égard de telles demandes, en se conformant, autant que faire se pourra, d'après les lois de ces Colonies ou possessions étrangères, aux stipulations du présent Traité. Il sera toutefois libre d'accorder l'extradition ou de soumettre le cas à son Gouvernement.

Il est réservé toutefois à Sa Majesté Britannique de faire, en se conformant autant que faire se pourra, d'après les lois de ces Colonies ou possessions étrangères, des stipulations du présent Traité, des arrangements spéciaux dans les Colonies ou possessions étrangères pour l'extradition de criminels Russes qui auraient trouvé un refuge dans ces Colonies ou possessions étrangères.

Les demandes concernant l'extradition de criminels que se sont échappés d'une des Colonies ou possessions étrangères de Sa Majesté Britannique seront traités suivant les dispositions des Articles précédents du présent Traité.

## ARTICLE XIX.

La présente Convention sera exécutoire à dater du dixième jour après sa promulgation, dans les formes prescrites par les lois des deux pays. Chacune des Hautes Parties Contractantes pourra en tout temps mettre fin au Traité en donnant à l'autre six mois à l'avance avis de son intention.

Elle sera ratifiée, et les ratifications en seront échangées à Londres, aussitôt que faire se pourra.

En foi de quoi, les Plénipotentiaires respectifs ont signé la présente Convention, et y ont apposé le cachet de leurs armes.

Fait à Londres, le vingt-quatre Novembre, 1856.



1887-8.

LEGISLATIVE ASSEMBLY.  
NEW SOUTH WALES.

**SWAMP-STREET, DOUBLE BAY.**  
(CORRESPONDENCE IN CONNECTION WITH PROPOSED ALIENATION OF.)

*Ordered by the Legislative Assembly to be printed, 31 May, 1888.*

RETURN to an *Order* made by the Honorable the Legislative Assembly of New South Wales, dated 3rd May, 1888, That there be laid upon the Table of this House,—

“Copies of all letters, plans, reports, and other papers connected with the proposed alienation of 3 acres, more or less, known as Swamp-street, Double Bay.”

(*Mr. Neild.*)

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No. 1.

The Under Secretary for Lands to Mr. Patrick Dimond.

Sir,

Department of Lands, Sydney, 8 March, 1888.

I am directed by the Secretary for Lands to inform you that applications to purchase the land which is embraced within Swamp-street, Double Bay, will, if made under section 66 of the Crown Lands Act of 1884, be dealt with in accordance with the provisions of that section.

I have, &c.,

STEPHEN FREEMAN,  
(For the Under Secretary).

## No. 2.

The Under Secretary for Lands to Captain Bouverie.

Sir, Department of Lands, Sydney, 8 March, 1888.

I am directed by the Secretary for Lands to inform you that applications to purchase the land which is embraced within Swamp-street, Double Bay, will, if made under section 66 of the Crown Lands Act of 1884, be dealt with in accordance with the provisions of that section.

I have, &amp;c.,

STEPHEN FREEMAN,  
(For the Under Secretary).

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## No. 3.

The Under Secretary for Lands to Melbourne Green, Esq.

Sir, Department of Lands, Sydney, 8 March, 1888.

I am directed by the Secretary for Lands to inform you that applications to purchase the land which is embraced within Swamp-street, Double Bay, will, if made under section 66 of the Crown Lands Act of 1884, be dealt with in accordance with the provisions of that section.

I have, &amp;c.,

STEPHEN FREEMAN,  
(For the Under Secretary).

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## No. 4.

The Under Secretary for Lands to Mr. F. Scholes.

Sir, Department of Lands, Sydney, 8 March, 1888.

I am directed by the Secretary for Lands to inform you that applications to purchase the land which is embraced within Swamp-street, Double Bay, will, if made under section 66 of the Crown Lands Act of 1884, be dealt with in accordance with the provisions of that section.

I have, &amp;c.,

STEPHEN FREEMAN,  
(For the Under Secretary).

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## No. 5.

The Under Secretary for Lands to R. C. Backhouse, Esq.

Sir, Department of Lands, Sydney, 8 March, 1888.

I am directed by the Secretary for Lands to inform you that applications to purchase the land which is embraced within Swamp-street, Double Bay, will, if made under section 66 of the Crown Lands Act of 1884, be dealt with in accordance with the provisions of that section.

I have, &amp;c.,

STEPHEN FREEMAN,  
(For the Under Secretary).

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## No. 6.

The Under Secretary for Lands to C. G. Lloyd, Esq.

Sir, Department of Lands, Sydney, 8 March, 1888.

I am directed by the Secretary for Lands to inform you that applications to purchase the land which is embraced within Swamp-street, Double Bay, will, if made under section 66 of the Crown Lands Act of 1884, be dealt with in accordance with the provisions of that section.

I have, &amp;c.,

STEPHEN FREEMAN,  
(For the Under Secretary).

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## No. 7.

The Under Secretary for Lands to Mr. E. S. Newell.

Sir, Department of Lands, Sydney, 8 March, 1888.

I am directed by the Secretary for Lands to inform you that applications to purchase the land which is embraced within Swamp-street, Double Bay, will, if made under section 66 of the Crown Lands Act of 1884, be dealt with in accordance with the provisions of that section.

I have, &amp;c.,

STEPHEN FREEMAN,  
(For the Under Secretary).

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## No. 8.

The Under Secretary for Lands to P. J. Hourigan, Esq.

Sir, Department of Lands, Sydney, 8 March, 1888.

I am directed by the Secretary for Lands to inform you that applications to purchase the land which is embraced within Swamp-street, Double Bay, will, if made under section 66 of the Crown Lands Act of 1884, be dealt with in accordance with the provisions of that section.

I have, &amp;c.,

STEPHEN FREEMAN,  
(For the Under Secretary).

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## No. 9.

The Under Secretary for Lands to The Rev. S. Bryant.

Sir,

Department of Lands, 8 March, 1888.

I am directed by the Secretary for Lands to inform you that applications to purchase the land which is embraced within Swamp-street, Double Bay, will, if made under section 66 of the Crown Lands Act of 1884, be dealt with in accordance with the provisions of that section.

I have, &amp;c.,

STEPHEN FREEMAN,

(For the Under Secretary).

## No. 10.

The Under Secretary for Lands to Mr. W. H. Flavelle.

Sir,

Department of Lands, Sydney, 8 March, 1888.

I am directed by the Minister for Lands to inform you that applications to purchase the land which is included within Swamp-street, Double Bay, will, if made under section 66 of the Crown Lands Act of 1884, be dealt with in accordance with the provisions of that section.

I have, &amp;c.,

STEPHEN FREEMAN,

(For the Under Secretary).

## No. 11.

Mr. T. E. Hall and others to The Minister for Lands.

Double Bay, Sydney, 9 March, 1888.

WE, the undersigned owners of adjacent land to Swamp-street, in the Borough of Woollahra, hereby protest and object to the sale or alienation of Swamp-street or any portion of it, as proposed or suggested by your Department.

T. E. HALL,

JOHN HOUGHTON,

WM. MORTIMER.

The objection should probably be noted by Miscellaneous Branch, in event of applications to purchase parts of Swamp-street being made.—A. J. STORRS (for Surveyor-General), 21/3/88. The Under Secretary for Lands. See also paper within. Yes; Mr. De Low will please see to this.—S.F., 24/3/88.

## No. 12.

Application by Mr. P. J. Hourigan.

Form 26.

No. 43 of 1888.

[Crown Lands Act of 1884—Part III, sections 63, 64, 66, and 67.]

Application for a Special Purchase under the Crown Lands Act of 1884.

Received the sum of £10, being the deposit required on this application.

P. J. HOLDSWORTH.

The Treasury, New South Wales, 12th March, 1888.

103 Elizabeth-street, Sydney, 12 March, 1888.

IN accordance with the provisions of section 66 of the Crown Lands Act of 1884, I, Patrick John Hourigan, hereby apply for the purchase of certain land, which is insufficient in area for conditional sale, hereunder described, a receipt is hereon showing that the sum of £10 has been lodged with the Colonial Treasurer on account of such application.

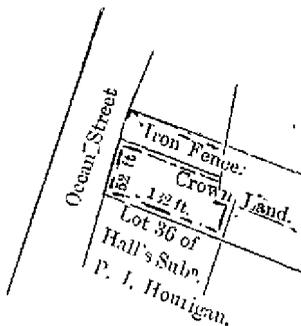
Annexed hereto is a plan illustrative of the position of the area applied for.

P. J. HOURIGAN.

To the Under Secretary for Lands.

Description of land applied for:

County of Cumberland, parish of Alexandria, being the Crown land indicated upon the sketch hereunder, and defined by red edging,\* having 52 feet frontage to Ocean-street, and extending back 132 feet therefrom.



\* Dotted lines in red

Mr.

Mr. De Low,—The enclosed applications for special purchases were handed to me to-day. The applicants asked me to forward them to the officer who receives such applications, which I promised to do.—C.W.T., 12/3/88. Mr. Lester.

See me with plan.—J.W.D. Referred to Mr. District-Surveyor Deering for report, &c.—R.H.D. (for the Under Secretary), B.C., Lands, 15 March, 1888.

### No. 13.

#### Application by Mr. T. C. Robinson.

Form 26.

No. 42 of 1888.

[Crown Lands Act of 1884—Part III, sections 63, 64, 66, and 67.]

Application for a Special Purchase under the Crown Lands Act of 1884.

Received the sum of £10, being the deposit required on this application.

P. J. HOLDSWORTH.

The Treasury, New South Wales, 12th March, 1888.

No. 106 William-street, Sydney, 12 March, 1888.

In accordance with the provisions of section 66 of the Crown Lands Act of 1884, I, Thomas Charles Robinson, hereby apply for the purchase of certain land which is insufficient in area for conditional sale, hereunder described, a receipt is hereon showing that the sum of £10 has been lodged with the Colonial Treasurer on account of such application.

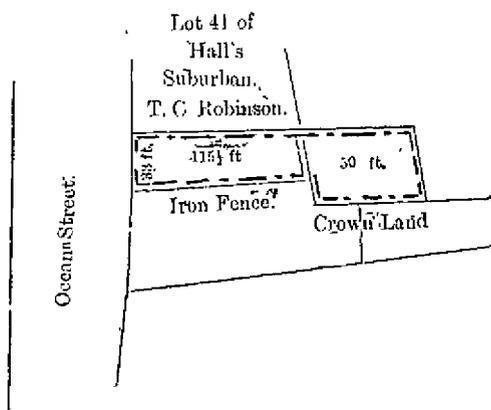
Annexed hereto is a plan illustrative of the position of the area applied for.

T. C. ROBINSON.

To the Under Secretary for Lands.

#### Description of land applied for :

County of Cumberland, parish of Alexandria, being the Crown land indicated upon the sketch hereunder, and defined by red edging,\* having 33 feet frontage to Ocean-street, and extending back 115½ feet therefrom.



\* Dotted lines in red.

Total depth of about 165½ feet. N.B.—My land running right through for an equal measurement of 165½ feet frontage to Cross-street as well as my frontage to Ocean-street.—T.C.R. Referred to Mr. District-Surveyor Deering for report, &c.—R.H.D. (for the Under Secretary), B.C., Lands, 15 March, 1888.

### No. 14.

W. H. Flavelle, Esq., J.P., to The Under Secretary for Lands.

Dear Sir,

340 George-street, Sydney, 13 March, 1888.

I received a notice from the Lands Department, dated March 8th, 1888, informing me that I could make application for land in Swamp-street, Double Bay. I wish to know where I can see a plan of the land to be sold, also what is the upset price, also, a most material point, viz., are you going to allow some of the people having a mere possessory title to some of the frontages, to acquire portions of the closed road, thereby giving a good title to land at the back, where perhaps the frontage title may be voided any moment, or do you mean to make each applicant show a clean title to his respective frontage first.

I have a Torrens title to my land.

Yours, &c.,

WILLIAM H. FLAVELLE.

Mr. Flavelle made personal inquiry yesterday on the subject of this letter, and was referred to the Under Secretary for Lands for the information sought.—A. J. STORRS (for Surveyor-General), 21/3/88. Mr. De Low.—S.F., 24/3/88.

5

No. 15.

Application by Mr. C. G. Sledge.

Form 26.

No. 46, of 1888.

[Crown Lands Act of 1884—Part III, sections 63, 64, 66, and 67.]

Application for a Special Purchase under the Crown Lands Act of 1884.

Received the sum of £10, being the deposit required on this application.

P. J. HOLDSWORTH.

The Treasury, New South Wales, 14th March, 1888.

Double Bay, Woollahra, 14 March, 1888.

In accordance with the provisions of section 66 of the Crown Lands Act of 1884, I, Charles George Sledge, hereby apply for the purchase of the land to which no way of access exists, and which is also insufficient in area for conditional sale, hereunder described, a receipt is hereon showing that the sum of £10 has been lodged with the Colonial Treasurer on account of such application.

Annexed hereto is a plan illustrative of the position of the area applied for.

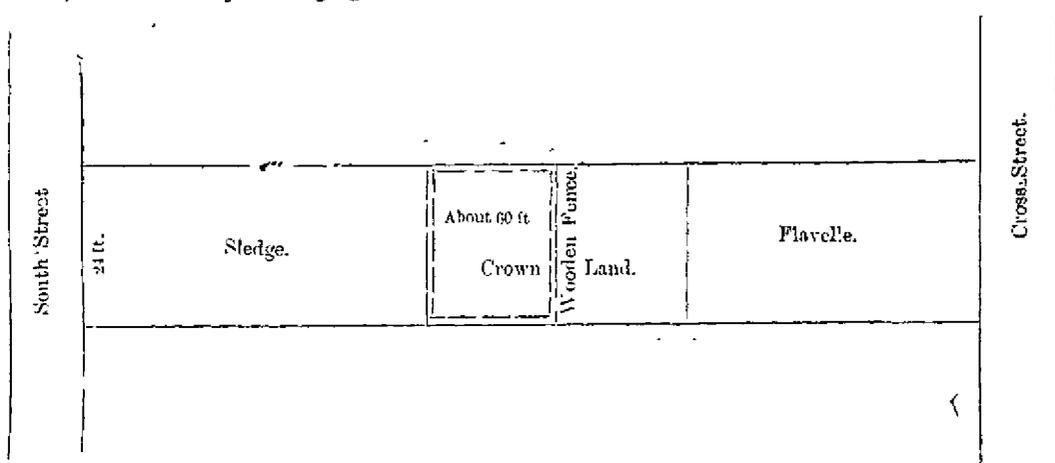
CHARLES GEORGE SLEDGE,

"Kanimbla," South-street, Double Bay.

To the Under Secretary for Lands.

Description of land applied for :

County of Cumberland, parish of Alexandria, being the Crown land indicated upon the sketch hereunder, and defined by red edging.\*



\* Dotted lines in red.

Referred to Mr. District-Surveyor Deering for report, &c.—R.H.D. (for the Under Secretary), B.C., Lands, 16/3/88.

No. 16.

E. S. Newell, Esq., to The Under Secretary for Lands.

Sir,

Caradoc, Bay-street, Double Bay, 16 March, 1888.

In reply to your letter, dated 8th instant, respecting purchase of land in Swamp-street, Double Bay, would you kindly inform me what would be the price. It is necessary for me to know this before deciding, as my means are limited.

Yours, &amp;c.,

E. S. NEWELL.

No. 17.

Application by Mr. E. S. Newell.

Form 26.

No. 49 of 1888.

[Crown Lands Act of 1884—Part III, sections 63, 64, 66, and 67.]

Application for a Special Purchase under the Crown Lands Act of 1884.

Received the sum of £10, being the deposit required on this application.

P. J. HOLDSWORTH.

The Treasury, New South Wales, 21st March, 1888.

Bay-street, Double Bay, 19 March, 1888.

In accordance with the provisions of section 66 of the Crown Lands Act of 1884, I, Elizabeth Sarah Newell, hereby apply for the purchase of certain land which is insufficient in area for conditional sale, hereunder described, a receipt is hereon showing that the sum of £10 has been lodged with the Colonial Treasurer on account of such application.

Annexed hereto is a plan illustrative of the position of the area applied for.

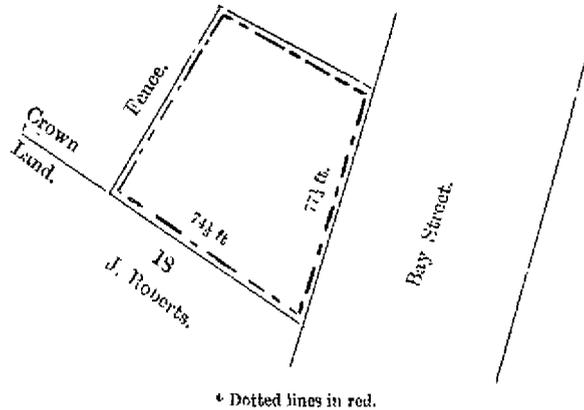
E. S. NEWELL.

To the Under Secretary for Lands.

Description

Description of land applied for :

County of Cumberland, parish of Alexandria, being the Crown land indicated upon the sketch hereunder, and defined by red edging,\* having  $77\frac{1}{2}$  feet frontage to Bay-street, and extending back  $74\frac{1}{2}$  feet, or thereabouts.



Referred to Mr. District-Surveyor Deering for report, &c.—R.H.D. (for the Under Secretary), B.C., Lands, 23 March, 1888.

No. 18.

Application by Mr. T. Rowling.

Form 26.

No. 50 of 1888.

[Crown Lands Act of 1884—Part III, sections 63, 64, 66, and 67.]

Application for a Special Purchase under the Crown Lands Act of 1884.

Received the sum of £10, being the deposit required on this application.

P. J. HOLDSWORTH.

The Treasury, New South Wales, 22nd March, 1888.

Bay-street, Double Bay, 19 March, 1888.

In accordance with the provisions of section 66 of the Crown Lands Act of 1884, I, Thomas Rowling, hereby apply for the purchase of certain land, which is insufficient in area for conditional sale, hereunder described, a receipt is hereon showing that the sum of £10 has been lodged with the Colonial Treasurer on account of such application.

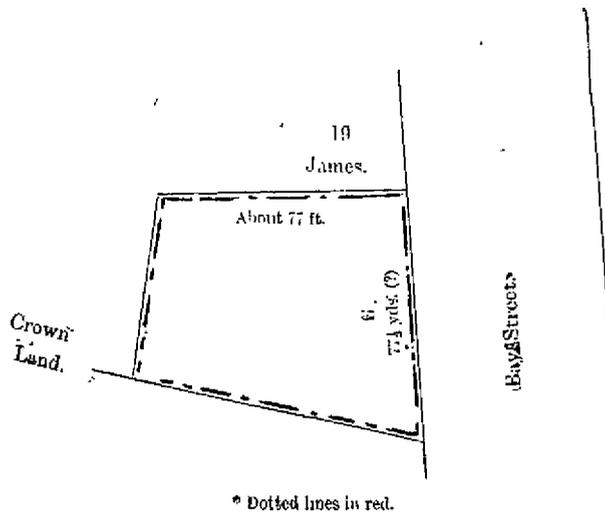
Annexed hereto is a plan illustrative of the position of the area applied for.

THOMAS ROWLING.

To the Under Secretary for Lands.

Description of land applied for :

County of Cumberland, parish of Alexandria, being the Crown land indicated upon the sketch hereunder, and defined by red edging,\* having  $77\frac{1}{2}$  feet frontage to Bay-street, and extending back 77 feet or thereabouts.



Referred to Mr. District-Surveyor Deering, for report.—R.H.D. (for the Under Secretary), B.C., Lands, 24 March, 1888.

No. 19.

No. 19.

R. H. Hardie, Esq., to The Under Secretary for Lands.

*Swamp-street, Double Bay.*

Sir,

133 Pitt-street, Sydney, 1 May, 1888.

On behalf of Mrs. Leslie, and as her agent, I desire to object to the alienation or closing up of Swamp-street, Double Bay. Mrs. Leslie's property, purchased from the Crown by her father, Mr. C. Gordon, in 1835, has some 300 feet frontage to Swamp-street, and if such alienation is made all possible means for drainage will be closed, and this in face of a growing population and an increased number of dwellings being erected.

It is especially desirable that this means for future drainage be not closed as close by is a large Public School, and what is unhealthy for the district must be injurious to the children.

Swamp-street is wide, and might well be used for its original purpose; and also be planted out by the local Council as a Recreation Reserve for the people.

Trusting that the attempt which I understand is being made by one or two interested parties to get this street alienated will not be granted.

I have, &amp;c.

ROBERT W. HARDIE.

[Enclosures.]

Sir,

Crathie, Point Piper Road, Paddington, Sydney, 30 April, 1888.

As I understand an agitation is on foot to do away with Swamp-street, Double Bay, shown on the old maps, and mentioned as Swamp-street in the deeds of the allotments, I beg to inform you that I am the owner of the original allotments fifteen and sixteen, fronting Swamp-street, and my deeds give me a frontage to that street, I therefore firmly and respectfully protest against the infringement of my rights to that street frontage, as I wish to see the street opened and drainage provided without any further delay.

I have, &amp;c.

H. LESLIE.

(Mrs. HEZIBAH LESLIE, Owner.)

The Under Secretary for Lands.

Sir,

The Treasury, New South Wales, 28 April, 1888.

I have the honor to inform you that the deed fee due on the selection mentioned in the margin was credited to revenue on 27th April, 1888.

I have, &amp;c.

W. NEWCOMBE,

(For the Under Secretary).

To the Under Secretary for Lands.

J. Spilsbury,  
Wellington; 40  
acres; selected  
on 17th Decem-  
ber, 1863; deed  
fee, £1.

Sir,

The Treasury, 27 December, 1866.

I am directed to annex a Schedule, accompanied by a declaration in each case, of moneys paid into this office, on 24th instant, as balance due upon conditional purchases.

I may add that the several amounts have been carried to the Consolidated Revenue Fund, subject to the declaration being countersigned by the Minister for Lands, on the conditions of the Crown Lands Alienation Act of 1861 having been complied with.

I have, &amp;c.

HENRY LANE.

To the Under Secretary for Lands.

SCHEDULE REFERRED TO.

Spilsbury, J., Wellington; selected on 17th December; area, 40 acres; balance, £30.



1887-8.

LEGISLATIVE ASSEMBLY.  
NEW SOUTH WALES.

THE MISSES SAVAGE.

(PETITION OF)

*Received by the Legislative Assembly, 4 July, 1888.*

To the Honorable the Speaker and the Honorable the Members of the Legislative Assembly of New South Wales, in Parliament assembled.

The humble Petition of Mary Charlotte Savage, Ellen Savage, and Alicia Jane Savage,—

HUMBLY SHOWETH:—

That your Petitioners are the daughters of the late Arthur Savage, Surgeon, Royal Navy, who after having successfully taken charge of several convict ships to Sydney from England, emigrated to Sydney with his family, with the sanction of the Admiralty, in 1838, and held the appointment of Health Officer of Port Jackson for thirteen years.

That his health completely gave way under the severe fatigue and anxiety consequent upon the increase of work caused by the influx of shipping after the gold discoveries, and he died on the 20th July, 1852, aged 55 years.

That adverse circumstances arising from no fault of their own have compelled your Petitioners for many years to support themselves, that the health of two of your Petitioners has quite broken down under the pressure of seventeen years severe trouble, one daughter having been delicate all her life.

That it is now difficult for your Petitioners to maintain themselves.

That your Petitioners believe they have a claim for good service rendered to the Colony by their late father, for which no gratuity or pension has ever been received.

That the late Dr. Savage was a good and meritorious officer, who died in harness, having faithfully served the Colony.

Your Petitioners therefore humbly pray that your Honorable House will take the circumstances detailed in the foregoing Petition into careful and favourable consideration, and so deal with your Petitioners as to your Honorable House may seem just and right.

And your Petitioners, as in duty bound, will ever pray.

[3 signatures.]



1887-8.

LEGISLATIVE ASSEMBLY.  
NEW SOUTH WALES.

**THEFTS OF WORKMEN'S TOOLS.**  
(RETURN RESPECTING.)

*Ordered by the Legislative Assembly to be printed, 28 February, 1888.*

*[Laid upon the Table of this House in accordance with promise made by the Colonial Secretary, in answer to Question No. 9, Votes No. 53, of Wednesday, 15 February, 1888.]*

(9.) Thefts of Workmen's Tools:—Mr. Schey asked the Colonial Secretary,—

(1.) Has he any objection to lay upon the Table of this House a Return showing:—(1) How many complaints have been made to the police of thefts of workmen's tools during the last two years; (2) how many prosecutions have been initiated by the police during a like period for such offences; (3) how many convictions have been obtained;—this Return to be limited to the city of Sydney.

(2.) Does he require such Return to be moved for, or will he now cause it to be supplied?

Sir Henry Parkes answered,—If the Honorable Member thinks that this Return will be of value—I confess I do not see the value of it myself—I am quite willing to have it prepared, and to lay it upon the Table, confining it to the city of Sydney,

RETURN showing the number of Complaints made to the Police of Thefts of Workmen's Tools within the city of Sydney, prosecutions initiated, and convictions obtained, during the last two years.

Complaints.	Prosecutions.	Convictions.	Remarks.
149	75	62	The greater number of these larcenies were committed in consequence of the workmen's tools being left unprotected by night about the buildings where they were being used.

The Inspector-General of Police,  
23 February, 1888.

G. READ,  
Superintendent.



1887.

(THIRD SESSION.)

LEGISLATIVE ASSEMBLY.

NEW SOUTH WALES.

**THE REVEREND DANIEL P. M. HULBERT.**

(PETITION OF.)

*Received by the Legislative Assembly, 15 November, 1887.*

To the Honorable the Legislative Assembly of New South Wales, now assembled in Parliament.

The Petition of the undersigned Ecclesiastic,—

VERY HUMBLY SHOWETH,—

1. That for thirty-nine years your Petitioner has been in the direct pay of Her Imperial Majesty, and for over thirty years of honorable period of service, through having been appointed a stipendiary pastor in Goulburn Church District, by Viceroy Sir William Denison and his Executive Council, some two months after the decease of the Very Reverend Commissary Cartwright, Master of Arts, he has mostly resided in Goulburn township, as did his predecessor.

2. That such appointment by recommendation of the deceased Primate, Frederic Barker, D.D., was wholly unsought for and unsolicited by the Petitioner, then living in Goulburn, and that he, as a new arrival and consequently unacquainted with the powers and prerogatives of the above-named Governor-General, accepted the proffered office and function, in implicit faith and entire reliance on the assurance that a free residence would speedily be built for him, as ordered by the Colonial Statutes, and that so soon as he could obtain and forward to Sydney upwards of 500 signatures of adults willing to accept his services, he would be entitled to an annual allowance from the Treasury of £250, in addition to a probable equal amount in surplice-fees and voluntary gifts from the laity; such signatures only to be obtained outside the immediate neighbourhood of the Goulburn township, so as to leave to Rev. Wm. Sowerby an adequate number of adults to secure his allowance from the Crown also.

3. That nearly five months of arduous and perilous horsemanship, having purchased two horses and equipments for such labour, were expended in obtaining about 560 signatures, and within the outlying area of Goulburn Church District, even to some 50 to 60 miles remote from the Goulburn township so reserved by the Crown; and your Petitioner has been informed that the enrolment of adults has been duly preserved; yet not until the expiry of those five months did he receive £1 of the allowance from H.M. Treasurer, the voucher for such first payment having been shown to him in the Office of Her Imperial Majesty's Auditor-General in Sydney.

4. That an immediate promise of £500 was made to himself, followed by plans and specifications for a costly manse by the architect, the late Mr. Blacket, such promise also being personally renewed to Mr. John William Chisholm, of Wallogorang, and your former Speaker, Sir Terence Aubrey Murray, who severally informed your Petitioner thereof; but inasmuch as Goulburn Church Trustees constantly affirmed that they had no funds in possession, and not £1 of the above promised £500 was ever remitted to either of us from Sydney, the plans supplied by Mr. Blacket were of no greater value than the promises.

5. That your Honorable Assembly generously gave the Right Reverend Doctor Barker the sum of £1,600 for his having come to this metropolis at his own expense and only some few months before betaking himself and all appurtenances finally out of it; but that your Petitioner never has received £1 out of H.M. Church Lands at Goulburn township, although by many removals which he has been compelled to make and by the great costs of bringing out his family and valuable library and other effects (most materially damaged by removals) £1,200 will not compensate him for planting his children and children's children here in perpetuity.

6. That about eleven months since, your Petitioner respectfully placed this grievous plaint before His Excellency the present Governor-in-Chief, who, through his private secretary by letter was pleased to advise him rather to place it before the responsible advisers of the Crown, the Cabinet of the Honorable Mr. Dibbs.

7. That your Petitioner did so, and after many days that honorable gentleman, the then Colonial Secretary, graciously assured him that "for every legal wrong-doing there existed a corresponding remedy, and that Her Majesty's Trustees in Goulburn were equally as much bound to attend to this plaint as either he himself or the Colonial Treasurer or any other Cabinet Minister."

8. That by reason of the suits at law in local courts and again in the Supreme Court, resulting from sundry notorious actions, your Petitioner awaited patiently the decision of Her Majesty's learned judges, three of whom unanimously and recently affirmed the same as your Petitioner *ab initio* had ever insisted upon, that not any ecclesiastic, whether Sowerby or Puddicombe, the plaintiff in that cause, ever was entitled to a larger annual sum than £150 per annum.

9. That now, however, by an advertised notice to the public, your honorable Assembly is again to be importuned to award the sum of £300 a year, instead of the statutablely enjoined £150 per annum; and yet more, that a large amount of capital sum is in deposit account at a Goulburn bank to the credit of one Trustee only and not in the joint names of all H.M. Trustees, in the Colonial Treasury, with accumulating interest, which did not appear before their honors the three Supreme Court Judges, and which is very obviously imperilling that capital.

10. Wherefore, lastly, taking all these premises into your very serious consideration, your Petitioner most humbly entreats your Honorable House to bear in mind that he himself is the sole surviving ecclesiastic who was appointed to Goulburn Church District by Her Majesty's Governor-General Denison, over thirty years ago.

- (a.) That H.M. Trustees wrongfully and injuriously allowed Rev. William Sowerby, father-in-law of the senior Trustee, to appropriate the entire yearly revenues to his own family uses and indulgences until his own natural demise.
- (b.) That fully £7,000 from first to last, inclusive of the above and down to this date, as publicly made known by your Petitioner, have, by reason of such Crown appointment, been spoliated from his family; and
- (c.) That the Bishop has constantly assured your Petitioner privately, as well as Goulburn Synod openly, that not £1 of the greatly increased revenues from the Crown "Trust" Estates ever has been placed at his control or at his disposal by Her Majesty's Trustees, or any years current account, contrary to the plainest precept of the Statute, viz., 20 Victoria, No. 4, 15 December, 1857, which ordereth thus:—

"Furthermore the Trustees of church lands once in each year shall furnish a true account of all rents (*i.e.*, profits) received or receivable by them in respect of the lands entrusted to them by the Crown, under this Act of Parliament; and shall deliver also such account to the Bishop (*i.e.* Diocesan) yearly for his inspection and approval."

Your Petitioner consequently most humbly prays your honorable House to take such action as may secure your most favourable consideration for such an accumulation of wrongs, by reason of the abovenamed appointment by Her Imperial Majesty's Viceroy, Sir William Denison, and will be pleased also to grant a Select Committee of Honorable Members of Parliament to investigate and determine, both retrospectively and prospectively, what requitals should be duly and truly made to your Petitioner by Her Imperial Majesty's Trustees of the valuable trust estates in the town of Goulburn aforementioned.

DANIEL P. M. HULBERT.

Manly Beach, *pro* Goulburn, 5th November, 1887.

1887-8.

LEGISLATIVE ASSEMBLY.  
NEW SOUTH WALES.

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TRADES MARKS.

(PETITION FROM MANUFACTURERS AND MERCHANTS FOR AMENDMENT OF ACT.)

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*Received by the Legislative Assembly, 26 April, 1888.*

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To the Honorable the Legislative Assembly, in Parliament assembled.

The humble Petition of some of the Manufacturers and Merchants of Sydney,—

RESPECTFULLY SHOWETH:—

That whereas your Petitioners are suffering seriously from the loss of our empty packages, vessels, &c., bearing our trade-marks, brands, and names, we humbly pray that you will grant us relief by amending the "Trade-marks Act of 1865," now in force.

Believing it may not be generally known to the Honorable Legislative Assembly that while protecting the goods sold under a registered trade-mark the Act, as at present constituted, does not protect the empty packages, vessels, &c., such goods have been packed in; and as many of these packages, vessels, &c., are, in the ordinary course of trade, lent to the customers, they are in many instances sold to dealers, or destroyed or otherwise made away with thus, inflicting a grievous loss upon the manufacturer or merchant whose property they are.

This want of protection also allows opportunities for unscrupulous persons to fraudulently use our trade-marks, and that in a manner extremely difficult to detect and punish, as repacking or refilling one of our original packages or vessels can scarcely be called forging the trade-mark thereon.

A case has been tried bearing upon this in which the Judge ruled against the prosecutor by holding that "a bottle is a bottle."

Your Petitioners, in the interest of honest manufacturers and merchants, do humbly pray you will so amend the present Trade-marks Act as to extend its privileges and protection to any packages or vessels, &c., whether empty or not, so long as they bear a registered trade-mark, brand, or name, by prohibiting the illegal use of, illegal dealing in (either buying or selling), the wilful destruction of, appropriation of, illegal detention of, or unlawful export of, any package or vessel, &c., bearing a registered trade-mark, and the partially or wholly effacing, obliterating, altering, or mutilating any such registered trade-mark, brand, or name upon any package, vessel, &c., whether empty or not, under pain of severe punishment.

And your Petitioners, as in duty bound, will ever pray, &c.

[*Here follow 140 signatures.*]



1887-8.

LEGISLATIVE ASSEMBLY.  
NEW SOUTH WALES.

**TOTALIZATOR LEGALIZING BILL.**

(PETITION—CLARENCE RIVER JOCKEY CLUB.)

*Received by the Legislative Assembly, 21 February, 1888.*

The Honorable the Legislative Assembly of New South Wales, in Parliament assembled.

The Petition of the undersigned Members of the Clarence River Jockey Club,—

HUMBLY SHOWETH:—

1. That the propensity to speculation is inherent to the human mind.
  2. That this propensity manifests itself to a marked degree in a tendency to engage in betting upon the truly national sport of horse-racing.
  3. That your Petitioners are fully alive to the evils which follow and surround at present the excessive exercise of the propensity to speculate in betting, especially upon credit.
  4. That your Petitioners believe that this propensity should be controlled and guided as far as practicable comfortable with personal freedom. That your Petitioners believe one of the best methods for limiting the evils of betting would be to legalise under certain restrictions the use of the machine known as the totalizator.
  5. That your Petitioners have learnt that the legalising of the totalizator machine in connection with the sport of horse-racing in the Colonies of Queensland and New Zealand have been followed by highly beneficial results, both in respect to the sport itself, and also as to the moral effect upon the community of speculating by wagers.
  6. That your Petitioners submit that restrictions of the following character would amply protect the public and prevent abuse:—
    - (a.) That none but registered racing clubs should be licensed to use the machine.
    - (b.) That the authority or license should be issued by the Colonial Secretary after reference to the Bench of Magistrates at the place where it is proposed to use the machine, subject to revocation at any time.
    - (c.) That not more than three machines should be used by any club at one time, and then only within the raceground under the control or management of the club.
    - (d.) That each machine should be under the care and management of some competent person appointed by the club, and under the direct supervision of the committee.
    - (e.) That no club should be licensed to use the machine for more than six days in each year.
  7. That your Petitioners submit as some of the advantages which would follow the use of the totalizator,—
    - (a.) That the machine would in most cases give firmer odds to speculators than is obtainable from the credit bookmakers, whilst the public would be free to act according to their own judgment.
    - (b.) That the use of the machine would afford less inducement to dishonest running on the part of owners or persons having the control of horses, and for dishonest riding on the part of jockeys, inasmuch as what may be termed individual betting would be much lessened.
    - (c.) That while not interfering with the freedom of those having ample means to back their horses, or to bet under the credit system, the use of the machine for all investments being for cash, would amongst the less wealthy members of the community lessen the temptation that would otherwise exist, to run into debt, or to commit crime in order to honor losses brought about by indulgence in credit betting.
    - (d.) That judging by experience obtained in places where the machine is in legal use, the cause of embezzlement by young men to pay racing debts would be minimised.
    - (e.) That the legalising of the machine under the control of the racing club as hereinbefore suggested would enable those clubs to offer larger prizes for competition, as well as to provide better racing and running tracks, and also to improve the accommodation for the public generally.
  8. Your Petitioners therefore humbly pray that your Honorable House will take the premises into your consideration, and pass such measures as may be necessary to legalise under license the use of the machine known as the totalizator, subject to the control and management of the respective registered racing clubs of the Colony, for a period not exceeding six days in each year.
- And your Petitioners, as in duty bound, will ever pray, &c., &c., &c.

[Here follow 32 signatures.]



1887-8.

LEGISLATIVE ASSEMBLY.  
NEW SOUTH WALES.

## TOWNS OF FORBES AND PARKES.

(RETURN SHOWING AMOUNT OF MONEY SPENT ON PUBLIC BUILDINGS IN.)

*Ordered by the Legislative Assembly to be printed, 10 July, 1888.*

[Return prepared in accordance with promise made by the Honorable the Secretary for Public Works, in reply to a Question by Dr. Ross, M.P., on the 10th instant]

### QUESTIONS.

- (1.) Will he state (approximately) the amount of public money that has been expended in the erection of the new post and telegraph office, the gaol, and other public buildings in the town of Forbes, during the last five or ten years.
- (2.) The same information with regard to the expenditure of public money for public buildings in the town of Parkes.

### ANSWERS.

RETURN of Amounts expended upon the erection, &c., of Public Buildings, &c., in the towns of Forbes and Parkes, prepared in answer to question asked by Dr. Ross, M.P.

Building.	Period.	Erection Repairs.			Furniture.		
<b>FORBES.</b>							
New Post and Telegraph Office...	1880, to 30 June, 1888...	£	s.	d.	£	s.	d.
Gaol ... ..	1882; " " ...	7,100	0	0	500	0	0
Court-house ... ..	1879, " " ...	7,060	0	0	39	0	0
Police Quarters ... ..	1878, " " ...	7,400	0	0	406	0	0
Lands Office ... ..	1877, " " ...	1,620	0	0	26	0	0
		565	0	0	652	0	0
<b>PARKES.</b>							
Post and Telegraph Office ... ..	1879, to 30 June, 1888...	1,982	0	0	86	0	0
Police Station ... ..	1883, " " ...	3,056	0	0	.....		
Court-house ... ..	1877, " " ...	445	0	0	41	0	0
Warden's Office ... ..	1877 ... ..	.....			54	0	0



1887.

(THIRD SESSION.)

LEGISLATIVE ASSEMBLY.

NEW SOUTH WALES.

**THE UNEMPLOYED.**

(PARTICULARS RESPECTING.)

*Ordered by the Legislative Assembly to be printed, 23 November, 1887.**[Laid upon the Table of the House in accordance with promise made by the Colonial Secretary in answer to Question No. 3 of 23 November, 1887.]***4. MR. SEE asked THE COLONIAL SECRETARY,—**

- (1.) The total number of men employed by the Government upon relief works, including National Park?
- (2.) The name of the works upon which they are employed?
- (3.) The number of men employed upon each?
- (4.) The area of land cleared upon each?
- (5.) What area of land has been sold, and what sum has been realized?
- (6.) The total cost of the relief works up to date?

RETURN to Questions to be asked by Mr. See, M.P., Legislative Assembly, 23rd November, 1887.

(1.) Total number of men employed, including National Park, 2,163.

(2.) Name of Work.	(3.) Number of Men.	(4.) Area of Land cleared.	(5.) Area of Land sold.	(5.) Amount realized.
		Acres.	Acres.	£ s. d.
Becroft ... ..	.....	3,259	242	11,954 15 0
Boys' Reformatory ... ..	4	.....	.....	.....
Berowra ... ..	202	133	101	608 0 0
Carlingford ... ..	.....	1,717	166	8,872 7 3
Como ... ..	.....	130	101	1,969 8 7
Dobroyd ... ..	20	80	.....	.....
French's Forest ... ..	144	256	.....	.....
Gordon ... ..	17	3,375	.....	.....
Holt-Sutherland Road ... ..	140	260	.....	.....
Heathcote ... ..	.....	425	202	8,234 13 9
Hornsby ... ..	50	300	.....	.....
Hunter's Hill ... ..	63	54	.....	.....
Illawarra Road ... ..	.....	45	.....	.....
Johnson's Creek ... ..	.....	.....	.....	.....
Little Bay ... ..	6	400	.....	.....
Liverpool Road ... ..	78	80	.....	.....
Narrabeen ... ..	761	1,662	.....	.....
National Park ... ..	542	12,559	.....	.....
Peakhurst Road ... ..	23	57	.....	.....
Prince Alfred Hospital ... ..	5	.....	.....	.....
Rookwood ... ..	.....	1,100	.....	.....
Unwin's Bridge Road ... ..	27	20	.....	.....
University ... ..	.....	.....	.....	.....
Waterfalls ... ..	38	64	.....	.....
White's Creek ... ..	40	.....	.....	.....
Woronara Road ... ..	.....	52	.....	.....
<b>Total ... ..</b>	<b>2,163</b>	<b>26,028</b>	<b>812</b>	<b>31,639 4 7</b>

(6.) Total cost up to date (approximate), £105,000.

The Principal Under Secretary, B.C., 21/11/87.

JOHN DAVIES,  
Chairman.



1887-8.

## NEW SOUTH WALES.

## WHEAT.

(DESPATCH RESPECTING THE POSSIBILITY OF OPENING UP A TRADE IN, BETWEEN AUSTRALIA AND BARCELONA.)

Presented to Parliament by Command.

The Agent-General for New South Wales, London, to The Colonial Secretary, Sydney.

Sir,

5, Westminster Chambers, Westminster S.W.,

28 October, 1887.

I have the honor to forward, for your information, copy of a letter addressed to me by the Secretary of State for the Colonies, covering copy of a communication from the Foreign Office, having reference to a trade in wheat which might be opened between Australia and Barcelona.

I have, &amp;c.,

SAUL SAMUEL.

[Enclosures.]

Sir,

Downing-street, 25 October, 1887.

I am directed by the Secretary of State for the Colonies to transmit to you, for such action as you may think proper, a copy of a letter from the Foreign Office, enclosing a despatch from Her Majesty's Consul at Barcelona, in which he suggests that an important and lucrative trade in wheat might be opened between Australia and that port.

I am, &amp;c.,

JOHN BRAMSTON.

The Agent-General for New South Wales.

[Sub-enclosures.]

Sir,

Foreign Office, 17 October, 1887.

I am directed by the Marquis of Salisbury to transmit to you, to be laid before Secretary Sir Henry Holland, a copy of a despatch from Her Majesty's Consul at Barcelona, in which he suggests that an important and lucrative trade in wheat might be opened between Australia and that port.

I am, &amp;c.,

JAMES FERGUSSON.

The Under Secretary of State, Colonial Office.

My Lord Marquis,

British Consulate, Barcelona, 13 October, 1887.

The following intelligence may be useful to those concerned:—

A very important and lucrative trade might be initiated by the importation of wheat into Barcelona from Australia. Through the continual failure of the crops in these parts (and the harvest of 1887 cannot be said to excel those of the last few years) many cargoes of corn are annually imported at this port from South Russia and North America, and if it could be done, *tant soit peu*, cheaper from Australia, a successful and durable business might be carried on to the advantage of exporters and shipowners.

In order to protect the native produce, the reduced tax of Pesetas 4.20 per 100 kilograms of wheat is imposed now, being the same as that imposed on all Treaty nations with Spain.

The Marquis of Salisbury, K.G., &amp;c.

I have, &amp;c.,

FRANK WOOLDRIDGE.



1887-8.

## NEW SOUTH WALES.

## WHEAT.

(FURTHER DESPATCH RESPECTING THE POSSIBILITY OF OPENING UP A TRADE IN, BETWEEN AUSTRALIA AND BARCELONA.)

Presented to Parliament by Command.

The Acting Agent-General for New South Wales, London, to The Colonial Secretary, Sydney.

Sir, 5, Westminster Chambers, Westminster, S.W., 2 March, 1888.

In continuation of Sir Saul Samuel's letter to you of the 28th October last, S. 259-87, having reference to a trade in wheat which might be opened between Australia and Barcelona, I have the honor to transmit for your information a further communication addressed to me by the Secretary of State for the Colonies on the same subject.

I have, &amp;c.,

DANIEL COOPER.

[Enclosure.]

Sir,

Downing-street, 28 February, 1888.

With reference to previous correspondence on this subject, I am directed by the Secretary of State for the Colonies to transmit to you a copy of a further despatch from Her Majesty's Consul, Barcelona, furnishing additional information in connection with the proposed trade in wheat between Australia and that port.

It will be observed that this information, which is intended to supplement that contained in the enclosure to the letter from this Department of the 25th of October last, has been obtained at the request of the Agent-General for New Zealand.

I am, &amp;c.,

ROBERT G. W. HERBERT.

The Agent-General for New South Wales.

[Sub-Enclosures.]

My Lord Marquess,

British Consulate, Barcelona, 17 February, 1888.

I have the honor to acknowledge the receipt of Sir James Ferguson's commercial despatch, No. 1, of the 6th instant, enclosing to me a copy of a letter from the Agent-General of New Zealand on the subject of the establishment of a trade in wheat between Barcelona and Australia, and instructing me to furnish the further information required by the New Zealand Government, which I beg to forward herewith to your Lordship.

I have, &amp;c.,

M. S. WOOLDRIDGE.

Her Majesty's Principal Secretary of State for Foreign Affairs.

Quantities of wheat imported into Barcelona during the year 1886, and whence exported :—

From Russia .....	Imperial quarters,	123,684
The Levant .....	do	109,284
France and Algiers .....	do	39,432
The United States .....	do	147,264
South America .....	do	11,260
Total .....	do	430,904

Quantities of wheat imported into Barcelona during the year 1887, and whence exported :—

From Russia .....	Imperial quarters,	179,328
The Levant .....	do	48,460
France and Algiers .....	do	17,488
The United States .....	do	259,096
South America .....	do	13,612
Central Europe .....	do	14,080
Total .....	do	532,064

Freights from Russia to Barcelona during the latter part of the year 1887 :—

Odessa—		
Francs, 300, for every 130½ kilogs., = English lb., 287.		
Nicolaeff—		
Francs, 2·15, for           do           do		
From the United States,		
New York—		
3s. 9d. per Imperial quarter.		

Average selling price of foreign wheat in Barcelona during the last four months, November, 1887, to February, 1888, inclusive :—

Nicolaeff and Sebastopol .....	Pesetas, 13·50 per 55 kilogs., = English lb., 121.
Azoff Sea .....	14·35           do
The Levant .....	13·75           do
The United States .....	15·45           do
Bombay .....	15·25           do

Average exchange, Pesetas, 25·50 per £ sterling.

According to agricultural reports the wheat harvest of 1887 has not been an abundant one in most parts of this province, and large quantities of wheat will be required to satisfy the wants of the inhabitants, especially in the north; neither has sowing been extensive. With even good harvests importation of wheat will always be necessary.

Rather important quantities of other cereals were imported into Barcelona during 1887, viz. :—Maize, barley, and oats, from Russia, about 12,000 tons; from the Levant (Turkey and the Danube), about 9,000 tons; and from Morocco, maize and garbanos (chick peas), about 7,400 tons.

M. S. WOOLDRIDGE,

Consul.

Barcelona, 17 February, 1888.

1/2

Mr. Mr.