

1903.

WESTERN AUSTRALIA.

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R E P O R T

OF THE

DEPARTMENT OF MINES

FOR THE YEAR

1902.

---

*Presented to both Houses of Parliament by His Excellency's Command.*

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Hon. H. Gregory, M.L.A.  
Minister for Mines.

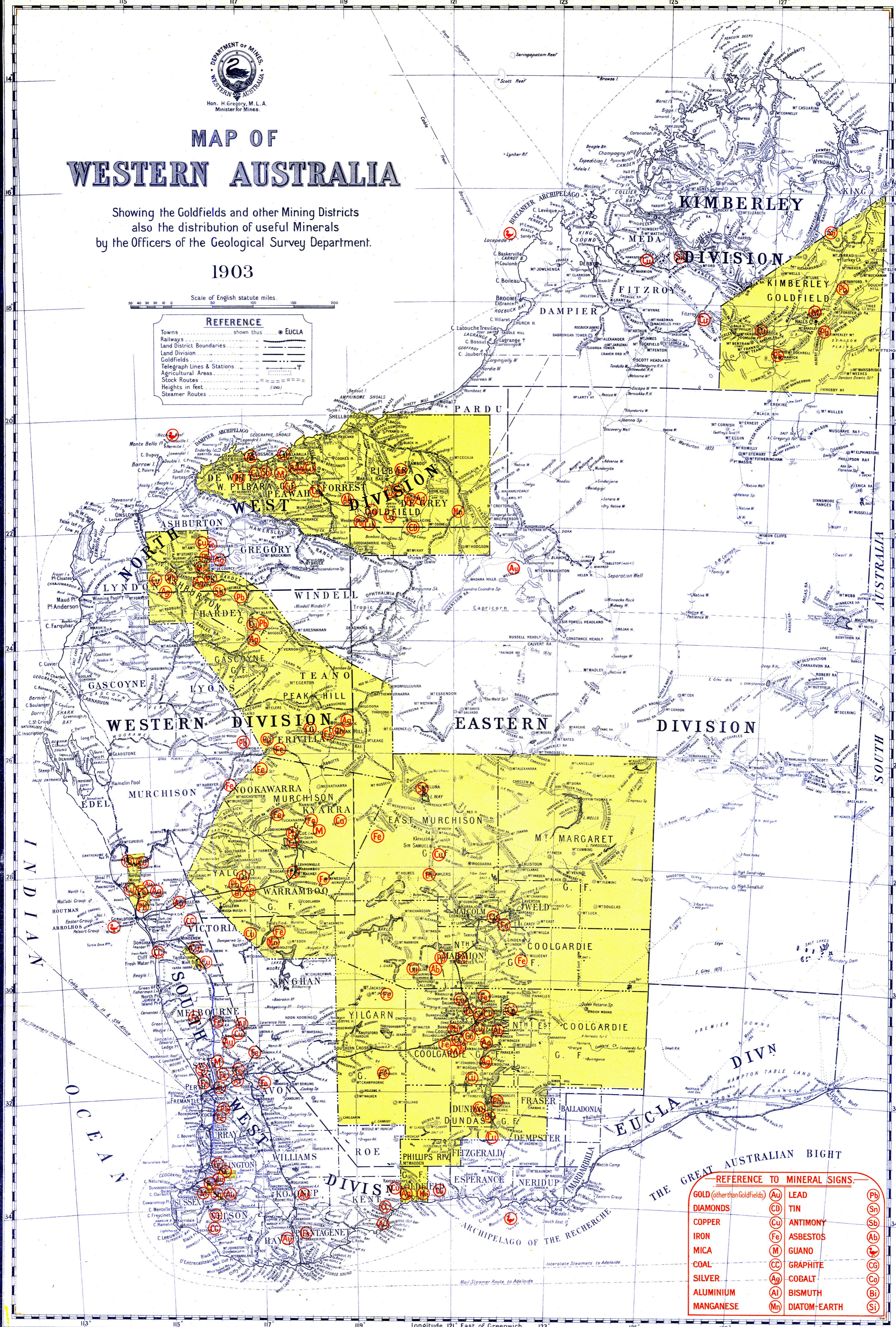
# MAP OF WESTERN AUSTRALIA

Showing the Goldfields and other Mining Districts  
also the distribution of useful Minerals  
by the Officers of the Geological Survey Department.

1903

Scale of English statute miles

REFERENCE	
Towns	shown thus  EUCLA
Railways	
Land District Boundaries	
Land Division	
Goldfields	
Telegraph Lines & Stations	
Agricultural Areas	
Stock Routes	
Heights in feet	(126)
Steamer Routes	



REFERENCE TO MINERAL SIGNS.			
GOLD (other than Goldfields)	Au	LEAD	Pb
DIAMONDS	DI	TIN	Sn
COPPER	Cu	ANTIMONY	Sb
IRON	Fe	ASBESTOS	Ab
MICA	M	GUANO	G
COAL	CC	GRAPHITE	CG
SILVER	Ag	COBALT	Co
ALUMINIUM	Al	BISMUTH	Bi
MANGANESE	Mn	DIATOM-EARTH	Si

# ANNUAL REPORT OF THE DEPARTMENT OF MINES, WESTERN AUSTRALIA, 1902.

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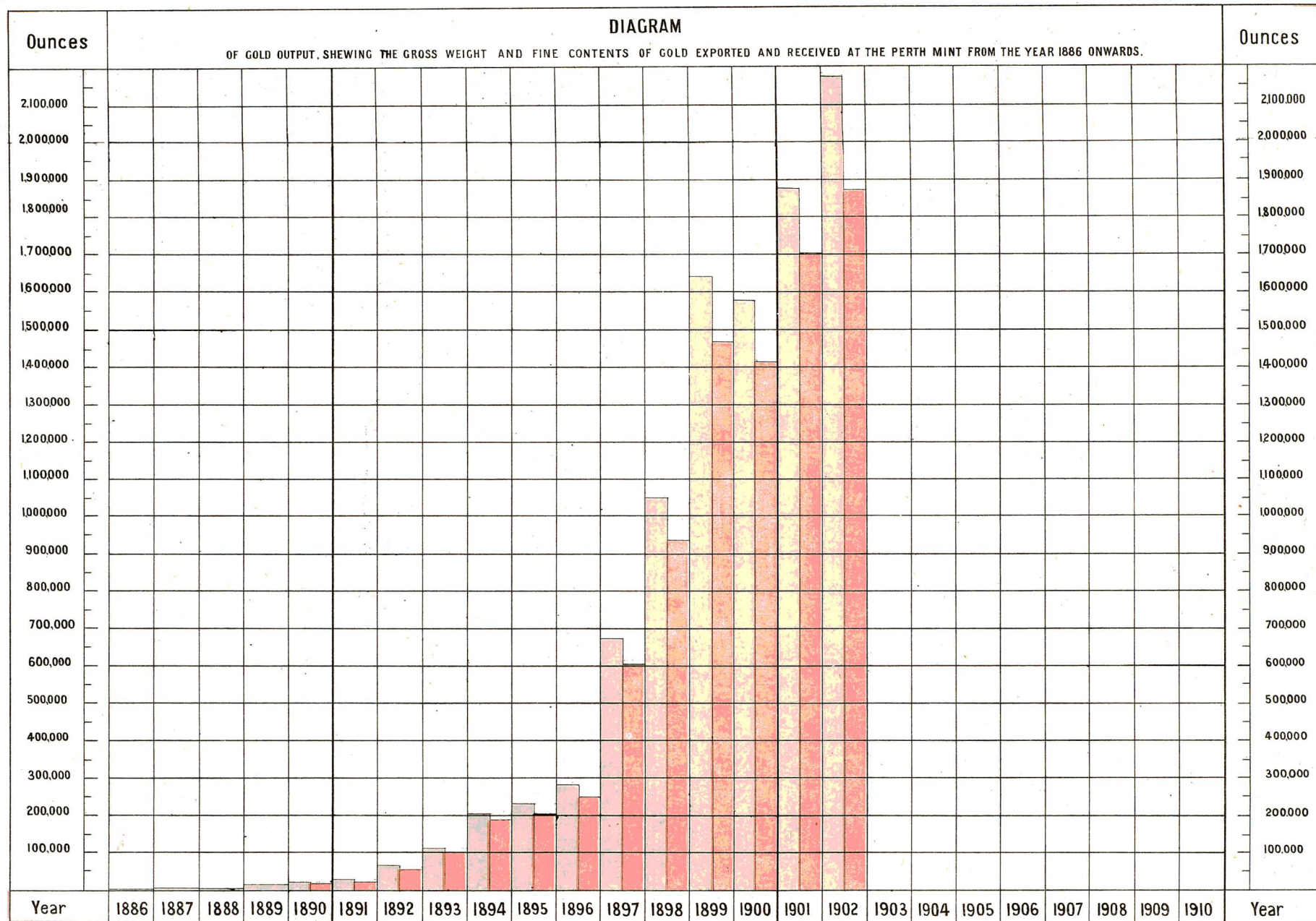
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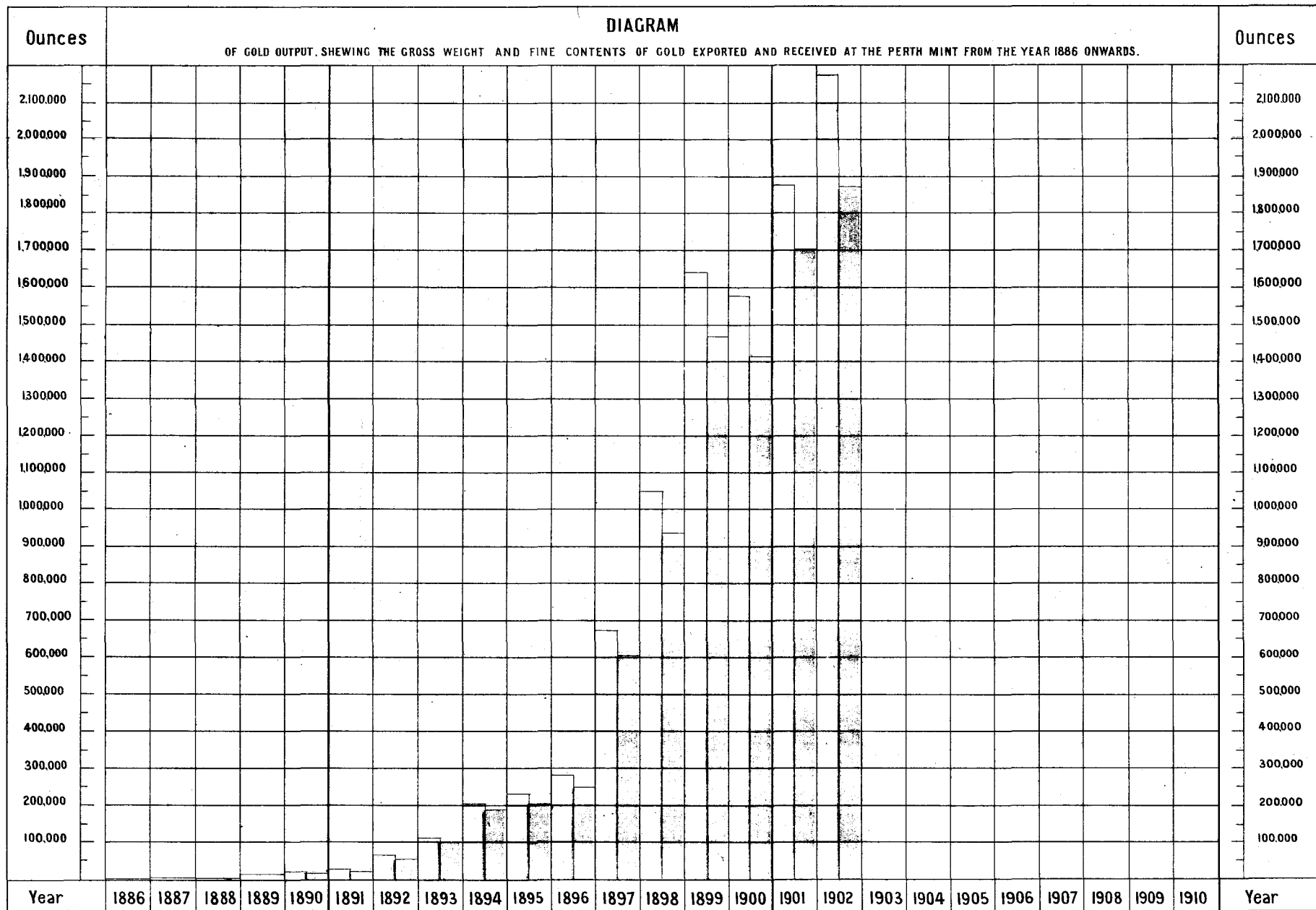
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*Fine contents exported & received at Perth Mint.*

*Gross weight exported & received at Perth Mint.*



□ Fine contents exported & received at Perth Mint.

□ Gross weight exported & received at Perth Mint.

# COMMONWEALTH OF AUSTRALIA.

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STATE OF WESTERN AUSTRALIA.

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## *Report of the Department of Mines of the State of Western Australia for the Year 1902.*

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*To the Honourable H. Gregory, M.L.A., Minister for Mines.*

SIR,

I have the honour to submit the Annual Report of the Department for the year 1902, with summaries of reports from the Wardens and other officers, together with various comparative tables giving statistics relating to the Mining industry of the State.

For the first time since the inception of the Department, a report from the State Mining Engineer appears; but as that office was only created in November last, the present occupant, Mr. A. Montgomery, has naturally had but little time to see much of mining in this State.

In accordance with your desire, the Government Geologist has supplied a summary of the work of the Geological Survey for the year, which is published with this report instead of separately, as heretofore.

Reports from the Superintendent of State Batteries, Chief Inspector of Boilers, and the Chief Inspector of Explosives and Government Analyst are also published.

The Mining Statistics, giving details of the output of every producing mine, and other statistical information relating to mining in the State, are also submitted.

I have, etc.,

H. S. KING,

Under Secretary for Mines.

Department of Mines, Perth, 5th May, 1903.

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## DIVISION I.

### *Summary by the Under Secretary for Mines.*

- I.—GENERAL REMARKS.
- II.—MINERALS RAISED.
- III.—LEASES AND OTHER HOLDINGS UNDER THE VARIOUS ACTS RELATING TO MINING.
- IV.—MEN EMPLOYED.
- V.—ACCIDENTS.
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- VII.—REMARKS ON GOLDFIELDS AND MINING DISTRICTS, AND SUMMARIES OF WARDENS' AND REGISTRARS' REPORTS.
- VIII.—EXISTING LEGISLATION.
- IX.—EXAMINATIONS HELD UNDER THE "MINES REGULATION ACT" AND THE "COAL MINES REGULATION ACT."
- X.—INSPECTION UNDER THE STEAM BOILERS ACT.
- XI.—SCHOOL OF MINES.
- XII.—DEPARTMENTAL.

### PART I.—GENERAL REMARKS.

Everything considered, the total mineral output for 1902, valued at £8,094,617, showing, as it does, an increase of nearly nine per cent. as compared with the value of the output for 1901, cannot be considered as otherwise than satisfactory. That Western Australia is at present essentially a gold-producing State will be seen by the fact that the value of the output of minerals other than gold only amounts to about 1·8 per cent. of the total mineral production.

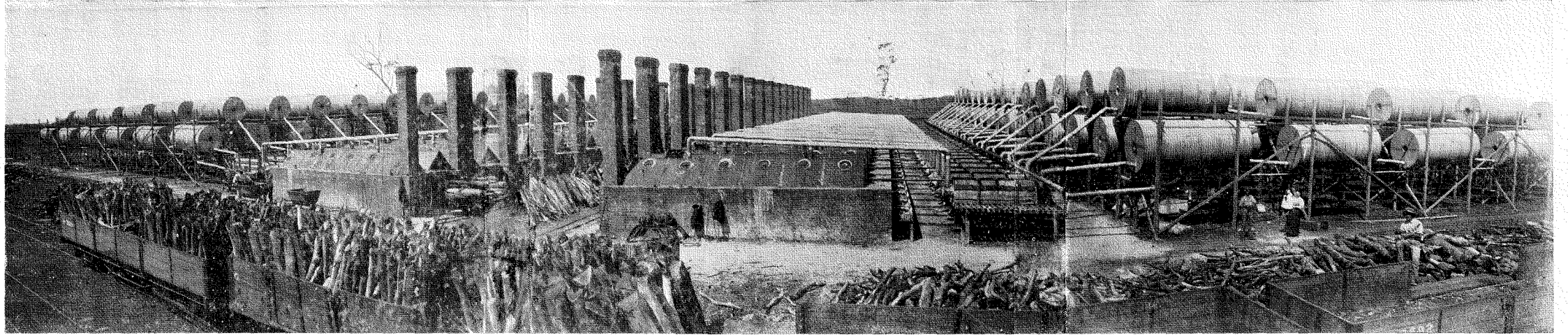
That the gold-mining industry is an extensive one, and of vital importance to the State of Western Australia, the following figures will show:—

Land leased for gold mining	32,570 acres
Men engaged in gold mining (1902)	20,476
Estimated population of the State (December, 1902)	214,805
Value of gold output for 1902	£7,947,662
Dividends paid during 1902	£1,424,272
Value of gold output from inception (1886) to end of 1902	£37,670,312
Total dividends, 1890 to 1902	£7,483,112
Value of mining machinery (1902)	£4,304,397
Value gold produced per man engaged in gold mining (1902)	£388·14

When it is also considered that, for the year 1902, 53 $\frac{2}{3}$  per cent. of the value of the gold produced in the Commonwealth of Australia was derived from the State of Western Australia, the further development of the gold resources of this country may have an appreciable influence on the prosperity of the Commonwealth, and help to make Western Australia one of its most prosperous States.

### GOLD.

The output for the year under review (1,871,037oz. fine) exceeds that for the year 1901 (the highest previously recorded) by 167,620oz. fine—an increase of 9·8 per cent. The total gold output of the State to the end of 1902 amounts to 8,868,340oz. fine, valued at £37,670,312, which is truly a remarkable record considering that gold mining only commenced in this State in the year 1886; that, so far, practically no rich alluvial fields of any extent have been worked; and the many difficulties which have had to be surmounted in the development of the mines.



**GOVERNMENT CONDENSERS, COOLGARDIE.**

*(Coolgardie Goldfield.)*

It is satisfactory to note that the increased output has been general throughout the goldfields, and that of the 19 goldfields of the State only five of the less important show a decrease. Among the most important increases, the following may be specially noted: the Murchison, with an increase of 64,221oz. crude; the East Coolgardie, with 127,238oz.; the North Coolgardie, with 36,711oz.; the Mount Margaret, with 21,277oz.; and the Peak Hill and the East Murchison, with 17,232oz. and 15,073oz. respectively. The Phillips River Goldfield, for the first time, provides a substantial contribution to the total with 8,494oz., and as, practically, no crushing facilities were available prior to 1902, the future output should be much larger.

The Pilbarra Goldfield shows a slightly improved output, as also the West Pilbarra, where few mines are working. The Kimberley, Gascoyne, and Ashburton Goldfields have still a very small output, and until better means of transport are provided for mining machinery and stores, any marked improvement can hardly be expected, unless easily worked alluvial deposits are discovered. There is a regrettable decrease for the Yalgoo Goldfield of 3,385oz., in consequence of several producing mines having temporarily ceased operations, but prospecting is still being carried on throughout the field. The yield for the Broad Arrow Goldfield also shows a decrease of 15,000oz., principally owing to the cessation of active mining operations by the New Austral and Paddington Consols mines; the latter has, however, passed into the hands of a new company, and is now being vigorously worked.

On the majority of the goldfields, gold mining is in an eminently satisfactory state; the mines are being systematically developed, and modern machinery is being installed. In the East Coolgardie Goldfield, especially, the mines on the "Golden Mile" are being proved by deep sinking and diamond drilling, with most satisfactory results. The Great Boulder Proprietary has still the deepest shaft on the field, and the reef is being opened up at the 1,600ft. level on payable ore, and the sinking is still proceeding. Other mines are also going down, notably the South Kalgurli, Associated Northern, Associated, Lake View and Boulder Junction, Golden Horseshoe, Great Boulder Perseverance, Kalgurli, Hainault, Paringa, Ivanhoe, and Lake View Consols, whose main shafts range from 850ft. to 1,425ft. in vertical depth.

#### TIN.

The value of the output of black tin for the year (£39,783) is practically the same as that for 1901, the two producing districts being as heretofore—Greenbushes and Pilbarra. A substantial increase of £5,828 in the value of the output of the former district is shown, 82 tons more tin having been produced in 1902 than in the previous year. For some time works have been in progress to pump water from the Blackwood River to the centre of the tinfield, and the syndicate controlling them is sanguine as to the early completion of the work. If water is supplied at a reasonable rate, increased prosperity should result, and it should be possible to treat the stanniferous wash throughout the year, whereas at present water for streaming purposes is very scarce in the summer.

In the Pilbarra Goldfield, although the value of the output is less by £6,045 than that for 1901, a considerable quantity of alluvial mining has been done during the year on the Moolyella and Cooglegong Tinfields. The Warden is of opinion that the holders of unregistered alluvial claims obtain a large quantity of tin for which it is impossible to obtain correct returns, and consequently the output appears lower than it really is. A promising find of lode tin was made during the year at Wogina Hill, but so far little development work has been done on it.

## COAL.

The Collie Coalfield is still the only producing field in the State, and its output for 1902 was 140,884 tons, about 23,000 tons in excess of that for 1901. On an average 368 men have been employed in the collieries; about the same number as were employed during the previous year. Practically the only producing company has been the Proprietary, which now works the Wallsend lease. This lease adjoins the company's original leases, and the workings are connected.

During the year the railway has been extended to the South-East to the Collie-Boulder leases, where a considerable amount of preparatory work has been done, and the early part of 1903 should see this a producing property.

Preparations are being made to open out the property known as the Collie-Cardiff, and as the railway line is to be extended to these leases, they should reach the producing stage early in 1903.

The Railway Department may still be said to be the only customer for coal, and the problem of the future is to obtain a more extended market. For some time to come the goldfields cannot be expected to consume much coal, seeing that there are supplies of firewood at present available, and while this is so there can be no market there for Collie coal. If the coal can be supplied at the seaports of the State at a reasonable price, and in a form suitable for ocean going and coasting steamers, a considerable trade should result; and with this end in view the Proprietary Company has established a briquette factory at Bunbury, the nearest seaport. Some initial difficulties have been encountered owing to the nature of the coal, but the company is sanguine of success in the near future.

Towards the latter end of the year boring operations were carried on near Mingenew, on the Midland railway line, in the Irwin River district. The existence of coal seams in this district has been known for many years, but no systematic efforts have been made to test them. The present prospecting company has obtained the use of a large diamond drill plant from the Government, and purposes testing the country to a depth of at least a thousand feet.

## COPPER.

The value of copper ore produced during the year is less by £61,810 than the value for 1901, the tonnage being less by 7,698 tons. This decrease in output is principally accounted for by the fact that the smelters at the Anaconda mine in the Mount Margaret Goldfield were closed down during the greater part of the year. However, development work has been proceeded with, and as the properties have been acquired by a company and sufficient capital provided to open out the lodes on a larger scale, the production of the property for the year 1903 should be largely increased.

The Phillips River Goldfield produced copper ore to the value of £1,238 during the year. The absence of any local smelting works, the high cost of carriage to the coast, and conveyance to smelting works in the Eastern States, combined with the low price of copper during the greater part of the year, have rendered the mining of any but the highest grade ore unprofitable, and consequently the development of copper properties has been practically at a standstill. Towards the end of the year the newly appointed State Mining Engineer made an exhaustive inspection of the field, with the object of advising the Government as to the establishment of a State smelter on the field, or as to any other means of fostering the copper mining industry. His report is

now in the press, and while he does not advise the immediate erection of a smelter, on account of insufficient development, he considers the field a very promising one, and one that, with vigorous development, should soon be in a position to require a local smelter. He has recommended the immediate erection of a sampling floor and assay office, and the purchase and storage there by the Government of all parcels of copper ore that have an assay value of £6 per ton net; the ore being accumulated in anticipation of the subsequent erection of a smelter.

The West Pilbarra field has produced no copper ore during the year. Although large bodies of high-grade ore exist, mining has been as a whole carried on in anything but a systematic manner. Some of the most valuable properties have been stripped of their high-grade surface ore, with no thought to the future of the mines, while others have been worked without sufficient capital to provide the pumping machinery necessary to cope with the large bodies of water found at a comparatively shallow depth. Little work has been done during the last few months, but there is every reason to suppose that this part of the State has a promising future as a copper producer.

The Murchison and Northampton Districts produced small quantities of copper ore during 1901, but during 1902 none has been reported.

#### IRONSTONE AND LIMESTONE.

The value of the ironstone raised during the year has fallen to £2,040, and that of limestone to £1,340, as against £13,246 and £4,348 in 1901. In previous years it has only been possible to obtain returns of the output of these minerals when mined on Crown lands, or used in connection with smelting operations. The large falling off is almost wholly due to the closing down of the smelting works at Fremantle during the year.

#### OTHER MINERALS.

The amount and value of the silver obtained as a bye-product have increased during the year by 22,424oz. fine and £1,581 respectively.

Small quantities of cobalt, plumbago, and silver-lead ore have been obtained during the year.

No precious stones are known to have been obtained during 1902.

#### FUTURE PROSPECTS.

When the progress and history of mining in this State for the past few years is studied, no apprehension for the future success of the industry can reasonably exist. As regards many of the goldfields, the initial difficulties of transport, mining, and treatment have been overcome; but on some of the fields there remain difficulties to be surmounted. Principal among these are the comparative scarcity of mining timber and fuel. At present no great scarcity exists, but before many years, on the Northern fields, timber in the vicinity of the large mining centres will become scarce, and railway communication will become imperative. Fortunately the Government are alive to this necessity, and some extensions of the railway system have already been authorised by Parliament, and the necessity of others has been recognised.

The extension of the railway system should also have an important bearing on the question of wages on the more remote goldfields, in that it will tend to make living cheaper. Miners' wages are at present high in Western Australia, which is accounted for, to a great extent, by the high cost of living. If in years to come the present rate of wages and cost of mining supplies are maintained, it must militate to a great extent against the development of the gold resources of the State. The success of Western Australian mining must depend, as mining in other parts of the world has had to depend, not on the success of a comparatively few rich mines, but on the profitable treatment of large bodies of low-grade ores; and as mining in this State has passed from the speculative to the commercial stage, the aim of all who have the welfare of the mining industry of this State at heart must be, not only to encourage improved mining methods, but to so improve means of transport and conditions of life on the goldfields that mining costs will of necessity be reduced

## PART II.—MINERALS RAISED.

TABLE I.

*Quantity and Value of all the Minerals produced during 1901 and 1902.*

Description of Mineral.	1901.		1902.		Increase or Decrease for Year compared with 1901.	
	Quantity.	Value at the Mines.	Quantity.	Value at the Mines.	Quantity.	Value at the Mines.
1. Black Tin (raised), statute tons ...	734	£ 40,000	620	£ 39,783	- 114	£ - 217
2. Coal (raised) do. ...	117,836	68,561	140,884	86,188	+ 23,048	+ 17,627
3. Cobalt Ore (export) do. ...	...	...	2	41	+ 2	+ 41
4. Copper Ore (raised) do. ...	R + 9,960	R + 69,900	2,262	8,090	- 7,698	- 61,810
5. Gold (export and mint) ounces fine	1,703,417	7,235,653	1,871,037	7,947,662	+ 167,620	+ 712,009
6. Ironstone (raised), statute tons ...	20,569	13,246	4,800	2,040	- 15,769	- 11,206
7. Limestone (raised) do. ...	18,210	4,348	5,080	1,340	- 13,130	- 3,008
8. Plumbago Ore (export) do. ...	...	...	1	6	+ 1	+ 6
9. Precious Stones (export), carats ...	+	1,000	...	...	...	- 1,000
10. Silver (export), ounces fine ...	60,869	7,609	83,293	9,190	+ 22,424	+ 1,581
11. Silver Lead Ore (raised), statute tons	R <sup>1</sup> + 21	R <sup>1</sup> + 152	36	277	+ 15	+ 125
Total Values ...	...	7,440,469	...	8,094,617	...	+ 654,148

+ Weight not stated. R revised, 197 tons, value £5,346, to be deducted from 1901 report. R<sup>1</sup> revised, for "Lead Ore" 9 tons, value £109, read "Silver Lead Ore" 21 tons, value £152. To be added to 1901 report, 12 tons, value £43.

The above table gives the total quantity and value of minerals produced during the years 1901-2, and it will be seen that, notwithstanding the large falling off in the total value of copper ore raised, the production for the year shows an increase of £654,148 as compared with 1901, and is the largest yet recorded for the State.

The falling off in the production of ironstone and limestone is due principally to the temporary closing of the Fremantle smelting works, but the figures above given do not represent nearly the amount of limestone mined, but only that from quarries held under lease from the Crown, and that used in smelting operations.



**GENERAL VIEW OF MENZIES.**  
*(North Coolgardie Goldfield.)*

TABLE 2.

Summary of Gold Exported and received at the Perth Branch of the Royal Mint during 1901 and 1902, compared with the yields reported to the Mines Department; also the percentage of the latter for the several Goldfields, and the average yield per ton of Ore milled.

Goldfield.	Export and Mint.		Reported Yield.					
	1901.	1902.	1901.	1902.	Percentage for each Goldfield.		Average per ton of ore milled.	
					1901.	1902.	1901.	1902.
	oz.	oz.	oz.	oz.			oz.	oz.
1. Kimberley ... ..	663	442	297	346	·02	·02	·72	·44
2. Pilbarra ... ..	11,320	10,706	10,265	12,170	·56	·57	1·65	1·59
3. West Pilbarra ... ..	481	3,284	231	2,223	·01	·11	1·97	1·02
4. Ashburton ... ..	64	...	992	978	·05	·05	...	...
5. Gascoyne ... ..	26	125	90	...	·01	...	...	...
6. Peak Hill ... ..	21,607	32,737	20,255	37,487	1·10	1·77	·84	·65
7. East Murchison ... ..	77,604	91,976	76,236	91,309	4·14	4·31	·89	·64
8. Murchison ... ..	144,694	212,570	146,592	210,814	7·96	9·95	1·27	1·36
9. Yalgoo ... ..	9,198	5,679	9,238	5,853	·50	·28	·70	1·46
10. Mt. Margaret ... ..	198,808	216,637	190,032	211,309	10·32	9·98	·76	·76
11. North Coolgardie ... ..	142,798	187,273	148,305	185,016	8·05	8·74	1·36	1·17
12. Broad Arrow ... ..	29,105	18,380	34,675	19,675	1·88	·93	·74	·78
13. North-East Coolgardie ... ..	50,557	54,541	63,652	67,109	3·46	3·17	·95	1·03
14. East Coolgardie ... ..	1,033,670	1,172,405	991,369	1,118,616	53·84	52·83	1·42	1·31
15. Coolgardie ... ..	88,601	97,477	84,754	87,860	4·60	4·15	·67	·89
16. Yilgarn ... ..	29,488	25,878	26,587	23,130	1·44	1·09	1·00	·56
17. Dundas ... ..	38,796	36,211	37,084	34,751	2·01	1·64	·94	1·27
18. Phillips River ... ..	...	8,576	713	8,494	·04	·40	1·17	·90
19. Donnybrook ... ..	5	73	4	101	...	·01	·08	·19
Goldfields generally ... ..	1,906	2,471	127	...	·01	...	...	...
Totals and Averages ... ..	1,879,391	2,177,441	1,841,498	2,117,241	100·00	100·00	1·15	1·10
Fine contents ... ..	1,703,417	1,871,037	1,669,072	1,819,308				

As in previous reports, in making comparisons between the gold production of the various fields, the yields reported to the Department are made use of; the Export and Royal Mint figures represent more accurately the output of the State, but exporters are not always able to state accurately the fields whence the gold is derived. Thus the Export and Mint figures for the East Coolgardie Goldfield are nearly always in excess of those reported to the Department, as gold ore from surrounding fields is often treated and banked at Kalgoorlie, and is reported at the Customs and the Mint as the product of that field.

As for some years past, the goldfield producing more than half the total yield of the State is the East Coolgardie Goldfield, although for the year 1902 the percentage (52·8) of the total output is slightly less than in 1901. As compared with the 1901 yield, the increase for this goldfield for the present year is at the rate of 12·8 per cent.

The Mount Margaret Goldfield, as it did last year, takes second place, with an output of 211,309oz., Murchison following closely with about 500oz. less; the latter field has, however, made great strides during the year with an increase of output amounting to 64,222oz., nearly 44 per cent., as compared with the previous year.

A substantial increase of 36,711oz. again appears from the North Coolgardie Goldfield, which ranks fourth on the list of producers, while the fifth and sixth on the list—the East Murchison and the Coolgardie fields—also have more than maintained their progress.

It is pleasing to note that the Coolgardie, North-East Coolgardie, and Pilbarra Goldfields, which last year showed a falling off, again show an increased output.



The Phillips River field shows a promising output; in 1900 only 39oz. were reported; in 1901, 713oz.; while for 1902 the output has risen to 8,494oz.

The output of Kimberley, Gascoyne, and Ashburton is principally alluvial and dollied gold, while at Donnybrook crushing is being delayed pending development work.

It is satisfactory to note that the average per ton of ore milled has been well maintained, the decrease per ton being only .05oz.

TABLE 3.

*Number of Gold-producing Mines in the several Goldfields and Districts during 1901 and 1902.*

Goldfield.	District.	1901.		1902.	
		District.	Goldfield.	District.	Goldfield.
Kimberley ...	...	...	1	...	2
Pilbarra ...	{ Marble Bar ...	22	} 37	{ 13	} 28
	{ Nullagine ...	15		{ 15	
West Pilbarra ...	...	...	2	...	3
Ashburton ...	...	...	...	...	...
Gascoyne ...	...	...	...	...	...
Peak Hill ...	...	...	8	...	11
East Murchison ...	...	...	55	...	59
Murchison ...	{ Cue ...	52	} 189	{ 44	} 172
	{ Nannine ...	47		{ 44	
	{ Day Dawn ...	17		{ 14	
	{ Mt. Magnet ...	73		{ 70	
Yalgoo ...	...	...	14	...	12
Mt. Margaret ...	{ Mt. Morgans ...	18	} 116	{ 13	} 142
	{ Mt. Malcolm ...	47		{ 42	
	{ Mt. Margaret ...	51		{ 87	
	{ Menzies ...	58		{ 78	
N. Coolgardie ...	{ Ularring ...	72	} 226	{ 86	} 276
	{ Niagara ...	61		{ 76	
	{ Yerilla ...	35		{ 36	
Broad Arrow ...	...	...	40	...	32
N.E. Coolgardie ...	{ Kanowna ...	51	} 70	{ 50	} 82
	{ Bulong ...	17		{ 29	
	{ Kurnalpi ...	2		{ 3	
East Coolgardie ...	...	...	64	...	68
Coolgardie ...	{ Coolgardie ...	96	} 158	{ 85	} 130
	{ Kunanalling ...	62		{ 45	
Yilgarn ...	...	...	17	...	13
Dundas ...	...	...	45	...	36
Phillips River ...	...	...	6	...	31
Donnybrook ...	...	...	1	...	4
...	...	...	1,049	...	1,101

It will be seen from Table 3 that the number of producing mines is greater by fifty-two than in the year 1901; the latter year showed a falling off of thirty producing mines as compared with the year 1900. The most marked increases appear in the North Coolgardie, Mount Margaret, Phillips River, and North-East Coolgardie fields. Those in the North Coolgardie and the Mount Margaret Districts are owing in a measure to the establishment of State batteries, while at Phillips River the erection of plants on some of the mines has enabled the owners of adjoining leases to have their stone treated.

**COMPARATIVE STATISTICAL DIAGRAMS**  
 RELATING TO  
**OUTPUT AND VALUE OF GOLD AND OTHER MINERALS, LANDS LEASED FOR GOLD MINING**  
 IN WESTERN AUSTRALIA  
 AND THE **COLD PRODUCTION OF AUSTRALASIA FOR THE YEAR 1902**

Fig. 1 Output of Gold from various Goldfields as reported to Mines Department

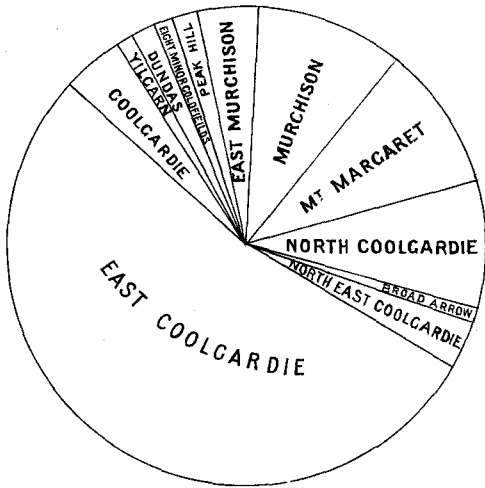


Fig. 2 Cold produced from various Goldfields as given by the Export and Mint returns

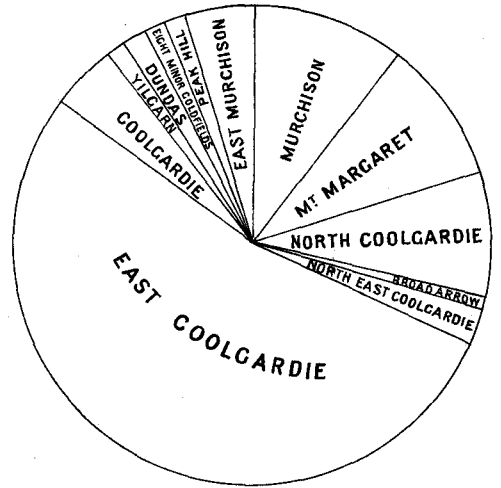


Fig. 3 Value of Gold and other minerals

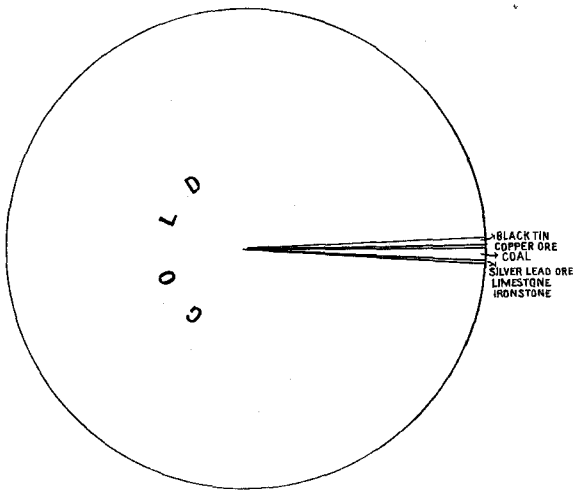


Fig. 4 Value of Minerals other than Gold

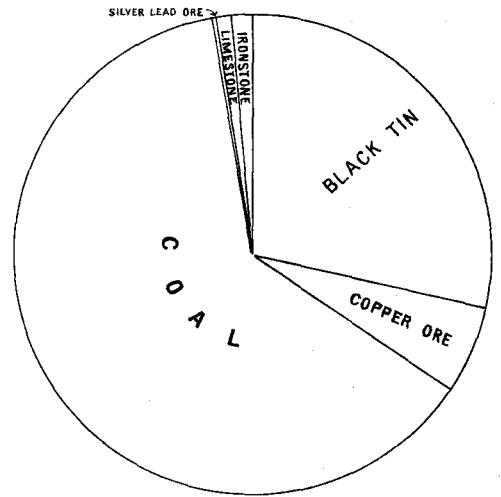


Fig. 5 Areas of Land leased for Gold Mining on the various Goldfields

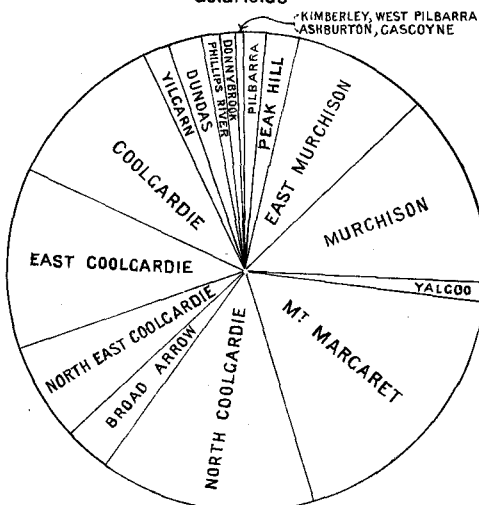


Fig. 6 Output of Gold in the States of Australia, The Colonies of New Zealand & New Guinea.

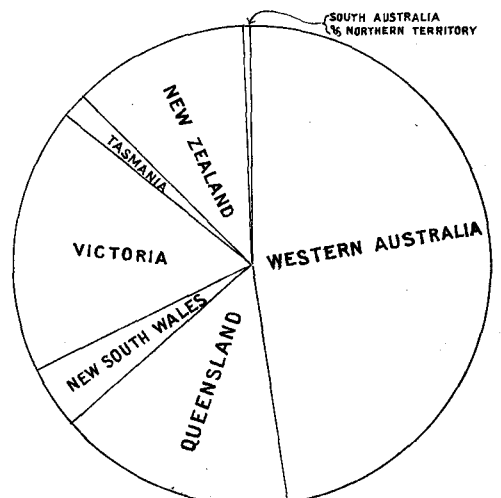


TABLE 4.

Increase or Decrease in Output of certain large producing Mines in 1902 as compared with 1901.

GOLDFIELD.	DISTRICT	NAME OF MINE.	PRODUCTION.		Increase or decrease for year compared with 1901.
			1901.	1902.	
			oz.	oz.	oz.
1.	Peak Hill	Peak Hill Goldfields, Ltd.	19,884	35,056	+ 15,172
2.	East Murchison	Yellow Aster	8,726	7,692	- 1,034
3.	Do	Fingall Reefs Extended, Ltd.	5,433	3,392	- 2,041
4.	Do	Golden Age Consolidated, Ltd.	4,630	6,828	+ 2,198
5.	Do	Gwalia Consolidated, Ltd.	...	4,998	+ 4,998
6.	Do	East Murchison United, Ltd.	30,818	18,764	- 12,054
7.	Do	Leinster	1,181	7,385	+ 6,204
8.	Do	Woronga South leases	1,697	7,180	+ 5,483
9.	Do	Bellevue Proprietary, Ltd. (late Bellevue Consolidated, Ltd.)	11,445	16,054	+ 4,609
10.	Murchison	Cue	130	5,387	+ 5,257
11.	Do	Day Dawn	67,045	124,680	+ 57,635
12.	Do	Do	3,426	6,155	+ 2,729
13.	Do	Mt. Magnet	13,016	7,393	- 5,623
14.	Do	do	852	6,598	+ 5,746
15.	Do	do	6,949	7,061	+ 112
16.	Yalgoo	Field's Find Gold Mines, Limited	7,392	3,839	- 3,553
17.	Mt. Margaret	Mt. Morgans	37,364	55,983	+ 18,619
18.	Do	Mt. Malcolm	68,490	64,210	- 4,280
19.	Do	do	10,450	3,567	- 6,883
20.	Do	Mt. Margaret	6,282	5,100	- 1,182
21.	Do	do	6,251	1,944	- 4,307
22.	Do	do	2,218	13,112	+ 10,894
23.	Do	do	7,827	8,814	+ 987
24.	Do	do	3,602	7,260	+ 3,658
25.	Do	do	10,171	10,103	- 68
26.	North Coolgardie	Menzies	24,572	22,539	- 2,033
27.	Do	do	1,013	4,891	+ 3,878
28.	Do	do	8,572	9,278	+ 706
29.	Do	do	9,172	11,700	+ 2,528
30.	Do	do	6,088	1,234	- 4,854
31.	Do	Ularring	4,832	8,128	+ 3,296
32.	Do	Niagara	225	5,228	+ 5,003
33.	Do	do	8,244	10,564	+ 2,320
34.	Do	do	23,882	50,179	+ 26,297
35.	Broad Arrow	Golden Arrow Mine, Ltd.	5,196	4,960	- 236
36.	Do	New Austral Co., Ltd.	6,902	2,449	- 4,453
37.	Do	New Standard Exploration Co., Ltd. (late Paddington Consols, Ltd.)	4,960	1,274	- 3,686
38.	N.E. Coolgardie	Kanowna	3,812	4,839	+ 1,027
39.	Do	do	2,027	4,642	+ 2,615
40.	Do	do	14,492	14,168	- 324
41.	Do	Bulong	7,337	6,246	- 1,091
42.	East Coolgardie	Associated G.Ms. of W. A., Ltd.	31,524	57,029	+ 25,505
43.	Do	Associated Northern Blocks (W.A.), Ltd.	37,270	55,895	+ 18,625
44.	Do	Golden Horseshoe Estates Co., Ltd.	185,297	192,573	+ 7,276
45.	Do	Great Boulder Main Reef, Ltd.	26,649	20,608	- 6,041
46.	Do	Great Boulder Perseverance G.M. Co., Ltd.	134,302	193,297	+ 58,995
47.	Do	Great Boulder Proprietary G.Ms., Ltd.	152,161	166,518	+ 14,357
48.	Do	Hainault G.Ms., Ltd.	3,936	6,043	+ 2,107
49.	Do	Hannans Central Extended G.M. Co., N.L.	6,302	1,444	- 4,858
50.	Do	Hannans Star G.Ms., Ltd.	12,064	...	- 12,064
51.	Do	Ivanhoe Gold Corporation, Ltd.	108,767	142,298	+ 33,531
52.	Do	Kalgurli G.Ms., Ltd.	19,222	36,187	+ 16,965
53.	Do	Lake View Consols, Ltd.	153,858	80,533	- 73,325
54.	Do	South Kalgurli G.Ms., Ltd.	19,470	31,068	+ 11,588
55.	Do	Oroya-Brownhill Co., Ltd. (late Hannans Oroya G.M. Co. (W.A.), Ltd., and Hannans Brown Hill G.M. Co., Ltd.)	55,737	88,270	+ 32,533
56.	Coolgardie	Coolgardie	6,407	5,606	- 801
57.	Do	do	1,784	11,054	+ 9,290
58.	Do	do	19,734	29,553	+ 9,819
59.	Do	do	5,617	1,427	- 4,190
60.	Do	do	5,575	860	- 4,715
61.	Do	Kunanalling	4,889	6,357	+ 1,468
62.	Yilgarn	...	2,309	4,506	+ 2,197
63.	Do	...	19,750	12,998	- 6,752
64.	Dundas	...	7,366	4,631	- 2,735
65.	Do	...	17,418	20,541	+ 3,123
66.	Phillips River	...	112	4,430	+ 4,318
Total			1,504,105	1,774,590	+ 270,485

Of the above 66 mines, 40 produced 443,668oz. more, and 26 produced 173,183oz. less than in 1901, being a net increase of 270,485oz.

TABLE 5.

*Averages of Gold Ore raised, and Ounces of Gold produced therefrom, per man employed on the several Goldfields of the State, during 1901 and 1902.*

GOLDFIELD.	1901.				1902.			
	Tons of Gold Ore raised.		Ounces of Gold produced.		Tons of Gold Ore raised.		Ounces of Gold produced.	
	Per man employed under ground.	Per man employed above and under ground.	Per man employed under ground.	Per man employed above and under ground.	Per man employed under ground.	Per man employed above and under ground.	Per man employed under ground.	Per man employed above and under ground.
	tons.	tons.	oz.	oz.	tons.	tons.	oz.	oz.
1. Kimberley ... ..	61·66	30·83	44·35	22·17	146·66	73·33	65·00	32·50
2. Pilbarra ... ..	42·97	26·28	70·94	43·39	65·12	38·30	104·09	61·23
3. West Pilbarra ... ..	24·00	9·60	47·25	18·90	639·50	45·68	656·00	46·86
4. Ashburton ... ..	...	...	...	...	...	...	...	...
5. Gascoyne ... ..	...	...	...	...	...	...	...	...
6. Peak Hill ... ..	140·50	69·44	118·45	58·54	419·66	174·75	273·63	113·94
7. East Murchison ... ..	195·88	98·85	174·96	88·30	255·80	124·67	164·71	80·28
8. Murchison ... ..	144·40	73·14	184·08	93·23	146·55	76·23	200·61	104·35
9. Yalgoo ... ..	149·06	75·82	104·79	53·30	107·92	49·30	157·84	72·10
10. Mt. Margaret ... ..	196·48	115·98	149·97	88·53	218·95	128·37	168·13	98·58
11. North Coolgardie ... ..	111·85	61·76	151·91	83·89	138·22	80·09	162·54	94·18
12. Broad Arrow ... ..	200·63	109·39	149·26	81·38	135·35	78·17	105·88	61·15
13. N.E. Coolgardie ... ..	113·25	69·12	107·96	65·90	117·65	70·16	121·18	72·26
14. East Coolgardie ... ..	242·76	109·90	345·97	156·63	278·50	134·66	366·65	177·29
15. Coolgardie ... ..	159·89	91·49	107·43	61·47	101·07	57·30	90·92	51·54
16. Yilgarn ... ..	217·45	90·23	217·74	90·35	248·30	112·62	139·25	63·16
17. Dundas ... ..	132·32	77·36	125·10	73·15	113·58	68·57	144·37	87·15
18. Phillips River ... ..	5·20	3·20	6·10	3·76	146·72	75·72	131·95	68·10
19. Donnybrook ... ..	1·05	·59	·08	·05	15·65	8·31	2·97	1·58
Total Averages ... ..	182·35	93·87	209·89	108·04	201·17	105·97	222·26	117·08

The amount of ore raised, and the ounces of gold produced, per man employed above and underground, has, as compared with the previous year, increased by 12·1 tons and 9·04 ounces, and in only four of the goldfields is the amount of gold raised per man less than in the year 1901. The average value of the gold for the year being £3 13s. per ounce, it appears that for every man employed above and underground over £427 worth of gold was produced.

TABLE 6.

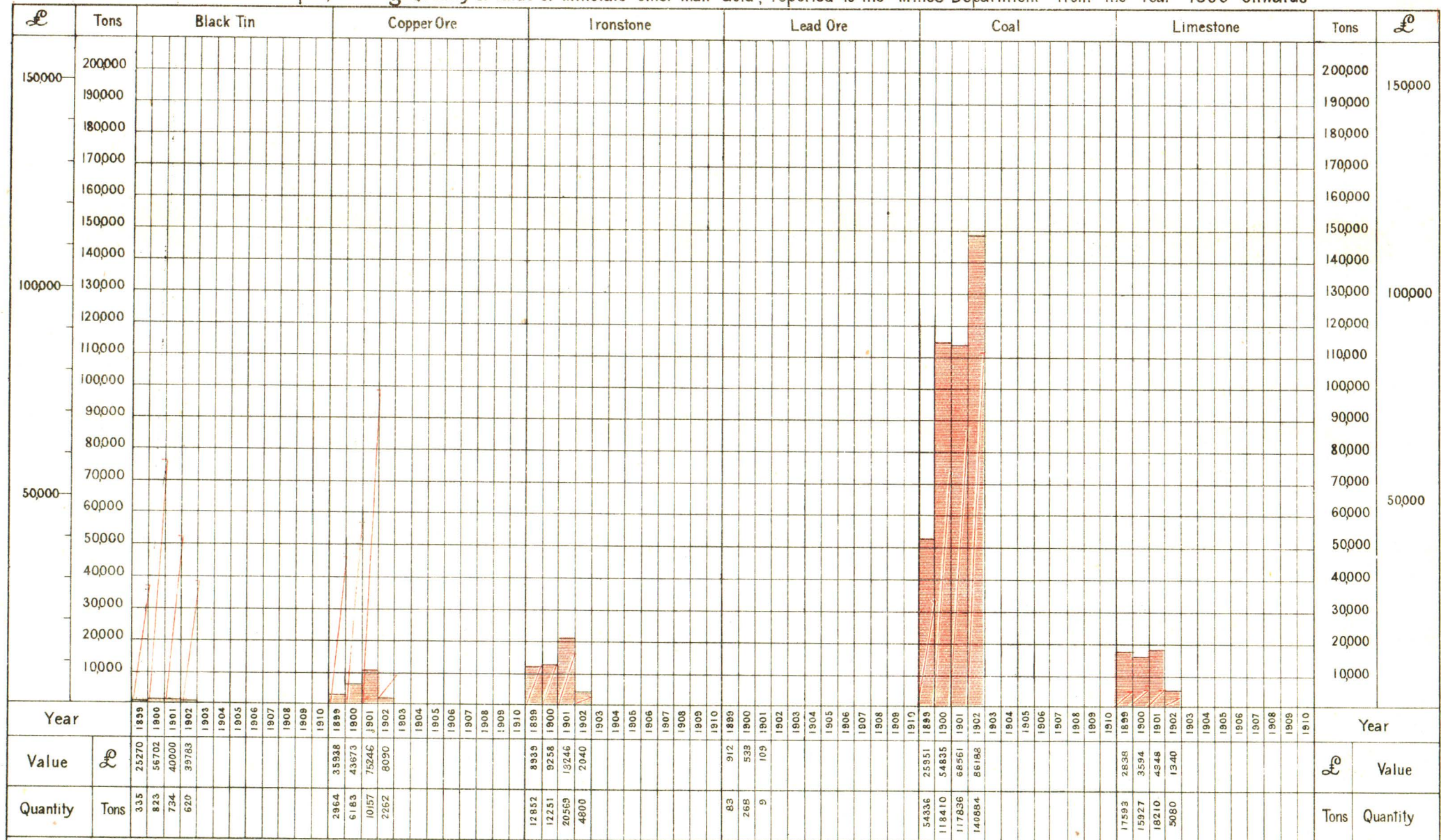
*Output of Gold from the several States of Australia and the Colony of New Zealand during 1902.*

State.	Gross Weight.	Fine Contents.	Value.	Percentage of Value of Total Output.
	oz.	oz.	£	£
1. Western Australia ... ..	2,177,441	1,871,037	7,947,662	47·41
2. Victoria ... ..	777,738	720,862	3,062,028	18·27
3. Queensland ... ..	860,453	640,492	2,720,639	16·23
4. New South Wales ... ..	190,317	161,255	684,970	4·08
5. Tasmania ... ..	†	70,996	301,573	1·80
6. South Australia ... ..	28,212	22,395	95,129	·57
and Northern Territory ... ..				
New Zealand ... ..	508,045	459,406	1,951,433	11·64
Total ... ..	...	3,946,443	16,763,434	100·00

† Gross weight not known.

# DIAGRAM

of the Mineral Output, showing Quantity & Value of Minerals other than Gold, reported to the Mines Department from the Year -1899- onwards



Year	Value (£)	Quantity (Tons)
1899	25270	335
1900	56702	823
1901	40000	734
1902	39783	620
1903		
1904		
1905		
1906		
1907		
1908		
1909		
1910		
1899	35938	2964
1900	43673	6183
1901	75246	10157
1902	8090	2262
1903		
1904		
1905		
1906		
1907		
1908		
1909		
1910		
1899	8835	12862
1900	9258	12251
1901	13246	20569
1902	2040	4800
1903		
1904		
1905		
1906		
1907		
1908		
1909		
1910		
1899	912	83
1900	533	268
1901	109	9
1902		
1903		
1904		
1905		
1906		
1907		
1908		
1909		
1910		
1899	25951	54336
1900	54835	118410
1901	68561	117836
1902	86188	140984
1903		
1904		
1905		
1906		
1907		
1908		
1909		
1910		
1899	2838	17593
1900	3594	15927
1901	4348	18210
1902	1340	5080
1903		
1904		
1905		
1906		
1907		
1908		
1909		
1910		

NOTE. Pink hatching denotes Quantities produced, and diagonal lines, Values thereof.

Previous to 1899 the Quantity and Value of the various Minerals exported amounted to:—

Black Tin	Copper Ore	Lead Ore	Pig	Total Value
1738	10641	33691	607	166855
76227	364418	12229		619729



**GENERAL VIEW OF CUE.**

*(Murchison Goldfield.)*

TABLE 7.  
Quantity and Value of Minerals, other than Gold, reported to the Mines Department during 1902.

Goldfield, District, or Mining District.	Quantity.	Value.	Increase or decrease for year compared with 1901.	
			Quantity.	Value.
	tons.	£	tons.	£
<b>BLACK TIN.</b>				
Greenbushes Mining District ... ..	403·21	24,680	+ 81·87	+ 5,828
Pilbarra Goldfield (Marble Bar District) ...	216·35	15,103	— 196·63	— 6,045
Total ... ..	619·56	39,783	— 114·76	— 217
<b>COPPER ORE.</b>				
Murchison Goldfield (Day Dawn District) ...	...	...	— 10·50	— 76
Mt. Margaret Goldfield (Mt. Malcolm District) ...	1,954·00	6,852	— 5,706·00	— 33,886
Northampton Mining District ... ..	...	...	— 38·50	— 277
Phillips River Goldfield ... ..	308·25	1,238	— 780·89	— 11,680
West Pilbarra Goldfield ... ..	...	...	— 1,162·00	— 15,891
Total ... ..	2,262·25	8,090	— 7,697·89	— 61,810
<b>IRONSTONE.</b>				
From State generally ... ..	4,800·00	2,040	— 15,769·00	— 11,206
<b>SILVER-LEAD ORE.</b>				
Ashburton Goldfield ... ..	35·85	277	+ 14·80	+ 125
<b>LIMESTONE.</b>				
Yilgarn Goldfield ... ..	535·00	340	— 1,107·00	— 579
From State generally ... ..	4,545·35	1,000	— 12,022·65	— 2,429
Total ... ..	5,080·35	1,340	— 13,129·65	— 3,008

The total number of men employed in tin mining is 249, being 164 less than in 1901; decreases of 62 and 102 on the Greenbushes and Marble Bar districts respectively. As the output for Greenbushes is greater than that for last year, the increase must be put down to the improved appliances which have been installed for treating the wash, and the greater energy of the miners. It is hoped that a more plentiful supply of water will be available at Greenbushes during 1903, and that an increased output will result.

In the Marble Bar district it is probable that the full amount of tin raised has not been reported to the Department.

The copper returns for the year show a marked falling off. It is elsewhere explained that the low price of copper prevailing during part of 1902 prevented the shipping of copper ore from the Phillips River field, and that there are as yet no local treatment plants.

On the Mount Margaret Goldfield the principal copper mine, the Anaconda, did little smelting during the greater part of the year, its operations being confined almost wholly to development work.

TABLE 8.  
Quantity of Coal raised during 1901 and 1902, and Estimated Value thereof, with Number of Men employed and Output per Man.

Coalfield.	Year.	Quantity raised.	Estimated Value.	Men employed.		Quantity raised.	
				Above Ground.	Under Ground.	Per Man employed under ground.	Per Man employed above and under ground.
		tons.	£			tons.	tons.
Collie ... ..	1901	117,836	68,561	104	279	422	308
	1902	140,884	86,188	84	284	496	383

TABLE 9.

Dividends paid by Western Australian Gold Mining Companies during 1901 and 1902.  
(Compiled from information supplied by the Government Statistician's Office and the Kalgoorlie Chamber of Mines.)

Goldfield.	Name of Company.	Par value of Shares.	Paid up to	Nominal Capital.	No. of Shares issued.	1901.		1902.	
						No. of Dividends paid.	Total Amount paid.	No. of Dividends paid.	Total Amount paid.
		£ s. d.	£ s. d.	£		£		£	
Murchison ...	Great Fingall Consolidated Gold Mines, Ltd.	0 10 0	0 10 0	125,000	250,000	2	62,500	3	143,750
	Island Eureka G.M. Co., Ltd. ...	0 2 6	0 0 3½	10,000	80,000	8	4,333	11	10,667
	Long Reef G.M. Co., Ltd. ...	1 0 0	1 0 0	150,000	150,000	1	3,335	...	...
Mount Margaret	Sons of Gwalia G.M. Co., Ltd. ...	1 0 0	1 0 0	350,000	318,000	1	31,800	...	...
	Westralia Mount Morgans G.M. Co., Ltd.	0 5 0	0 5 0	125,000	480,032	4	43,603	4	61,327
	Lancefield G.M. Co., Ltd. ...	1 0 0	1 0 0	25,000	21,600	12	4,320	12	4,320
	Ida H. Gold Mining Co. (Laverton) ...	1 0 0	†	60,000	54,000	...	...	2	12,406
Coolgardie ...	Burbanks Birthday Gift G.M. Co., Ltd.	1 0 0	1 0 0	180,000	180,000	...	...	3	22,500
	Lady Robinson G.M. Co., Ltd. ...	1 0 0	1 0 0	48,000	48,000	...	...	2	1,152
North Coolgardie	Lady Shenton G.M. Co., Ltd. ...	1 0 0	1 0 0	160,000	160,000	2	12,000	1	8,000
	Queensland Menzies G.M. Co., N.L. ...	0 5 0	0 5 0	33,000	132,000	3	9,000	3	9,900
	Cosmopolitan Proprietary, Limited ...	1 0 0	1 0 0	400,000	400,000	...	...	1	10,000
North-East Coolgardie	White Feather Main Reef, Limited ...	1 0 0	1 0 0	160,000	160,000	3	12,000	2	8,000
	Queen Margaret G.M. Co., Ltd. ...	1 0 0	1 0 0	100,000	95,050	1	3,564	...	...
East Coolgardie...	Great Boulder Main Reef, Ltd. ...	0 10 0	0 10 0	130,000	260,000	1	13,000	...	...
	Great Boulder Proprietary G.M., Ltd.	0 2 0	0 2 0	175,000	1,750,900	4	175,000	...	218,750
	Hannans Brown Hill G.M. Co., Ltd. ...	1 0 0	1 0 0	225,000	155,000	1	38,750	Now Oroya Co.,	Brownhill Ltd.
	Ivanhoe Gold Corporation, Ltd. ...	5 0 0	5 0 0	1,000,000	200,000	3	95,000	...	130,000
	Lake View Consols, Ltd. ...	1 0 0	1 0 0	250,000	250,000	2	125,000	...	...
	Golden Horseshoe Estates Co., Ltd. ...	5 0 0	5 0 0	1,500,000	300,000	4	345,000	3	270,000
	Associated Northern Blocks, Limited	1 0 0	1 0 0	350,000	350,000	1	87,500	1	87,500
	Kalgurli Gold Mines, Limited ...	1 0 0	1 0 0	120,000	120,000	1	15,000	1	15,000
	Great Boulder Perseverance G.M. Co., Ltd.	1 0 0	1 0 0	175,000	175,000	...	...	4	350,000
Dundas ...	Oroya Brownhill Co., Ltd. ...	1 0 0	1 0 0	450,000	450,000	...	...	1	45,000
	Princess Royal G.M. Co., Ltd. ...	0 10 0	*	40,000	80,000	3	12,000	4	16,000
	Total ...	...	...	6,341,000	6,618,682	...	1,093,605	...	1,424,272

\* 45,000 shares paid up to 6s. 6d., and 35,000 paid up to 10s. † 19,000 shares fully paid up, and 35,000 paid up to 17s. 6d.

PART III.—LEASES AND OTHER HOLDINGS UNDER THE VARIOUS ACTS RELATING TO MINING.

TABLE 10.  
Total Number and Acreage of Leases held for Mining on 31st December, 1901 and 1902.

Title of Act under which held.	1901.		1902.	
	No.	Acreage.	No.	Acreage.
Goldfields Acts ...	2,482	34,192	2,406	32,334
Mining on Private Property Act (Gold)	21	306	18	286
Sluicing and Dredging Act (Gold)	2	1,040	...	...
Mineral Lands Acts ...	374	36,411	308	34,739
Total ...	2,879	71,949	2,732	67,309



TABLE 11.

Number and Acreage of Gold Mining Leases in force each year for the Five Years ending 31st December, 1902.

GOLDFIELDS.		DISTRICTS.		1898.		1899.		1900.		1901.		1902.		Percentage of Total Acreage.		Increase or Decrease for 1902 compared with 1901.		GOLDFIELDS.
Name.	Proclaimed.	Name.	Proclaimed.	Leases.	Acreage.	Leases.	Acreage.	Leases.	Acreage.	Leases.	Acreage.	Leases.	Acreage.	1901.	1902.	Increase.	Decrease.	
Kimberley ...	20-5-86	...	...	3	32	3	32	4	38	3	19	3	19	05	06	...	...	Kimberley
Yilgarn ...	1-10-88	...	...	43	732	46	788	48	765	32	497	37	584	144	179	87	...	Yilgarn
Pilbarra ...	1-10-88	Marble Bar ...	6-11-96	95	855	34	277	43	379	36	316	28	256	148	156	...	1	Pilbarra
Ashburton ...	11-12-90	Nullagine ...	6-11-96	15	152	24	195	16	150	16	193	22	252	...	...	...	...	
		Cue ...	10-1-96	2	24	...	...	...	...	...	...	...	...	...	...	...	...	
Murchison ...	24-9-91	Nannine ...	7-12-94	89	929	78	776	70	678	92	800	95	933	1052	1298	601	...	Murchison
		Day Dawn ...	10-1-96	73	752	105	1,119	110	1,266	75	891	82	973	...	...	...	...	
		Mount Magnet	7-12-94	63	610	53	503	63	679	96	1,099	117	1,281	...	...	...	...	
Dundas ...	31-8-93	...	...	139	1,371	115	1,047	95	906	91	840	116	1,044	286	227	...	253	Dundas
Coolgardie ...	6-4-94	Coolgardie ...	1-9-97	126	1,547	110	1,352	93	1,164	85	986	68	733	1061	1034	...	288	Coolgardie
		Kunanalling ...	1-9-97	299	3,860	272	3,427	212	2,786	197	2,464	188	2,274	...	...	...	...	
East Coolgardie ...	21-9-94	...	...	136	1,799	122	1,583	123	1,570	96	1,195	86	1,097	1352	1207	...	729	East Coolgardie
Yalgoo ...	23-1-95	...	...	491	8,161	393	6,535	382	6,368	295	4,665	254	3,936	148	128	...	95	Yalgoo
		Menzies ...	20-3-96	61	622	49	495	39	480	41	512	35	417	...	...	...	...	
North Coolgardie	28-6-95	Ularring ...	20-3-96	128	1,746	105	1,415	86	1,183	95	1,155	100	1,364	1475	1453	...	347	North Coolgardie
		Yerilla ...	20-3-96	97	1,491	81	1,109	133	1,707	129	1,766	85	1,105	...	...	...	...	
		Niagara ...	12-3-97	44	675	38	574	46	725	48	852	49	838	...	...	...	...	
East Murchison ...	28-6-95	...	...	80	1,031	79	907	88	1,028	109	1,312	119	1,431	618	908	827	...	East Murchison
West Pilbarra ...	20-9-95	...	...	118	1,717	112	1,524	147	2,064	151	2,133	190	2,960	11	38	60	...	West Pilbarra
		Kanowna ...	13-11-96	7	89	9	101	13	161	3	36	7	96	...	...	...	...	
North-East Coolgardie	20-3-96	Bulong ...	13-11-96	119	1,643	125	1,602	133	1,625	112	1,336	112	1,322	640	694	56	...	North-East Coolgardie
		Kurnalpi ...	13-11-96	60	924	59	818	38	509	59	798	73	887	...	...	...	...	
Broad Arrow ...	17-11-96	...	...	32	492	8	133	8	133	5	73	4	54	...	...	...	...	
Peak Hill ...	19-3-97	...	...	176	2,453	128	1,711	113	1,445	97	1,251	89	1,151	363	353	...	100	Broad Arrow
		Mount Margaret	12-3-97	75	883	117	1,697	120	1,744	98	1,334	66	747	387	229	...	587	Peak Hill
Mount Margaret	12-3-97	Mount Malcolm	12-3-97	66	1,215	88	1,634	123	2,510	222	3,970	169	2,767	2003	1841	...	907	Mt. Margaret
		Mount Morgans	2-4-02	193	3,523	206	3,885	154	2,990	161	2,939	140	2,515	...	...	...	...	
Gascoyne ...	25-6-97	...	...	...	...	...	...	...	...	...	...	41	720	...	...	...	...	
		Crown Land ...	...	5	66	5	72	5	72	1	12	2	36	03	11	24	...	Gascoyne
Donnybrook ...	11-11-99	Private Property	...	...	...	45	807	36	575	10	141	8	123	129	110	...	98	Donnybrook
Phillips River ...	21-9-00	...	...	...	...	...	...	15	210	21	306	18	236	175	128	...	188	Phillips River
		...	...	...	...	...	...	5	114	27	607	21	419	...	...	...	...	
Totals ...	...	...	...	2,835	39,394	2,609	36,118	2,561	36,024	2,503	34,498	2,424	32,570	10000	10000	...	...	

NOTE.—A decrease of 79 leases and 1,928 acres for the year 1902.

The area leased for mining in 1902 shows a falling off of 6.4 per cent., as compared with that leased during 1901. The decrease in the area leased for gold mining is 2,968 acres, leases under the Sluicing and Dredging Act, having disappeared; in the area leased for the mining of other minerals the decrease is 1,672 acres.

The above table shows that for the year 1902, as compared with 1901, there is a total decrease of 79 in the number and 1,928 acres in the area held under gold mining lease in the State. As regards individual goldfields, the most notable increases are in the Murchison Goldfield (601 acres), and in the East Murchison Goldfield (827 acres). The largest decreases appear in the East Coolgardie Goldfield, 729 acres; Mount Margaret Goldfield, 907 acres; and the North Coolgardie and the Coolgardie, with 347 acres and 288 acres respectively. In the Mount Margaret Goldfield, 18·4 per cent. of the total area is leased; in the North Coolgardie Goldfield, 14½ per cent.; in the Murchison Goldfield, about 13 per cent.; in the East Coolgardie Goldfield, about 12 per cent.; and in the Coolgardie Goldfield, about 10·3 per cent. The decrease in the area leased is not an important one; in the older goldfields, companies are consolidating their holdings and surrendering apparently worthless land, and there does not appear to be the same desire to hold large areas irrespective of their worth.

It may be noted that, on an average, every acre in the State leased for gold mining has yielded, during 1902 gold to the value of about £234; while in East Coolgardie, the richest goldfield of all, the average value of the gold produced per acre was about £1,028.

The total area leased for gold mining in the State being 32,570 acres, and the average number of men employed being 17,825, it follows that an average of over three men are employed to every six acres of ground leased. In the East Coolgardie goldfield over nine men are employed for every six acres leased. It may be mentioned in this connection that it is compulsory to employ only one man for every six acres.



**SONS OF GWALIA GOLD MINE, LEONORA.**

*(Mt. Margaret Goldfield.)*

TABLE 12.

Number and Acreage of Mineral Leases in force 31st December each year, for the Five Years ending 31st December, 1902.

MINING DISTRICTS.		SUB-DISTRICTS.		1898.		1899.		1900.		1901.		1902.		Increase or Decrease for 1902, compared with 1901.		DISTRICTS.
Name.	Proclaimed.	Name.	Proclaimed.	Leases.	Acreage.	Leases.	Acreage.	Leases.	Acreage.	Leases.	Acreage.	Leases.	Acreage.	Increase.	Decrease.	
Kimberley	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	Kimberley Ashburton
Ashburton	11-12-90	...	...	...	...	...	...	...	...	2	80	7	286	206	...	
Murchison	24-9-91	Cue	7-12-94	...	...	...	...	...	...	...	...	...	...	...	...	Murchison
		Nannine	7-12-94	...	...	...	...	...	...	...	...	...	...	...	...	
		Day Dawn	10-1-96	...	...	...	...	3	15	3	16	...	...	...	16	
		Mount Magnet	7-12-94	1	5	1	5	1	5	2	10	2	10	...	...	
Greenbushes	7-4-92	...	...	2	40	88	1,977	51	1,179	100	2,259	54	1,192	...	1,067	Greenbushes. Pilbarra.
Pilbarra	16-6-92	Marble Bar	16-6-92	...	...	16	601	21	756	20	655	7	176	...	479	
		Nullagine	6-11-96	...	...	2	300	...	...	1	10	1	10	...	...	
Yalgoo	23-1-95	...	...	3	120	...	...	...	...	...	...	...	...	...	...	Yalgoo. Yilgarn.
Yilgarn	22-3-95	...	...	1	160	...	...	3	30	3	30	3	21	...	9	
Coolgardie	22-3-95	Coolgardie	22-3-95	21	259	5	45	4	40	2	14	1	12	...	2	Coolgardie. East Coolgardie. East Murchison.
East Coolgardie	22-3-95	Kunanalling	1-9-97	...	...	...	...	...	...	...	...	...	...	...	...	
East Murchison	28-6-95	...	...	37	495	27	383	35	360	20	156	15	110	...	46	
		Menzies	15-4-96	3	4	...	...	2	4	1	2	3	14	12	...	
North Coolgardie	16-8-95	Ularring	15-4-96	1	12	4	20	3	20	1	12	1	12	...	...	North Coolgardie
		Yerilla	15-4-96	...	...	...	...	1	80	...	...	...	...	...	...	
		Niagara	1-3-97	...	...	...	...	...	...	1	10	...	...	...	10	
West Pilbarra	1-11-95	...	...	18	490	16	499	20	551	20	564	10	358	...	206	West Pilbarra Dundas Collie
Dundas	27-12-95	...	...	1	6	1	6	1	6	1	6	1	6	...	...	
Collie	21-2-96	...	...	64	19,973	71	22,213	98	30,743	96	29,785	94	29,145	...	640	
North-East Coolgardie	15-4-96	Kanowna	15-4-96	2	9	2	17	2	17	...	...	...	...	...	...	N.E. Coolgardie
		Bulong	15-4-96	...	...	...	...	...	...	1	12	1	12	...	...	
Broad Arrow	20-11-96	Kurnalpi	15-4-96	5	95	5	120	...	...	1	20	1	20	...	...	Broad Arrow Northampton Peak Hill
Northampton	1-1-97	...	...	41	712	20	313	6	65	6	68	4	50	...	18	
Peak Hill	1-4-97	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
Mount Margaret	1-4-97	Mt. Margaret	1-4-97	...	...	...	...	3	26	1	3	3	11	8	...	Mt. Margaret
		Mt. Malcolm	1-4-97	...	...	...	...	18	374	21	452	20	538	86	...	
		Mt. Morgans	2-4-02	...	...	...	...	...	...	...	...	1	6	6	...	
Gascoyne	15-4-97	...	...	...	...	...	...	...	...	...	...	...	...	...	...	Gascoyne Yandanooka Phillips River Donnybrook
Yandanooka	1-12-97	...	...	3	60	5	128	2	40	1	20	2	90	70	...	
Phillips River	1-7-99	...	...	...	...	5	750	58	2,265	65	2,099	67	2,122	23	...	
Donnybrook	27-11-99	...	...	...	...	...	...	...	...	4	78	4	78	...	...	
Crown Land	...	Cane River	...	...	...	...	...	4	140	...	...	1	40	40	...	
		Other Localities	...	...	...	...	...	...	...	1	50	5	420	370	...	
Totals	...	...	...	205	22,500	268	27,337	331	36,716	374	36,411	308	34,739	821	2,493	

66 leases; 1,672 acres decrease for 1902.

The above table shows a decrease of 66 leases, comprising 1,672 acres as compared with the year 1901, the principal decreases being—on the Greenbushes Tinfield, 1,067 acres; the Collie Coalfield, 640 acres; and the Pilbarra Goldfield, 479 acres. Of the total area leased (34,739 acres), 29,145 acres are leased for coal, 2,416 acres for copper, and 1,368 acres for tin.





**ASSOCIATED GOLD MINES, W.A., LTD., KALGOORLIE.**  
*(East Coolgardie Goldfield.)*

TABLE 14.

Claims and Authorised Holdings under the Goldfields Acts and Regulations, existing on 31st December, 1901 and 1902.

Claims, etc.	Kimberley.		Yilgarn.		Pilbarra.				Ashburton.		Murchison.						Dundas.		Coolgardie.				East Coolgardie.		Yalgoo.		North Coolgardie.											
					Marble Bar.		Nullagine.				Cue.		Day Dawn.		Nannine.		Mt. Magnet.				Coolgardie.		Kunamaling.						Menzies.		Ularring.		Yerilla.		Niagara.			
	1901.	1902.	1901.	1902.	1901.	1902.	1901.	1902.	1901.	1902.	1901.	1902.	1901.	1902.	1901.	1902.	1901.	1902.	1901.	1902.	1901.	1902.	1901.	1902.	1901.	1902.	1901.	1902.	1901.	1902.	1901.	1902.	1901.	1902.				
Water Rights	...	...	17	18	14	11	...	...	...	83	8	...	18	...	4	...	...	38	26	70	25	...	48	111	71	...	4	4	123	33	...	13	...	6	...	23		
Area of Water Rights	...	...	55	57	17	15	...	...	...	208	18	...	103	...	8	...	...	349	213	235	82	...	134	2300	1107	...	4	4	1231	870	...	70	...	20	...	58		
Quartz Claims	...	...	...	...	76	26	...	...	...	154	3	...	1	...	3	...	11	...	34	39	67	87	...	8	55	15	14	36	5	...	...	...	...	...	...	8		
Alluvial Claims	...	...	...	1	...	...	...	...	...	4	...	...	2	...	2	...	1	...	3	2	...	...	9	18	...	...	...	2	...	...	...	...	...	...	...	...		
Reward Claims	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
Prospecting Areas	...	...	1	1	11	4	...	...	1	254	6	...	3	...	14	...	5	11	13	18	8	...	13	18	32	29	49	40	1	...	...	1	...	...	3			
Residence Areas	1	...	35	61	104	19	...	...	...	163	15	...	7	...	35	...	22	64	63	53	54	...	4	985	779	76	7	302	289	...	...	...	...	...	...	3		
Business Areas	1	...	15	33	5	14	...	...	...	71	5	...	1	...	20	...	5	41	18	119	50	...	75	66	59	25	10	151	3	...	57	...	88	...	...			
Machinery Areas	3	...	...	...	26	6	...	...	...	6	...	...	2	...	2	...	...	6	6	14	10	...	10	15	8	6	4	...	...	...	...	...	...	...	...	...		
Tailings Areas	2	...	12	7	5	2	...	...	...	16	2	...	1	...	2	...	3	3	5	5	6	...	...	4	2	2	...	5	1	...	...	1	...	...	...	...		
Garden Areas	1	...	6	1	13	14	...	...	...	30	4	...	7	...	4	...	9	4	1	13	16	...	...	43	75	1	...	11	...	...	...	...	...	...	...	...		
Tunnelling Areas	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
Poultry Farms	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...

Claims, etc.	East Murchison.		West Pilbarra.		North-East Coolgardie.				Broad Arrow.		Peak Hill.		Mount Margaret.						Gascoyne.		Donnybrook.		Phillips River.		Outside Goldfields.		TOTAL.		Increase or Decrease for 1902 compared with 1901.							
					Kanowna.		Bulong.		Kurnalpi.				Mount Margaret.		Mount Malcolm.		Mount Morgans.												Increase.		Decrease.					
	1901.	1902.	1901.	1902.	1901.	1902.	1901.	1902.	1901.	1902.	1901.	1902.	1901.	1902.	1901.	1902.	1901.	1902.	1901.	1902.	1901.	1902.	1901.	1902.	1901.	1902.	1901.	1902.	1901.	1902.						
Water Rights	31	21	...	2	40	11	...	1	...	1	16	7	15	112	22	...	42	...	21	...	*	...	...	7	7	...	...	673	466	...	7					
Area of Water Rights	64	53	...	12	55	33	...	1	...	2	100	52	146	146	371	78	...	97	...	96	...	...	35	35	...	...	5165	3364	...	1801						
Quartz Claims	26	7	...	1	96	42	...	41	...	5	9	10	2	3	68	8	...	112	...	7	...	...	...	2	...	...	591	516	...	75						
Alluvial Claims	3	...	...	5	207	196	...	7	...	4	8	...	2	...	3	2	...	1	...	...	...	...	...	3	...	...	241	244	...	3						
Reward Claims	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	1	...	...			
Prospecting Areas	116	17	1	...	79	70	...	3	...	...	6	6	3	2	88	111	...	53	...	14	...	24	...	3	6	163	164	865	600	...	265					
Residence Areas	38	11	8	10	70	9	...	61	...	1	1	2	52	26	104	110	...	23	...	...	...	...	16	16	...	2072	1634	...	438							
Business Areas	19	12	7	17	45	11	...	1	...	2	15	11	17	9	120	85	...	36	...	6	...	...	53	52	...	...	...	...	...	...	...	...	...			
Machinery Areas	7	6	1	2	20	7	...	1	...	2	3	5	2	2	11	4	...	1	...	1	...	1	1	1	...	...	133	84	...	39						
Tailings Areas	6	4	...	4	2	2	...	1	...	...	4	4	1	...	5	2	...	1	...	1	...	...	...	...	...	...	75	51	...	24						
Garden Areas	17	22	1	2	1	1	...	...	...	...	3	2	7	6	27	9	...	19	...	3	...	...	2	11	...	...	180	217	37	...	...	...	...			
Tunnelling Areas	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...		
Poultry Farms	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...

\* No returns received.

Apparently large decreases are shown by the above figures for the year, but this is owing to an effort having been made during the year to eliminate from the records numbers of holdings that have been abandoned without any formal notice being given by the holders.

TABLE 15.

Claims and Authorised Holdings under the Mineral Lands Acts and Regulations existing on 31st December, 1901 and 1902.

Claims, etc.	Kimberley.		Ashburton.		Murchison.		Greenbushes.		Pilbarra.		Yalgoo.		Yilgarn.		Coolgardie.		East Coolgardie.		East Murchison.		North Coolgardie.		West Pilbarra.		Dundas.	
	1901.	1902.	1901.	1902.	1901.	1902.	1901.	1902.	1901.	1902.	1901.	1902.	1901.	1902.	1901.	1902.	1901.	1902.	1901.	1902.	1901.	1902.	1901.	1902.	1901.	1902.
Water Rights ...	...	...	...	...	...	...	48	50	1	1	...	...	...	...	...	...	1	1	...	...	...	...	1	...	...	...
Area of Water Rights	...	...	...	...	...	...	...	...	2	2	...	...	...	...	...	...	10	10	...	...	...	...	5	...	...	...
Lode Claims ...	...	...	...	...	...	...	2	...	1	5	...	...	...	...	...	...	2	...	...	...	...	...	1	...	...	...
Alluvial Claims	...	...	...	...	...	...	59	50	4	4	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Reward Claims	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Prospecting Areas	...	...	2	1	...	...	...	...	...	4	...	...	...	...	...	1	2	3	1	...	...	1	...	...	...	...
Residence Areas	...	...	...	...	...	...	56	49	...	...	...	...	...	...	...	...	...	...	...	...	...	...	8	...	...	...
Business Areas	...	...	...	...	...	...	2	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	5	...	...	...
Machinery Areas	...	...	...	...	...	...	5	3	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Tailings Areas	...	...	...	...	...	...	5	4	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Garden Areas	...	...	...	...	...	...	1	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...
Washing Areas	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Pipe Tracks ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...

\*

Claims, etc.	Collie.		North-East Coolgardie.		Broad Arrow.		Northampton.		Peak Hill.		Mt. Margaret.		Gascoyne.		Yandavooka.		Phillips River.		Donnybrook.		Crown Lands.		Totals.		Increase or decrease for 1902, compared with 1901.	
	1901.	1902.	1901.	1902.	1901.	1902.	1901.	1902.	1901.	1902.	1901.	1902.	1901.	1902.	1901.	1902.	1901.	1902.	1901.	1902.	1901.	1902.	1901.	1902.	Increase.	Decrease.
Water Rights ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	51	52	1	...
Area of Water Rights	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	17	12	...	5
Lode Claims ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	4	7	3	...
Alluvial Claims	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	63	54	...	9
Reward Claims	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Prospecting Areas	...	...	...	...	2	2	1	...	...	4	...	...	...	...	8	...	...	...	6	15	...	...	26	27	1	...
Residence Areas	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	64	49	...	15
Business Areas	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	7	2	...	5
Machinery Areas	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	5	3	...	2
Tailings Areas	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	5	4	...	1
Garden Areas	1	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	3	2	...	1
Washing Areas	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Pipe Tracks ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2	2	...	...	2	2	...	...

\* No returns received.



TABLE 16.

Miners' Rights, Mining, Business, and Quarry Licenses issued during 1901 and 1902.

PLACE OF ISSUE.	GOLDFIELDS ACTS.						MINERAL LANDS ACTS.							
	Miners' Rights.		Consolidated Miners' Rights.		Business Licenses.		Mining Licenses.		Consolidated Mng. Licenses.		Quarry Licenses.		Business Licenses.	
	1901.	1902.	1901.	1902.	1901.	1902.	1901.	1902.	1901.	1902.	1901.	1902.	1901.	1902.
Albany	3	8	...	...	...	...	...	...	...	...	...	...	...	...
Ashburton	30	13	...	...	3	1	23	4	...	...	...	...	...	...
Broad Arrow	461	186	...	...	3	4	3	1	...	...	...	...	...	...
Broome	...	3	...	...	...	...	...	...	...	...	...	...	...	...
Bulong	296	408	...	...	1	1	...	...	...	...	...	...	...	...
Bunbury	7	1	...	...	...	...	...	2	...	...	3	...	...	...
Busselton	...	2	...	...	...	...	2	5	...	...	...	...	...	...
Carnarvon	16	11	...	...	...	...	...	...	...	...	...	...	...	...
Collie	3	8	...	...	...	...	6	16	...	...	...	...	...	...
Coolgardie	524	459	...	...	11	20	3	2	...	...	...	...	...	...
Cue	299	367	...	...	10	7	2	2	...	...	1	7	...	...
Derby	3	1	...	...	...	...	1	...	...	...	...	...	...	...
Donnybrook	16	...	...	...	...	...	7	1	...	...	...	...	...	...
Esperance	2	5	...	...	...	...	1	1	...	...	...	...	...	...
Gascoyne	...	3	...	...	...	...	...	...	...	...	...	...	...	...
Geraldton	3	7	...	...	...	...	1	1	...	...	...	...	...	...
Greenbushes	1	9	...	...	...	...	246	200	...	...	...	...	4	3
Kalgoorlie	1,401	1,361	2	1	17	15	17	13	...	...	...	...	...	...
Kanowna	320	411	...	...	10	9	...	3	...	...	...	...	...	...
Katanning	...	1	...	...	...	...	...	...	...	...	...	...	...	...
Kimberley	20	19	...	...	5	1	...	...	...	...	...	...	...	...
Kookynie	237	436	...	...	40	138	3	1	...	...	5	2	...	...
Kurnalpi	61	45	...	...	2	1	1	1	...	...	...	...	...	...
Lawlers	274	408	...	...	12	23	4	2	...	...	2	6	...	...
Marble Bar	252	244	...	...	19	13	94	103	...	...	...	...	...	...
Menzies	445	297	...	...	71	17	5	1	...	...	...	1	...	...
Mt. Magnet	242	247	...	...	14	5	3	1	...	...	...	...	...	...
Mt. Malcolm	293	343	...	...	43	24	11	4	...	...	...	...	...	...
Mt. Margaret	576	252	...	...	65	20	7	6	...	...	...	...	...	...
Mt. Morgans	...	99	...	...	...	6	...	...	...	...	...	...	...	...
Nannine	120	137	...	...	17	17	1	...	...	...	3	...	...	...
Newcastle	1	...	...	...	...	...	...	...	...	...	...	...	...	...
Norseman	379	396	...	...	22	18	...	...	...	...	...	...	...	...
Northam	9	7	1	...	...	...	...	...	...	...	...	...	...	...
Northampton	...	...	...	...	...	...	12	12	...	...	...	...	...	...
Nullagine *	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Peak Hill	102	103	1	...	8	6	...	...	...	...	...	...	...	...
Perth	123	84	2	2	1	...	84	62	...	...	...	...	...	...
Phillips River	75	155	...	...	8	1	94	31	...	...	...	...	...	...
Pinjarra	...	1	...	...	...	...	...	...	...	...	...	...	...	...
Southern Cross	69	99	...	...	21	9	1	1	...	...	...	...	...	...
Uaroo	...	12	...	...	...	...	...	...	...	...	...	...	...	...
Ularring	...	74	...	...	...	15	...	...	...	...	...	...	...	...
West Pilbarra	54	89	...	...	5	12	24	10	...	...	...	...	5	...
Williams	...	3	...	...	...	...	...	...	...	...	...	...	...	...
Yalgoo	50	40	...	...	12	8	1	...	...	...	...	...	...	...
York	...	1	...	...	...	...	...	...	...	...	...	...	...	...
Total	6,767	6,855	6	3	420	392	657	486	...	...	14	16	9	3

\* See Marble Bar.

TABLE 16A.

Number and Acreage of Miners' Homestead Leases in force on 31st December, 1901 and 1902.

Goldfield.	District.	1901.		1902.		Increase.		Decrease.	
		Leases.	Acreage.	Leases.	Acreage.	Leases.	Acreage.	Leases.	Acreage.
Dundas	...	...	...	3	80	3	80	...	...
Broad Arrow	...	...	...	1	500	1	500	...	...
Yilgarn	...	...	...	1	3	1	3	...	...
Mt. Margaret	Mt. Malcolm	3	24	7	1,940	4	110	8	2,026
	Mt. Margaret	...	...	4	110	...	...	...	...
	Cue	...	...	3	555	...	...	...	...
Murchison	Day Dawn	...	...	1	20	...	...	7	1,595
	Nannine	...	...	3	1,020	...	...	...	...
Coolgardie	...	...	...	1	10	1	10	...	...
East Coolgardie	...	1	5	4	75	3	70	...	...
Phillips River	...	7	1,200	15	1,760	8	560	...	...
Peak Hill	...	6	1,210	8	1,750	2	540	...	...
North-East Coolgardie	Kanowna	...	...	2	40	2	40	...	...
		17	2,439	53	7,863	36	5,424	...	...

The above leases have been granted on goldfields principally for agricultural or grazing purposes. Any miner may take up, for mining purposes, any land comprised in a Miner's Homestead Lease as if the land were unoccupied Crown land. If any improvements are likely to be damaged the Warden may assess the probable damage, and, on receipt of the amount from the miner, holds it pending any actual damage being done, and in the event of no damage returns it to the miner.

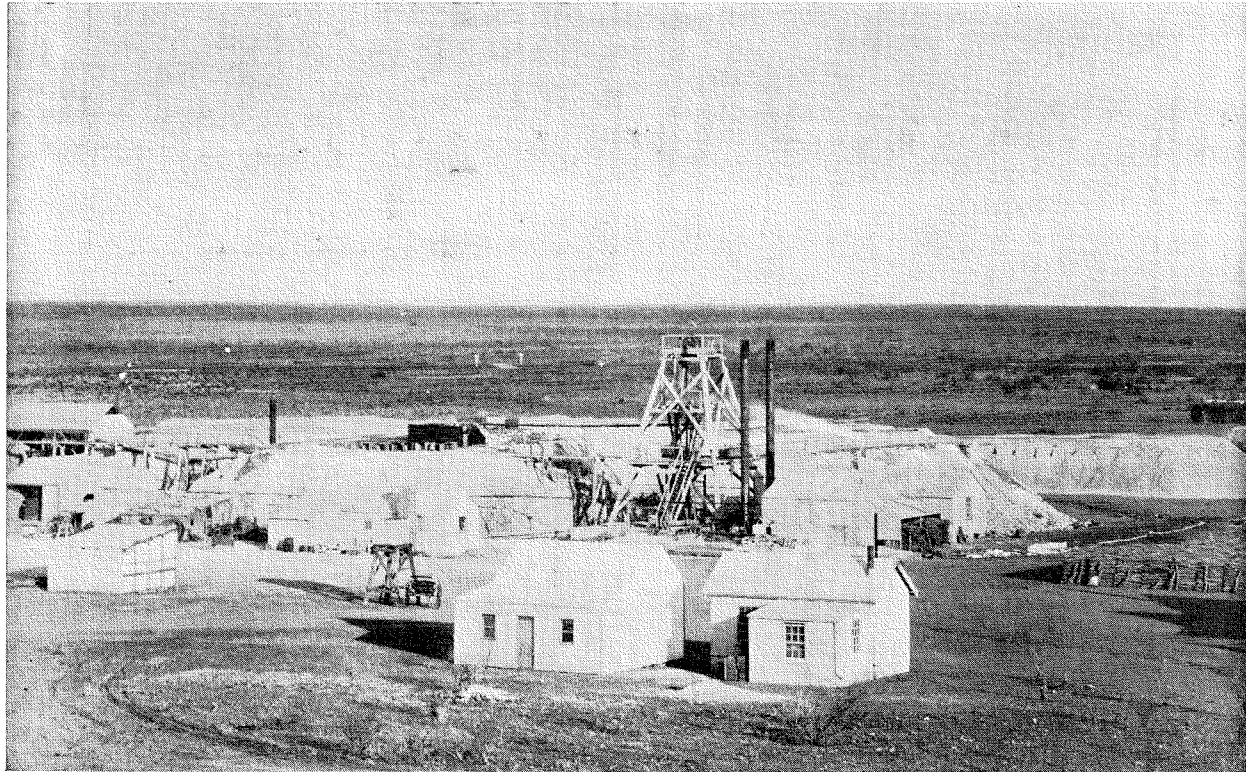
## PART IV.—MEN EMPLOYED.

TABLE 17.

Average Number of Men engaged in Mining during 1901 and 1902.

Goldfield.	District.	Reef or Lode.		Alluvial.		Total.	
		1901.	1902.	1901.	1902.	1901.	1902.
1. Kimberley ...		6	6	13	12	19	18
2. Pilbarra ...	{ Marble Bar ...	78	87	27	28	105	115
	{ Nullagine ...	128	100	25	16	153	116
3. West Pilbarra ...		5	28	58	88	63	116
4. Ashburton ...				39	32	39	32
5. Gascoyne ...				4		4	
6. Peak Hill ...		346	329	10	11	356	340
7. East Murchison ...		856	1,108	44	91	900	1,199
	{ Cue ...	238	236	57	24	295	260
8. Murchison ...	{ Nannine ...	270	261	50	58	320	319
	{ Day Dawn ...	481	891	32	35	513	926
	{ Mt. Magnet ...	559	621	24	28	583	649
9. Yalgoo ...		173	81	19	12	192	93
	{ Mt. Morgans ...	403	469	4	1	407	470
10. Mt. Margaret ...	{ Mt. Malcolm ...	982	923	5	41	987	964
	{ Mt. Margaret ...	741	745	46	26	787	771
	{ Menzies ...	569	676	39	26	608	702
11. North Coolgardie ...	{ Ularring ...	371	304	41	31	412	335
	{ Niagara ...	633	716	21	52	654	768
	{ Yerilla ...	180	256	51	78	231	334
12. Broad Arrow ...		409	303	281	166	690	469
	{ Kanowna ...	584	630	150	89	734	719
13. North-East Coolgardie ...	{ Bulong ...	148	170	201	190	349	360
	{ Kurnalpi ...	20	15	104	70	124	85
14. East Coolgardie ...		6,313	6,254	1,275	1,200	7,588	7,454
15. Coolgardie ...	{ Coolgardie ...	1,012	1,234	143	142	1,155	1,376
	{ Kunanalling... ..	318	447	50	50	368	497
16. Yilgarn ...		294	366	1		295	366
17. Dundas ...		496	381	202	29	698	410
18. Phillips River ...		60	124		25	60	149
19. Donnybrook ...		82	64			82	64
	Total—Gold Mining ...	16,755	17,825	3,016	2,651	19,771	20,476
MINERALS OTHER THAN GOLD.							
Tin ...	{ Greenbushes M.D. ...			*201	*139	201	139
	{ Marble Bar D. ...			*212	*110	212	110
	{ Day Dawn D. ...	6				6	
	{ Mt. Malcolm D. ...	87	41			87	41
Copper ...	{ Northampton M.D. ...	5	5			5	5
	{ Phillips River Gf. ...	151	56			151	56
	{ West Pilbarra Gf. ...	70	9			70	9
	{ Yandanooka M.D. ...	2	2			2	2
Lead ...	{ Northampton M.D. ...	2	2			2	2
Coal ...	{ Collie River Coal M.D. ...	383	368			383	368
Limestone ...	{ Yilgarn Gf. ...	5	2			5	2
	Total—Other Minerals	711	485	413	249	1,124	734
	GRAND TOTAL ...	17,466	18,310	3,429	2,900	20,895	21,210

\* Classified elsewhere as employed at mines.



**CHUMS CONSOLIDATED GOLD MINE, MT. MAGNET.**

*(Murchison Goldfield.)*

It will be seen from the above table that the number of men engaged in the State on all classes of mining is 315 more than in 1901; 705 more men being engaged in gold mining, and 390 less in mining for minerals other than gold. The proportion of men engaged in mining, as compared with the population of the State, is still large, being nearly 10 per cent. of the mean population; the percentage in 1901 being about 11 per cent.

TABLE 18.  
*Average Number of Men employed at Mines during 1902.*

Mineral.	Above ground.	Under ground.	Total.	Percentage of total men employed	Increase or decrease compared with 1901.
Tin ... ..	*190	59	249	1.34	— 164
Coal ... ..	84	284	368	1.98	— 15
Copper ... ..	53	60	113	.61	— 208
Gold ... ..	8,435	9,390	17,825	96.05	+ 1,070
Lead ... ..	2	...	2	.01	=
Limestone ... ..	2	...	2	.01	— 3
Total ... ..	8,766	9,793	18,559	100.00	+ 680

\* As the tin obtained is principally "stream tin," the average number of alluvial workers has been included under the heading "above ground."

The number of employees on gold mines has increased by 1,070, while less men have been employed on all other mines.

TABLE 19.  
*Average Number of Men employed at Gold Mines during 1902, classified according to the several Goldfields, and the proportion of Men employed in each Goldfield.*

Goldfield.	Above ground.	Under ground.	Total.	Increase or decrease compared with 1901.	Percentage of total men employed.	
					1901.	1902.
1. Kimberley ... ..	3	3	6	=	.03	.03
2. Pilbarra ... ..	77	110	187	— 19	1.23	1.05
3. West Pilbarra ... ..	26	2	28	+ 23	.03	.16
4. Ashburton ... ..	...	...	...	...	...	...
5. Gascoyne ... ..	...	...	...	...	...	...
6. Peak Hill ... ..	192	137	329	— 17	2.07	1.85
7. East Murchison ... ..	568	540	1,108	+ 252	5.11	6.22
8. Murchison ... ..	964	1,045	2,009	+ 461	9.24	11.27
9. Yalgoo ... ..	44	37	81	— 92	1.03	.45
10. Mt. Margaret ... ..	884	1,253	2,137	+ 11	12.69	11.99
11. North Coolgardie ... ..	821	1,131	1,952	+ 199	10.46	10.95
12. Broad Arrow ... ..	128	175	303	— 106	2.44	1.70
13. North-East Coolgardie ... ..	329	486	815	+ 63	4.49	4.57
14. East Coolgardie ... ..	3,230	3,024	6,254	— 59	37.63	35.08
15. Coolgardie ... ..	728	953	1,681	+ 351	7.94	9.43
16. Yilgarn ... ..	200	166	366	+ 72	1.75	2.05
17. Dundas ... ..	151	230	381	— 115	2.96	2.14
18. Phillips River ... ..	60	64	124	+ 64	.36	.70
19. Donnybrook ... ..	30	34	64	— 18	.49	.36
Total ... ..	8,435	9,390	17,825	+ 1,070	100.00	100.00

The above table shows that the employees on gold mines have increased by 1,070 during the year, the principal increases appearing on the Murchison, Coolgardie, East Murchison, and North Coolgardie Goldfields. Next to the East Coolgardie field, which employs about thirty-five per cent. of the total employees, comes Mount Margaret, with a percentage of twelve, closely followed by the Murchison, North Coolgardie, and Coolgardie Goldfields.

TABLE 20.

*Alluvial (Gold) Workers.*

Goldfield.	1901.	1902.	Increase or Decrease com- pared with 1901.
1. Kimberley	13	12	— 1
2. Pilbarra	52	44	— 8
3. West Pilbarra	58	88	+ 30
4. Ashburton	39	32	— 7
5. Gascoyne	4	...	— 4
6. Peak Hill	10	11	+ 1
7. East Murchison	44	91	+ 47
8. Murchison	163	145	— 18
9. Yalgoo	19	12	— 7
10. Mt. Margaret	55	68	+ 13
11. North Coolgardie	152	187	+ 35
12. Broad Arrow	281	166	— 115
13. North-East Coolgardie	455	349	— 106
14. East Coolgardie	1,275	1,200	— 75
15. Coolgardie	193	192	— 1
16. Yilgarn	1	...	— 1
17. Dundas	202	29	— 173
18. Phillips River	...	25	+ 25
19. Donnybrook	...	...	...
Total	3,016	2,651	— 365

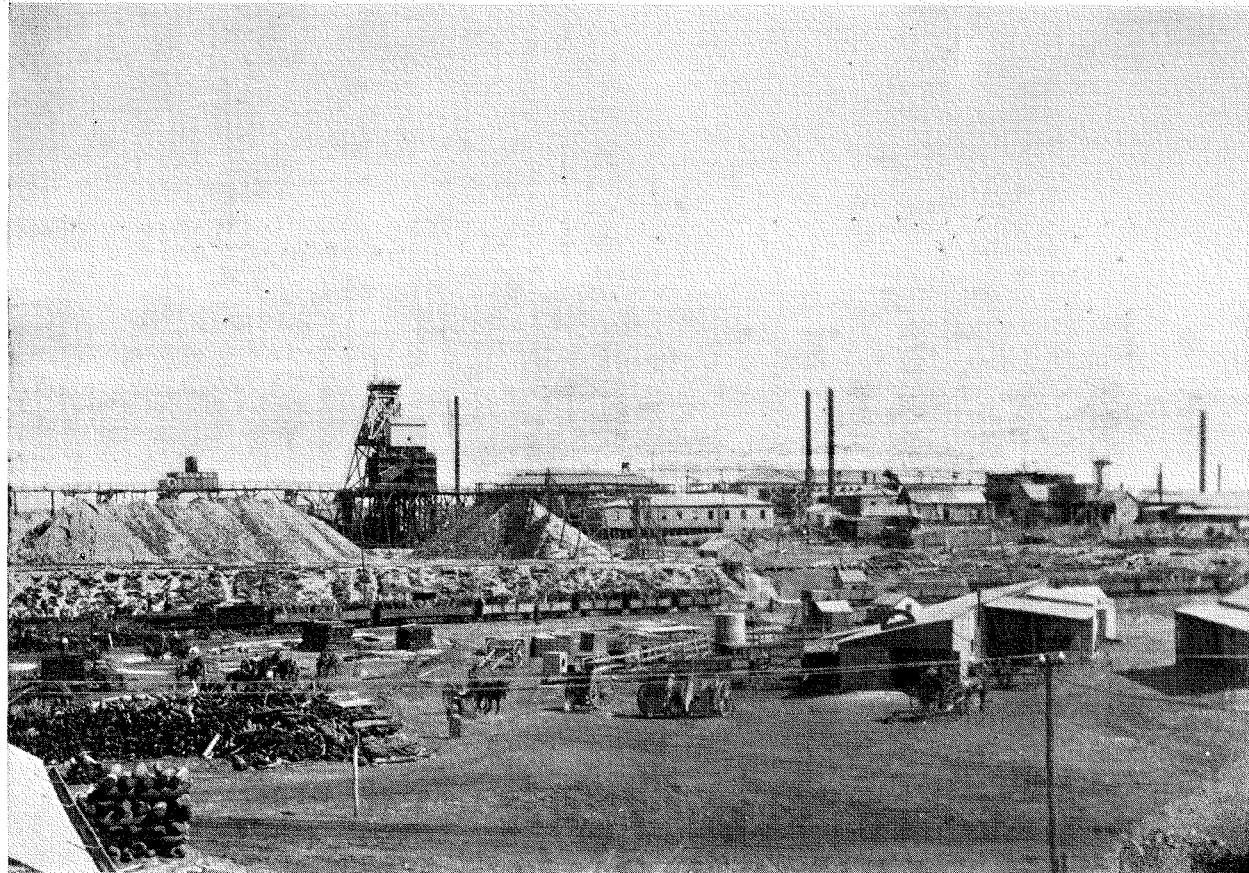
The number of alluvial workers has shown a steady falling off for several years past, and for 1902 the majority of the goldfields show a decrease as compared with 1901. The largest increase appears on the East Murchison Goldfield; the discovery of new patches of shallow alluvial gold at Black Range, between Lawlers and Mount Magnet, having attracted a few more men.

TABLE 21.

*Average Ruling Rate of Wages per week on the several Goldfields, Mining Districts, and Coalfield of the State during 1902, together with a comparison of the two previous years.*

	Miners, above ground.	Miners, under ground.	Miners, wet ground.	Engine- drivers.	Mechanics.	Carpenters.	Labourers.	Average Wage.		
								1902.	1901.	1900.
	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
<b>GOLDFIELDS.</b>										
1. Kimberley	4 0 0	4 6 0	4 0 0	5 0 0	5 0 0	5 0 0	4 0 0	4 8 7	4 8 7	4 4 3
2. Pilbarra	4 0 0	4 0 0	4 10 0	4 10 0	5 0 0	5 0 0	4 0 0	4 8 7	4 8 7	4 8 7
3. West Pilbarra	4 0 0	4 0 0	4 0 0	4 0 0	4 0 0	4 0 0	3 0 0	3 17 2	3 12 10	3 12 10
4. Ashburton	4 0 0	4 0 0	...	...	...	...	3 10 0	3 16 8	3 16 8	3 16 8
5. Gascoyne	4 0 0	4 0 0	...	...	...	...	3 10 0	3 16 8	3 16 8	3 16 8
6. Peak Hill	4 0 0	4 0 0	...	4 10 0	5 0 0	5 0 0	4 0 0	4 8 4	4 5 0	4 1 8
7. East Murchison	3 10 0	4 0 0	4 10 0	4 10 0	5 0 0	5 0 0	3 10 0	4 5 9	4 6 3	4 4 3
8. Murchison	3 10 0	3 15 0	4 0 0	4 0 0	4 0 0	4 0 0	3 5 0	3 15 9	4 2 2	3 14 3
9. Yalgoo	3 10 0	3 15 0	4 0 0	4 0 0	3 10 0	3 10 0	3 0 0	3 12 2	3 12 2	3 12 10
10. Mt. Margaret	3 10 0	4 0 0	4 10 0	4 10 0	4 10 0	4 10 0	3 10 0	4 2 10	4 2 10	4 2 10
11. North Coolgardie	3 10 6	3 18 9	4 7 6	4 8 9	4 17 6	4 15 0	3 9 10	4 4 0	4 2 1	4 2 1
12. Broad Arrow	3 10 0	3 11 8	4 3 0	4 0 0	4 10 0	4 5 0	3 3 9	3 17 8	3 16 9	3 19 3
13. North-East Coolgardie	3 10 0	3 16 8	4 0 0	4 6 8	4 10 0	4 10 0	3 7 8	4 0 2	3 19 0	4 4 8
14. East Coolgardie	3 10 0	*4 3 0	...	4 5 0	4 10 0	4 10 0	3 0 0	3 19 8	3 18 7	4 0 0
15. Coolgardie	3 0 0	3 10 0	4 0 0	4 0 0	4 10 0	4 10 0	3 0 0	3 15 9	3 14 3	3 14 3
16. Yilgarn	...	3 5 0	3 8 0	3 18 0	3 18 0	3 18 0	3 5 0	3 12 0	3 5 3	3 5 5
17. Dundas	3 5 0	3 15 0	4 0 0	4 0 0	4 10 0	4 0 0	3 5 0	3 16 5	3 16 5	3 16 5
18. Phillips River	3 10 0	3 10 0	4 0 0	4 0 0	4 0 0	4 0 0	3 0 0	3 14 3	3 11 5	3 12 10
19. Donnybrook	3 0 0	3 10 0	3 10 0	3 6 0	3 10 0	3 6 0	2 14 0	3 5 2	3 2 0	3 8 7
<b>MINING DISTRICTS.</b>										
Northampton and Yandanooka	2 10 0	2 15 0	3 5 0	2 15 0	3 15 0	3 5 0	2 5 0	2 18 7	2 18 7	2 18 7
Greenbushes	2 14 0	3 0 0	3 0 0	3 10 0	3 10 0	3 6 0	2 14 0	3 2 0	3 0 10	2 15 0
<b>COALFIELD.</b>										
Collie	2 15 0	4 0 0	†	3 0 0	3 6 0	3 6 0	2 15 0	3 3 8	3 3 8	3 3 8

\* Includes Drilling Machine Men. † In some cases a bonus is given.



*East Coolgardie  
Goldfield*

**IVANHOE GOLD CORPORATION, LTD., KALGOORLIE.**

*(East Coolgardie Goldfield.)*

TABLE 21A.

Table of Awards delivered by the Court of Arbitration on Wages Cases.

Locality in which Awards to take effect.	Date of Award.	Term of Award.	Rock-drill Men in Shafts.	Chuckmen in Shafts.	Rock-drill Men in Rises.	Chuckmen in Rises.	Rock-drill Men elsewhere.	Chuckmen elsewhere.	Miners (Hammer and Drill).	Miners (wet ground).		Bracemen and Flatmen.	Skipmen.	Mullockers and Shovelers.	Truckers Filling and Truckers.	Truckers from Shoots.	Men working in Cyanide Vats.	Timbermen (responsible men).	Surface Labourers.	Boiler Cleaners.	Horse-drivers (including locking after horses).	Drill and Tool Sharpeners.	Engine-drivers.				
										Per Week.	Per Shift.												Main Shaft and where sinking.	All other Classes of Engines.	Overtime.		
																									Up to 4 hours.	After 4 hours.	Sunday.
Kalgoorlie ... ..	2-9-02	18 months from date	14 4	14 4	13 10	13 10	13 4	13 4	11 8	...	0 10	11 8	...	10 6	10 6	10 0	11 8	13 4	10 0	...	...	...	...	...	Nil.	Nil.	
Menzies (10 miles radius from P.O.)	28-2-03	Do. ... ..	15 2	15 2	14 8	14 8	14 2	14 2	12 6	10 0	...	12 6	...	11 4	11 4	11 4	12 6	14 2	10 10	...	...	14 2	16 0	14 6	1½	1½	1½
Leonora, Kookynie, Laverton	{ 28-2-03 } { 5-3-03 }	Do. ... ..	16 0	16 0	15 6	15 6	15 0	15 0	13 4	10 0	...	13 4	15 0	11 8	11 8	11 8	13 4	15 0	11 8	15 0	12 8	15 0	17 0	15 6	1½	1½	1½
Cue, Nannine ... ..	27-2-03	18 months from 29-1-03	14 6	14 6	14 0	14 0	13 4	13 4	12 6	...	0 10	12 0	...	11 4	11 4	11 4	12 0	13 4	10 10	12 6	11 10	13 9	...	...	...	...	...
Abbotts ... ..	27-2-03	Do. ... ..	15 6	15 6	15 0	15 0	14 4	14 4	13 6	...	0 10	13 0	...	12 4	12 4	12 4	13 0	14 4	11 10	13 6	12 10	14 9	...	...	...	...	...
Peak Hill ... ..	27-2-03	Do. ... ..	16 6	16 6	16 0	16 0	15 4	15 4	14 6	...	0 10	14 0	...	13 4	13 4	13 4	14 0	15 4	12 10	14 6	13 10	15 9	...	...	...	...	...

## PART V.—ACCIDENTS.

TABLE 22.

*Men Killed and Injured in Mining Accidents during 1901 and 1902.*

GOLDFIELD.	KILLED.		INJURED.		TOTAL KILLED AND INJURED.	
	1901.	1902.	1901.	1902.	1901.	1902.
1. Kimberley	...	...	...	...	...	...
2. Pilbarra	...	...	1	...	1	...
3. West Pilbarra	...	...	...	...	...	...
4. Ashburton	...	...	...	...	...	...
5. Gascoyne	...	...	...	...	...	...
6. Peak Hill	3	1	4	5	7	6
7. East Murchison	3	4	10	10	13	14
8. Murchison	8	5	16	15	24	20
9. Yalgoo	...	...	...	...	...	...
10. Mt. Margaret	6	3	10	13	16	16
11. North Coolgardie	9	1	7	12	16	13
12. Broad Arrow	1	1	2	3	3	4
13. North-East Coolgardie	...	3	3	10	3	13
14. East Coolgardie	11	17	45	43	56	60
15. Coolgardie	3	2	17	9	20	11
16. Yilgarn	...	2	3	...	3	2
17. Dundas	...	...	5	3	5	3
18. Phillips River	...	...	...	1	...	1
19. Donnybrook	1	...	...	...	1	...
MINING DISTRICT.						
Northampton	...	...	...	...	...	...
Yandanooka	...	...	...	...	...	...
Greenbushes	...	...	...	...	...	...
Collie	...	...	7	8	7	8
Total	45	39	130	132	175	171

It is satisfactory to note that the number of fatalities during 1902 is less by six than in 1901, although a slight increase appears in the number injured. The number of men killed on the East Coolgardie Goldfield has, unfortunately, increased by six. As regards non-fatal accidents, it seems highly desirable that some uniform system of recording these accidents should be adopted in the Australasian States, and a convention arrived at as to what should be considered serious and what trivial accidents. Probably, in the majority of cases, the number of days for which a man was incapacitated from work might be held to determine the seriousness or otherwise of the accident.

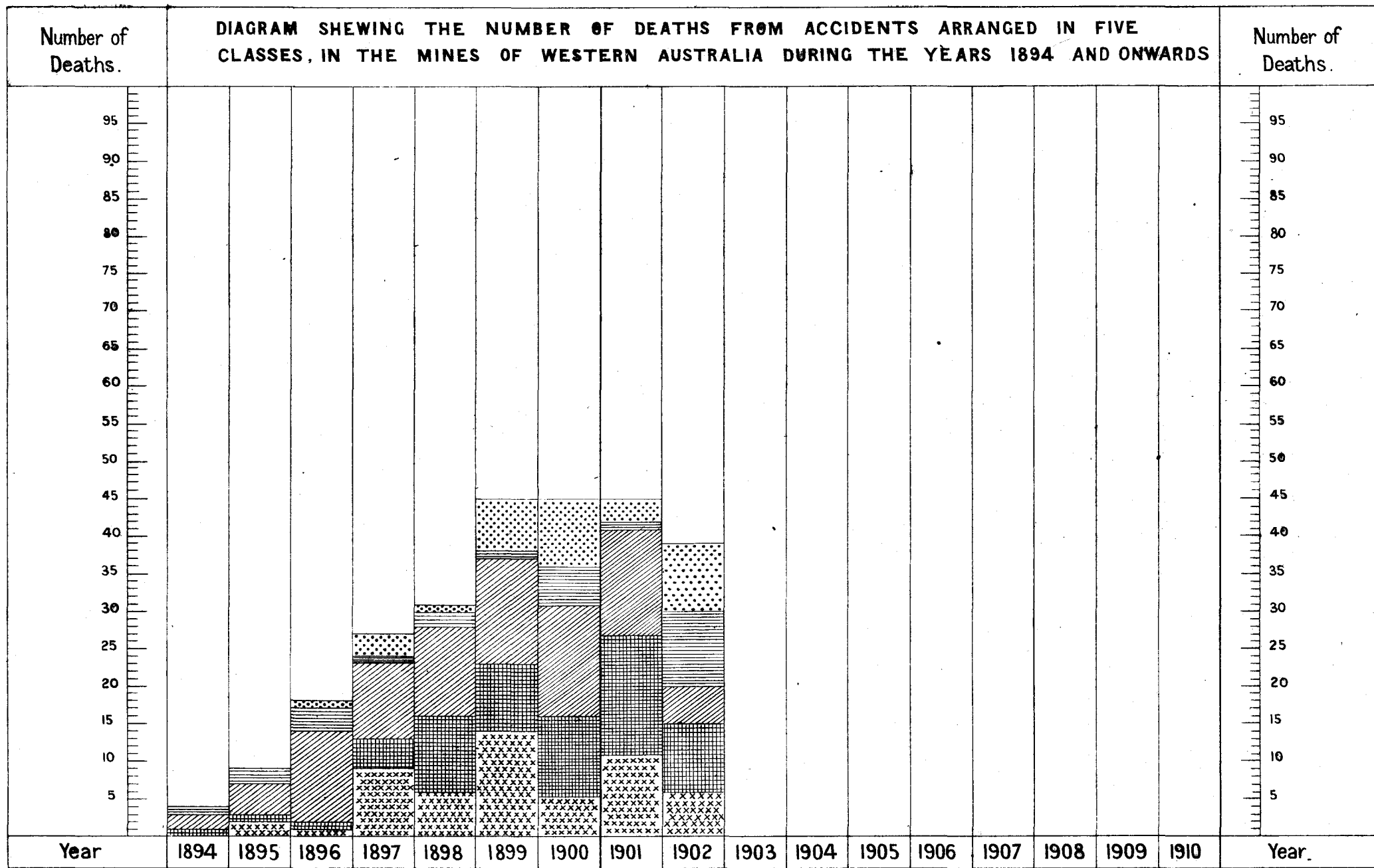
TABLE 23.

*Deaths from Accidents at Mines during 1901 and 1902.*


KIND OF MINES.	1901.						1902.					
	Number of Persons killed.			Death Rate per 1,000 Persons employed.			Number of Persons killed.			Death Rate per 1,000 Persons employed.		
	Above ground.	Under ground.	Total.	Above ground.	Under ground.	Total.	Above ground.	Under ground.	Total.	Above ground.	Under ground.	Total.
Coal	...	...	...	...	...	...	...	...	...	...	...	...
Gold	3	42	45	37	4.87	2.68	9	30	39	1.07	3.19	2.19
Other Mines	...	...	...	...	...	...	...	...	...	...	...	...
Total for all Mines	3	42	45	34	4.60	2.52	9	30	39	1.03	3.06	2.10

It will be noticed that only in gold mines have fatalities occurred, and it is a matter for congratulation that the total death rate per 1,000 has decreased from 2.52 in 1901 to 2.10 in 1902. The death rate among men employed underground was





 EXPLOSIVES

 FALLS OF GROUND.

 IN SHAFTS.

 MISCELLANEOUS UNDERGROUND.

 ON SURFACE.

abnormally high in 1901, but the death rate of 3·06 for 1902 is lower than it has been for several years past. Although the fatal accidents below ground show a substantial decrease for the year, the accidents above ground have increased.

TABLE 24.

*Deaths from Accidents in Gold Mines during 1902, and the Death Rate per 1,000 Men employed, and per 1,000 Tons of Gold Ore raised in the different Goldfields during 1901 and 1902.*

Goldfield.	Number of Deaths.			Death Rate per 1,000 Men employed.				Number of Deaths per 1,000 Tons of Gold Ore raised.	
	1902.			1902.			1901.	1902.	1901.
	Above ground.	Under ground.	Total.	Above ground.	Under ground.	Total.	Total.		
1. Kimberley ... ..	...	...	...	...	...	...	...	...	...
2. Pilbarra ... ..	...	...	...	...	...	...	...	...	...
3. West Pilbarra ... ..	...	...	...	...	...	...	...	...	...
4. Ashburton ... ..	...	...	...	...	...	...	...	...	...
5. Gascoyne ... ..	...	...	...	...	...	...	...	...	...
6. Peak Hill ... ..	...	1	1	...	7·30	3·04	8·67	·02	·12
7. East Murchison ... ..	...	4	4	...	7·41	3·61	3·50	·03	·03
8. Murchison ... ..	1	4	5	1·04	3·82	2·49	5·17	·03	·07
9. Yalgoo ... ..	...	...	...	...	...	...	...	...	...
10. Mt. Margaret ... ..	1	2	3	1·13	1·60	1·40	2·82	·01	·02
11. North Coolgardie ... ..	1	...	1	1·23	...	·51	5·13	·01	·08
12. Broad Arrow ... ..	...	1	1	...	5·71	3·30	2·44	·04	·02
13. North-East Coolgardie ... ..	1	2	3	3·04	4·11	3·68	...	·05	...
14. East Coolgardie ... ..	4	13	17	1·24	4·63	2·72	1·74	·02	·02
15. Coolgardie ... ..	1	1	2	1·37	1·07	1·19	2·25	·02	·02
16. Yilgarn ... ..	...	2	2	...	12·04	5·46	...	·05	...
17. Dundas ... ..	...	...	...	...	...	...	...	...	...
18. Phillips River ... ..	...	...	...	...	...	...	...	...	...
19. Donnybrook ... ..	...	...	...	...	...	...	12·20	..	20·83
Totals and Averages ... ..	9	30	39	1·07	3·19	2·19	2·68	·02	·03

The above table gives the number of deaths and the death rates for the various goldfields. The death rate for 1900 and 1901 was 2·68 per thousand, while for 1902 it has fallen to 2·19. For 1901, of the various goldfields the East Coolgardie had the lowest death rate, while for 1902 that of the North Coolgardie is the lowest, being ·51 per thousand. There were no fatal accidents under ground in this field during the year, whereas in 1901 there were eight.

As compared with 1901 the deaths from accidents by explosives decreased by five, through falls of ground by seven, and in shafts by nine; while miscellaneous underground accidents increased by nine, and accidents on the surface by six. Non-fatal accidents show increases as follows:—By explosives two, by falls of ground nine, and on the surface two, while in shafts there is a decrease of ten, and in miscellaneous underground one, making a total increase of two.

The appointment of a boiler inspector for the North Coolgardie, Mount Margaret, and part of the East Murchison Goldfields, and another for the Murchison, Yalgoo, and Peak Hill Goldfields, and the Northern part of the East Murchison Goldfield, has enabled the inspectors of mines for these fields to devote more time to mine inspection, and the present arrangement is in every way more satisfactory. In most of the goldfields the area to be traversed by the inspectors is very large, and a good deal of time is necessarily spent in travelling.

A State Mining Engineer was appointed towards the end of the year, and the fact of there being a professional man to generally direct the inspection of the mines will, doubtless, tend towards increasing efficiency.

## PART VI.—STATE AID TO MINING.

## STATE BATTERIES.

State batteries are now in the sixth year of their existence in Western Australia. In all £117,600 has been expended in their erection, equipment, and necessary water supply, this expenditure being the largest that has been incurred by this State in direct assistance to prospectors, and the results have shown, even to those who object to direct aid to mining by the State, that there is more to be said in favour of this form of assistance than of any other.

Since the first State battery started crushing, the approximate loss on working expenses has been £9,800, but during the year 1901 the loss was trifling, and for the year 1902 a profit of about £2,000 has been made.

The total amount of stone treated at the various batteries amounted, at the end of the year, to 108,308 tons, yielding 134,788oz. of gold; portion of the tailings have yielded, by cyanide treatment, gold to the value of £32,542, making the total value of gold recovered £534,307.

During the year 1902, 39,517 tons of stone were treated, yielding 57,255oz., showing an increase in tonnage and yield over the previous year of 12,742 tons and 25,124oz.

One new plant was erected during the year, at Laverton, and the battery at Lake Darlôt was removed to a more central position, while the erection of a battery at Boogardie, Murchison Goldfield, was commenced.

Four cyanide plants were in operation during the year, at Mount Ida, Norseman, Mulline, and Lennonville, and it is proposed to erect several more during the year 1903.

There seems no doubt that State batteries have been the means of assisting many prospectors, and have led to the systematic opening up of many small mines by owners who have had the foresight to devote part of their profits to development work; but there will always be a number of lessees who prefer to spend their profits in other ways, and when they find themselves confronted with the necessity of providing pumping or winding machinery for deeper sinking are at a loss for funds, and are compelled to abandon their leases. This may to some extent be accounted for by the number of reefs that, with comparatively little labour, will yield a livelihood to prospectors when crushing facilities are available; but none the less it is a pity to see promising shows abandoned when the workings have reached water level, when by the expenditure of a little money they might become regular producing mines.

## WATER SUPPLY.

Although as a whole the water supply of the goldfields is in a fairly satisfactory state, occasions arise when, from the discovery of gold in new localities, and the difficulty of obtaining water in centres where mines already exist, action by the department is necessary.

During the year a discovery of alluvial gold in the East Murchison goldfield, near Black Range, on the Magnet-Lawlers Road, was made, and, as a number of prospectors had to depend on a well some nine miles away, a Government well-sinking party was despatched at the instance of the Mines Department, and a good supply of water obtained.

Similar action was taken in the case of the discovery of a new line of reefing country in the North Coolgardie Goldfield, about six miles West of Edjudina, and a supply of fresh water for domestic purposes located.

In the Yilgarn Goldfield, at Jacoletti's, near the Southern Cross-Parker's Range Road, trial bores were sunk, and a good supply of water for milling purposes located. A mine in this locality, which it had been impossible to work for years owing to scarcity of water, is now enabled to treat the ore, and promises to develop into a valuable property.

In the West Pilbarra Goldfield a well has been sunk at an alluvial find near Friendly Creek.

In the Coolgardie Goldfield the mines near the Jaurdie Hills have always laboured under disadvantages owing to the absence of a good supply of water for crushing purposes, and the Mines Department, recognising this, requested the Public Works Department to put down some bores preliminary to sinking a well. After a good deal of boring a good supply of battery water was located, and a well sunk; the well was subsequently leased to a company owning a stamp mill, one of the conditions of the lease being that crushing should be done for the public at stated times and at rates approved by the Department.

An attempt was made to locate a good supply of water at Ballagundi, in the North-East Coolgardie Goldfield, but, unfortunately, no large supply of water was proved within reasonable distance of the mines by boring.

Bores were also put down near the Lord Bobs group of leases, near Coolgardie, with a view to locating a supply of water for milling purposes, but without success; arrangements will have to be made to supply this centre in some other way, probably by a branch pipe from the Coolgardie Water Scheme main.

During the year it was represented to the department by some of the claim-holders on the North lead, Kanowna, that the water in the lower part of the lead was too heavy for them to cope with individually, and that if a pumping plant were erected and worked it would be the means of draining a large amount of ground. The department acceded to their request, and installed a pumping plant capable of raising fifty thousand gallons per day; and, after erection, leased it to a committee of claim-holders at a nominal rent, conditionally on their continuously working the plant

#### ASSISTANCE FOR BORING AND SINKING FOR REEFS AND LODES.

But little assistance has been given in the above direction during the year. It was considered that before any extensive assistance was given for this purpose the necessary expenditure should be controlled by legislative enactment, and the general lines on which assistance should be granted laid down. The Mining Development Act was introduced with this object, and, pending its discussion by Parliament, no action was taken to grant any subsidies. This Act is referred to in this report under the heading of Existing Legislation.

At Northampton several bores were sunk by diamond drill, with the object of locating some of the lead and copper lodes at a depth. Mining in this district has been languishing for some time, and it was urged on the department that if it were clearly demonstrated that the lodes continued in depth capital was likely to be attracted to the district. Eventually it was decided to put down bores in two places, one on an abandoned copper mine near Northampton and the other on an old lead mine near Narra Tarra. The former bore was put in at an angle of 59 degrees from the horizontal, and continued to a depth of 651 feet; the latter, also a diagonal bore, reached the depth of 600 feet. Neither bore disclosed any lode of value, but it must be pointed out that even in lodes of regular occurrence a single bore hole is of little use; while, in irregular lodes such as occur in this district, a single bore hole is of still less value.

In the above-mentioned case the Government paid the whole expense of boring, which was let on contract to the Goldfields Diamond Drilling Co., Kalgoorlie.

An examination of the country in the vicinity of Cue was made by the Government Geologist, in response to a request that some boring be done; he reported favourably on the proposal, and an offer was made by the Government to bear half the cost of the boring, provided the other half was borne by local subscription. Up to the end of the year the offer had not been accepted, but a private company offered to put down the bore on similar conditions. Negotiations were still in progress at the end of the year.

## PART VII.—REMARKS ON THE GOLDFIELDS AND MINING DISTRICTS AND SUMMARY OF WARDENS' REPORTS.

### ASHBURTON GOLDFIELD.

Mining on this field is chiefly confined to alluvial, and, from the summary of gold reported shows a small decrease of 14 ounces compared with 1901.

The principal diggings are at Soldier's Secret, Top Camp, and Mt. Mortimer, and the working conditions at each are very bad, owing to climate; whilst at Soldier's Secret the nearest water supply is four and a-half miles off, from and to which diggers have to walk each day. The conditions are not favourable to further prospecting, but, in one instance, an area has been taken up which is so far giving its owners every satisfaction.

Almost all mining operations at Uaroo, Red Hill, and Mt. Stuart for copper have ceased. A parcel of 300 tons of lead ore is now being carried from the Rainbow mine to Onslow; but, as no results of its treatment have yet been obtained, it is impossible to say whether it will be a financially successful enterprise or not.

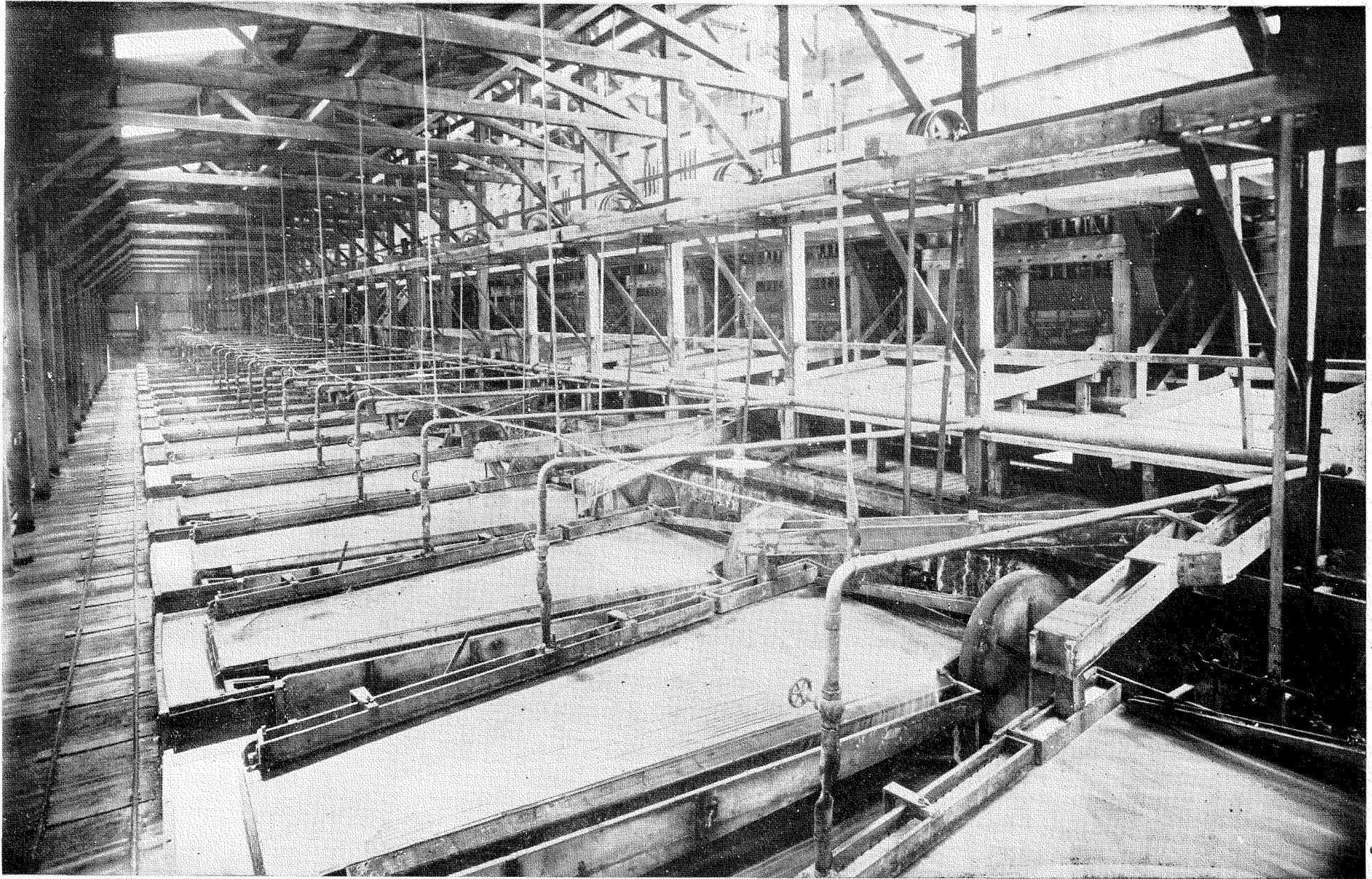
The season has been a particularly bad one for all classes of the little community, and the poor results obtained from the goldfield appear to be more from such obstacles as climate, inaccessibility, high rates of transport, etc., than from any want of payable mineral. The auriferous and metalliferous belts of country in this field cover a distance of 200 miles in length, but the great drawbacks mentioned above account for the small amount of prospecting which has been done. Given a good season, the country offers great inducements to genuine and energetic prospectors.

### BROAD ARROW GOLDFIELD.

A decrease in the yield from this goldfield is, for the second year in succession, reported, and for 1902 is 43·2 per cent. less than for 1901, only 19,675oz. being produced, as against 34,675oz. the previous year.

The revenue collected shows a decrease of £383 2s. 3d. less than in 1901.

Only one mine has produced gold regularly, and on this (the Golden Arrow) a lot of development work has been carried out at the 400, 500, 600, and 700 feet levels. With a 20-head mill this mine has crushed 8,843 tons of ore for a yield of 4,960oz. A diamond drill is now being used to test the reef to 1,000 feet, and the machinery on the surface is being improved by the addition of a steel vat cyanide plant. This is capable of treating 720 tons per month.



100-HEAD BATTERY, IVANHOE GOLD MINE, KALGOORLIE:

*(East Coolgardie Goldfield.)*

In the Half-Mile Reef Mines a scheme of development at a depth has been in operation, and the reef has been tapped at the 460 feet level, the result being satisfactory. The New Standard Exploration Co., Ltd., after a period of idleness for the greater part of the year, is once again in active operation, and 90 men are now employed. The New Austral Co., Ltd., once the Hill End mine, which was for many years a large gold producer, ceased its operations owing to the reef passing out of the property, but the mine has been worked by tributers with fairly good results.

No new alluvial finds have been made, but two parties of prospectors working on the old lead at the South end of the township of Broad Arrow have taken out several parcels of payable earth.

The value of mining machinery erected on the field to date represents over £120,000.

During the year 25 leases were applied for, and the total number in existence at the end of the year was 89, comprising an area of 1,151 acres.

15·08 inches of rain fell during the year, which is an increase of 8·36 over last year.

#### COLLIE MINING DISTRICT.

This coalfield has during the year produced 140,884 tons of coal, as against 117,836 tons in 1901, showing an increase of 23,048 tons, whilst the mining revenue has increased from £3,302 18s. 6d. in 1901 to £4,692 2s. 3d. in 1902. The increase in the amount of coal produced is to be considered satisfactory, especially in view of the fact that the 1901 production was lower than that of 1900.

It is estimated that the population of the field has increased from 1,400 in 1901 to 1,550 for 1902; but, in so far as those engaged in mining is concerned, there has been a decrease, the higher figures being accounted for by the number of timber cutters employed.

During the year the Wallsend mine was taken over by the Proprietary Company, and this company is responsible for the whole of the coal output of the year.

The Collie Boulder Company has been chiefly engaged in the construction of a branch line of railway to connect their workings with the railway system of the State, and they have also carried out a considerable amount of development work, but have not yet produced any coal.

Litigation has prevented the working of the Collie-Cardiff leases, but a tunnel about 30 yards long has opened a seam of coal 10 feet thick, and as soon as railway communication is established the company should be in a position to produce coal for sale.

Eight accidents of a minor character happened during the year.

The principal customer for the field's production is the Railway Department of the State. Attempts at securing the trade of the Eastern Goldfields and shipping not having resulted in much good, it is hoped that the establishment of a briquette factory at Bunbury—the seaport of the field—will have better results. The briquettes are being subjected to various tests, and the process can so far only be looked upon as an experiment.

The price of the coal militates severely against its becoming of general use. At the present time the rate is controlled by the Government contract, which fixes the price at 13s. per ton at pit mouth, and before the coal can be brought into general use it is estimated that a very considerable reduction of price must be made.

## COOLGARDIE GOLDFIELD.

Deep mining on this field has proved that bodies of payable ore exist at a depth, and these now only await the process of opening out to give an impetus to mining.

The year has been uneventful, though a large amount of development work has been got through, and an increase of 3·7 per cent. is recorded over last year's gold output. A healthier tone has been imparted to the mines.

The number of leases existing on 31st December, 1902, was 274, of which number 130 are gold-producers. The area covered by these leases is 3,371 acres.

The Lady Charlotte battery, leased by the Government and worked as a State battery, has been of considerable assistance to small parties working their own shows or under the tribute system, enabling them to get their ore crushed at rates more reasonable than those hitherto prevailing.

Alluvial mining is carried on in several parts of the field, and appears to afford fair success to those engaged. From a climatic point of view the rainfall has been phenomenal,  $15\frac{3}{4}$  inches having fallen, which is considerably above the average. As a consequence the grass has grown well, and several pastoral leases have been taken up.

The general health of the people has been good.

With the now assured constant and plentiful supply of fresh water provided by the Coolgardie Scheme just completed, and which, in addition to the benefits it confers on the residents, should enable a large number of the low-grade mines to be worked profitably, the end of 1903 should bring forth some interesting information regarding the mines generally.

## DONNYBROOK GOLDFIELD.

This goldfield has made steady progress during the year; though it is operated chiefly by one company (the Donnybrook Goldfields, Limited), who have sunk on their various properties a total depth of 643 feet, and driven a total of 2,508 feet. Operations have been chiefly confined to one mine, viz., "Hunter's Venture," the main shaft of which is now 300ft. deep. Levels at 200 and 300 feet have been opened up, and the result has been the discovery of a promising lode 16 feet wide being discovered at the lower level.

A five-head battery has been erected, and a six-drill compressor plant, as well as other additions to machinery have been made.

Sinking is to be continued till a depth of 500 feet has been reached

One hundred and five men are employed by this company, and very shortly the number will be increased.

Only one lease outside the properties owned by the above company is being worked, and on it a large amount of development work has been done.

A freestone quarry, containing excellent building stone, was being worked, but not much progress has been made.

The amount of gold obtained during the year has amounted to 101oz. only, but this is an increase of 97oz. more than 1901. Test samples only have been crushed pending the proving of the mines.

## DUNDAS GOLDFIELD.

The year began on this field with mining matters extremely quiet, but towards the end of the year a revival took place, and the outlook for the coming year is very promising.



A total of 34,751oz. of gold was won during the year, which is a decrease of 6·3 per cent. on last year's output. As, however, 20,918oz. were obtained during the last half-year, there is every prospect of a better return in the future.

A number of the mines are now being worked by tributers, who apparently do well.

The Norseman Gold Mines, Ltd., have been engaged during the year cyaniding their tailings, and the work being now finished and the properties having been taken over by an English company, development and general work are being now resumed.

The Princess Royal group of mines promises to grow into a large and prosperous centre, as the mines are developing well.

The State Battery, though unable to work continuously from many causes, has done good work, treating 3,489 tons of ore for a return of 3,630oz. of gold, or an average of 1oz. 0dwt. 19½gr. to the ton, and the revenue received at the battery amounted to £2,649 1s. 1d.

Prospecting in the vicinity of the Lady Mary is being carried on for the purpose of discovering a deep lead; about 60 men are engaged, but nothing definite or satisfactory has so far resulted.

Six Miners' Homestead Leases have been taken up, all of which are close to Norseman.

The general health of the field has been good, and no serious accidents have occurred in any of the mines. The rainfall for the year is nearly 50 per cent. greater than the average of the past six years.

#### EAST COOLGARDIE GOLDFIELD.

Although this is the smallest of the goldfields of the State, it is responsible for more than half the total output. The yield for 1902 amounted to 1,118,616oz., an increase of 12·8 per cent. on the previous year's yield. As profitable mining operations are principally confined to that part of the field known as the "Golden Mile," and as the average per ton of ore milled is 1·31 ounces, it will be apparent that great activity prevails and that excellent mining methods and up-to-date appliances are the rule.

The twelve principal mines show outputs ranging from 6,043oz. that of the Hainault, a mine that has but recently become a regular producer, to 193,297oz. the output of the Great Boulder Perseverance; the Golden Horseshoe follows the latter closely with 192,573oz. and the Great Boulder Proprietary and the Ivanhoe following with 166,518oz. and 142,298oz. respectively.

That energetic development is being done is evidenced by the depth of the main shafts in some of the principal mines:—

Great Boulder Proprietary	...	...	...	1,630 feet
Lake View Consols	...	...	...	1,425 "
Paringa	...	...	...	1,321 "
Kalgurli	...	...	...	1,178 "
Associated	...	...	...	1,080 "
Do.	...	...	...	931 "
Golden Horseshoe	...	...	...	1,033 "
Ivanhoe	...	...	...	1,014 "
Great Boulder Perseverance	...	...	...	1,000 "
South Kalgurli	...	...	...	850 "
Hainault	...	...	...	680 "

In the majority of these shafts sinking is still in progress, and in many cases the lodes have been proved by diamond drills in advance of the sinking. In many mines that have so far met with little success, vigorous prospecting work has been done and is still in progress.

At the Northern end of the belt mining is being carried on with varying success, several properties being worked by companies and a good many by tributers. The Devon Consols is a promising property, and has been equipped with two Huntington mills and a 10-head battery is in course of erection; the output for the year being 3,224oz. from 3,161 tons, and 29oz. doliied.

Prospecting is being carried on in the outside centres of Feysville and Boorara, and at the latter place regular crushings are being obtained from the Golden Ridge Proprietary mine, and from the Waterfall leases.

The value of the mining machinery in this goldfield for the year is stated as £1,851,644, being an increase as compared with that for 1901. Improvements in the methods of ore treatment are continually being introduced, the effect being that the costs of treating the sulphide ores are being gradually reduced.

The Kalgoorlie Electric Power and Lighting Corporation, Limited, completed a fine plant during the year, and electric power is being supplied to the mines. Electric tramways were also established during the year in Kalgoorlie, and between Kalgoorlie and Boulder, and these have proved a great convenience and have led to a good deal of settlement in the more remote parts of the town.

An addition to the railway facilities has been made by the construction of the Brownhill loop line, which branches to the East near Kalgoorlie, and runs on the Eastern side of the gold belt connecting with the Kalgoorlie-Lakeside line at Kamballie.

The Coolgardie Water Scheme was practically finished at the end of the year. The service reservoir on Mount Charlotte was completed, and the early part of the year 1903 should see the reticulation completed to the principal mines. It is anticipated that the regular supply of fresh water will prove a great boon to the mines, and will enable an appreciable reduction in costs to be made.

#### EAST MURCHISON GOLDFIELD.

The gold output from this field has considerably increased compared with last year, the total for 1902 being 91,309oz., as against 76,236oz. the previous year.

Revenue has also increased, the amount for 1902 being £6,986 19s. 6d., while for 1901 it was £4,933 14s. 4d.

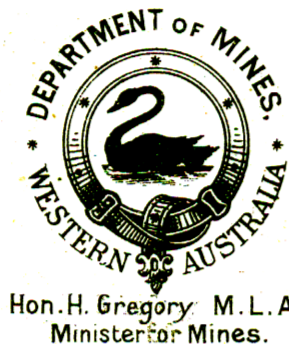
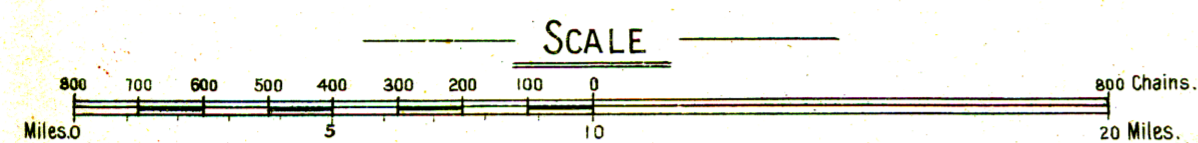
As in the Murchison field, a number of old and abandoned claims, etc., were resumed, which, on paper, would lead one to suppose a great falling off in these holdings had taken place; which, however, is not the case.

Considerable excitement was occasioned at one time by the report of a very rich alluvial find at a place near Black Range. Up to the present, however, nothing sensational has been found, but the country for miles round the locality is very promising. There is a good supply of fresh water in the well lately sunk for the convenience of the diggers at the place, and this has been the means of enabling the place to be properly and thoroughly tested.

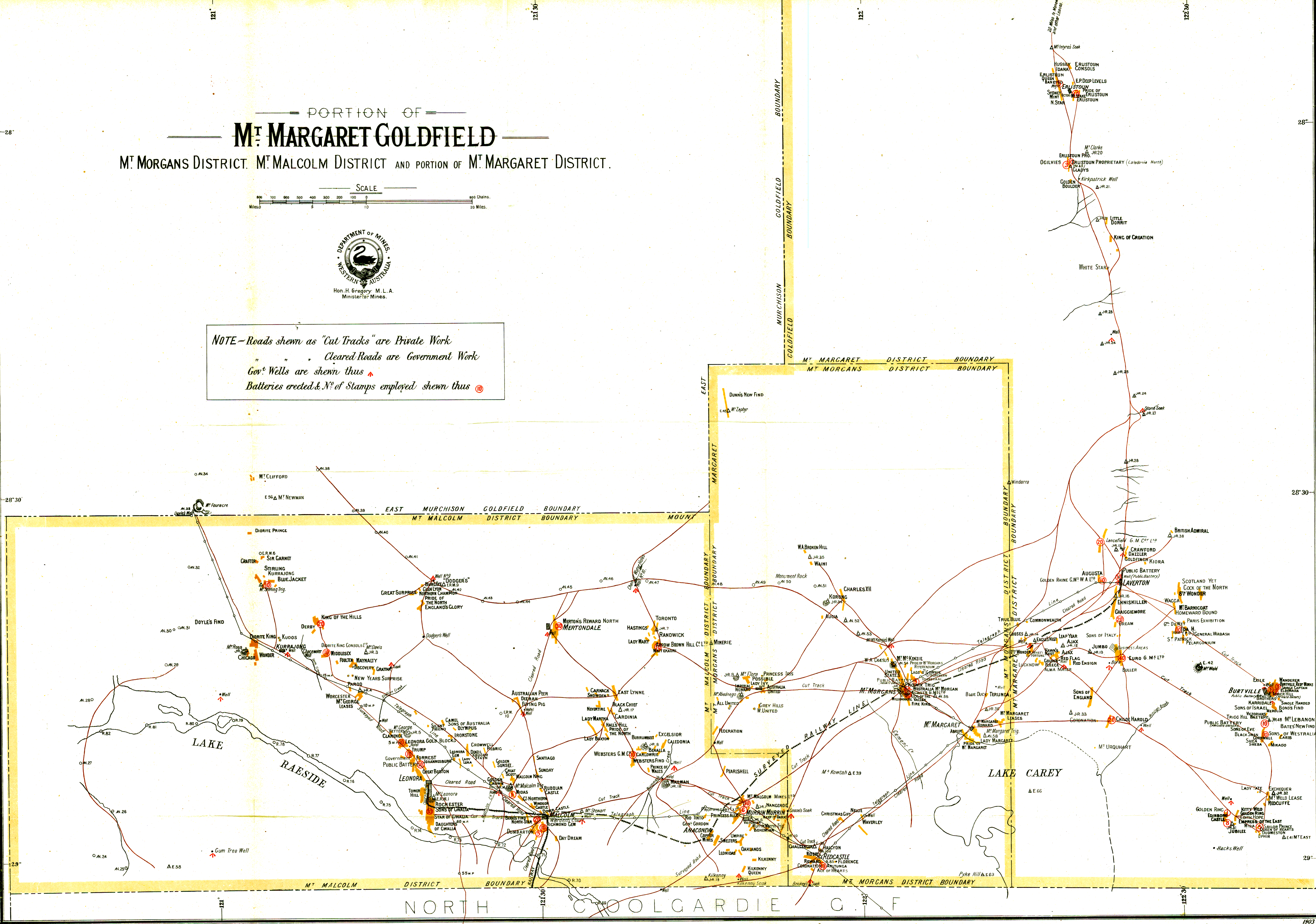
It was found necessary to remove the State Battery at Lake Darlôt to a site more central and nearer the town, and since August last 2,033 tons of ore have been treated for a yield of 3,573oz. This battery has been of immense benefit to the district, and it is intended to further add to its equipment a cyanide plant, which will enhance its value.

# PORTION OF M<sup>T</sup> MARGARET GOLDFIELD

M<sup>T</sup> MORGANS DISTRICT. M<sup>T</sup> MALCOLM DISTRICT AND PORTION OF M<sup>T</sup> MARGARET DISTRICT.



NOTE—Roads shown as "Cut Tracks" are Private Work  
 " " " Cleared Roads are Government Work  
 Gov<sup>t</sup> Wells are shown thus ▲  
 Batteries erected & N<sup>o</sup> of Stamps employed shown thus ⑩



NORTH COOLGARDIE C. F.

Generally speaking, there has been nothing of very great importance happen during the year, steady progress in all matters being noticeable. The pastoral industry appears to have taken root on this field, but although no less than 112 pastoral leases are held, very little has been done so far towards placing stock on them. The area held for this purpose is 3,453,000 acres. At various land sales held during the year, 98 lots in various parts of the field were sold.

The Warden looks forward to a continuation of the past progress, and predicts a further increase in the gold output during the current year.

#### GASCOYNE GOLDFIELD.

This goldfield, chiefly owing to its distance from the main centres of population, its climate, and the expensive nature of all means of transport, as well as supplies of every kind, continues to make slow progress, and good returns cannot be hoped for until the field is better equipped with the necessary machinery for gold extraction. Some signs are apparent that in the near future this latter drawback will be somewhat improved, when better results are then to be looked for. Three leases were applied for during the year, and as for several years past not even one was applied for, this may be accepted as evidence of expected improved developments taking place.

#### GREENBUSHES MINING DISTRICT.

From the quantity of tin obtained from this district during the past year it is apparent that steady progress has been made, the amount of tin produced being 403 tons during 1902, as against 321 tons in 1901, an increase of 82 tons or 25 per cent.

The Westralian Stanneries, Limited, in their Lease 218, reported the discovery of very rich lode tin, and a similar find was made in Lease 300, the property of Johnson and party.

Operations are considerably hampered by the lack of a sufficient and permanent supply of water for washing purposes; but before long it is anticipated that this difficulty will be overcome, as a scheme for supplying the mines with water from the Blackwood River is now being carried out, and, when completed, will no doubt prove of great benefit to the whole field. This should be completed before the end of this year, and consequently still better returns may, in the future, be looked for. The syndicate carrying out the above work has also erected a very complete smelting plant, from which quantities of metallic tin have been regularly exported.

The smelting works owned by another syndicate have been kept continuously working with two furnaces, and another furnace is in course of erection.

The Government battery, which commenced operations on 28th May, and worked up to 31st December, crushed and treated 1,115 tons of dirt for a return of 30 tons 12cwt. of black tin, and 54 tons of slag for a return of 10 tons of pure tin, which may be considered very satisfactory. For a domestic water supply, the Road Board has erected two 5,000 gallon tanks and a pumping engine at the well near the Court House. This has been, and will continue to be, of considerable benefit to the townspeople, as the extreme height of the ground above water level precludes individuals from sinking wells of their own.

#### MT. MARGARET GOLDFIELD.

Though one of the most recently established goldfields, being but in its sixth year of existence, this field has maintained its reputation as being only second in importance to East Coolgardie, by another year of continuous progress and development.

The Warden reports that a great deal of attention has been devoted to mining at a depth, and the results in many cases have been most gratifying, and tend to prove that the lodes not only exist at depth, but retain their value and productiveness.

Two State batteries have been erected in this field—one at Leonora and one at Laverton, the former of which was not run the whole year. They have proved a boon to the prospector and justified their erection, and a hope is expressed that ere long another will be erected at Burtville.

Prospecting for new ground has not been very brisk, nor have any new finds been made during the year, and whatever prospecting has been done was confined to country lying within easy reach of centres of settlement.

The reason of this, as given by the Warden, is that the condition of the money market was such as to offer very little inducement to expend money in searching for new auriferous deposits in unknown and distant country. However, the legislation passed recently, whereby this department is enabled to assist prospectors by providing means of transport, should act as an incentive, and be the means of opening up and exploring the inland country, with beneficial results.

A great number of the mines held by miners are now more fully developed than was the custom in previous years, and it has been recognised that, as in other walks of life, the best display of the wares to be sold must be made if it is hoped to attract a buyer. This accounts in a great measure for the very few, comparatively speaking, applications which have been made for exemption. The older established mines continue to give good and consistent returns, while others now being developed give good indications of permanency.

During the year railway communication to Malcolm and Leonora has been established, and before long it is expected that the line will be carried still further, to Morgans, as by its means the necessaries both of life and mining can be delivered at a much lower cost than formerly, and this leads to poorer mines being worked at something like a profit.

Diamond drilling, for the purpose of proving the character and value of auriferous deposits at a depth, has in some instances been of great value.

Mining for copper shows a falling off compared with last year. This is on account of the smelters being closed during a period of development work; but that being now completed, and the property being in the hands of a financially strong company, every hope is expressed that future results will not be so disappointing. The amount of copper obtained was valued at £6,852, from 1,954 tons smelted ore, which produced 124 tons of metallic copper.

In April a slight alteration was made in the administration of the field by the creation of the new district of Morgans, and to which the Warden's headquarters were transferred on account of its more central position. A slight increase in the area of the field was also made, and it now totals 42,252 square miles.

The Warden's Court centres are Malcolm, Morgans, and Laverton, which the Warden visits every fortnight for Warden's Court business, and, in addition, holds a local court at each of the above places and at Leonora once a month.

The number of leases applied for is less than the previous year, and the number of leases in existence, and the area leased for gold-mining, is less by 33 leases and 908 acres, respectively, than the previous year.

The total gold produced from the field since 1st January, 1897, is 699,263oz., of which 211,309oz. were produced during 1902, and 22,592oz. were produced during 1897;



**CHAMPION PROPRIETARY, LTD., NANNINE.**

*(Murchison Goldfield.)*

the intervening years being each a long way in advance of its predecessor, 1902 being, so far, the record year. The above facts are evidence of the continued and consistent progress this field is making.

Very little alluvial gold is now being got, and out of last year's total only 291·57oz. were alluvial, and 351·77oz. were from dollied specimens.

The District of Mt. Malcolm	contributed from all sources	88,842·92oz.
”	” Mt. Morgans	” ” 59,091·55
”	” Mt. Margaret	” ” 63,374·30

Prior to 1st April the returns for Mt. Morgans were included in Mt. Margaret figures.

Of the producing mines the chief and most consistent were “Sons of Gwalia,” in Mt. Malcolm; “Mt. Morgans,” in Mt. Morgans; and the “Lancefield” and “Ida H.,” in Mt. Margaret. The population was estimated on 31st December, 1902, to be 6,025 persons, distributed as follows:—2,170 in Mt. Margaret, 1,114 in Mt. Morgans, and 2,741 in Mt. Malcolm districts. Two new townsites were declared during the year, these were Burtville and Euro, both of which are giving every indication of being important townships.

Advantage has been taken of the provisions in the Goldfields Act of 1900 for enabling Miners' Homestead Leases to be taken on Goldfields, and several are in existence; and, in addition, a considerable area of country is held under pastoral lease, for which some of it is most suitable. Water is easily procurable at shallow depths, and is fresh as a rule. During the year fat stock were sent all the way to Perth. The ruling rates for meat is from 8d. to 1s. 3d. per lb.

A general rainfall of 10 inches is reported, from which a great deal of good will result.

Several market gardens are in full cultivation, and the vegetables are excellent and far superior to the imported, but the prices are rather high. The soil is good, and irrigation is carried on by means of windmills, which are in general use both for gardening and stock watering.

#### MURCHISON GOLDFIELD.

Another year of steady progress has to be recorded for this goldfield, and its gold yield emphasises this by the fact that for 1902 210,814oz. were produced, as against 146,592oz. for 1901, showing the substantial increase, in favour of 1902, of 64,222oz. The total amount of ore crushed during the year was 153,142 tons.

The number of leases existing at the end of the year is nearly 100 more than for the previous year, while revenue has increased by no less a sum than £9,100 a considerable portion of which is due to the public batteries, thus demonstrating the very important part they are taking in developing the gold resources of this field.

An increase of 960 has also to be recorded in the population.

A great number of old and abandoned claims and holdings of various kinds were resumed during the year, and it is well to state that the differences in the figures shown this year and last year are not to be taken to mean a sudden cessation of work.

A little alluvial mining is being done at “Quinn's,” in the North-East part of the goldfield, where a few diggers are stated to be doing very well; otherwise matters in this respect are very quiet.

As in Mount Margaret, so in this field the diamond drill has been introduced into the deeper mines, and great efforts were made at Day Dawn to endeavour by this

means to locate the Great Fingall reef, at a depth of 1,500ft. in one place and at 2,000ft. in another. The value of the work, however, cannot yet be definitely stated.

In the Nannine, comprising the Northern district, especially at Meekatharra, Burnakura, and Chesterfield, most of the gold-producing mines are locally owned, and profits accruing therefrom are retained in the State. With regard to deep mining the results have proved rather disappointing. As the railway has now been extended to Nannine it will assist materially in the cheaper and more economical development of the mines in the district.

In the Mount Magnet district, the Southern part of the field, many changes have occurred during the year. Places which, from a miner's point of view, last year gave great promise have not fulfilled expectations; while at Lennonville the Long Reef mine, after working hard for the greater part of the year, was compelled to close down. Amends for this somewhat disappointing state of affairs have, however, been made by an adjoining property, known as "Wheel of Fortune North," having turned out the most prominent gold-producer in this centre. This mine is worked under tribute.

The township of Magnet cannot be said to have made very great progress during the year; but in the district, generally, good and substantial progress has been made, and shows an increase on last year.

*Cue District.*—This district has been the scene of a large amount of good prospecting work which has resulted in great benefit. The principal mine, "Cue One," formerly the property of a London Company, has passed into local hands, and yields fair average monthly crushings from a 20-head mill, which has been constantly at work throughout the year; during which time, in addition to crushing their own stone, a considerable quantity was put through for local prospectors.

Prospectors have had good facilities for getting their ore treated, as, in addition to the "Cue One," the battery at the "Golden Stream" has crushed a considerable quantity, as also has the "Gem of Cue."

Vigorous development is now taking place in the "Princess Ada," the results of which, whether for good or ill, are expected to have far reaching effect, as all classes of the community are more or less financially interested.

The absence of sufficient funds renders the work at Cuddingwarra slow and tedious.

The most important of all mines in the field can be truly stated to be the "Great Fingall," which, from its richness and size, is probably the most important quartz reefing proposition in Australia, and has certainly made a reputation for stability for the Day Dawn district, in which it is situated. The results each month are exceptionally good and consistent, and the general equipment of the mine bears the hall mark of permanency. A mine from which a good account may shortly be expected is the "Rubicon;" while at Lake Austin very good work has been done, and good dividends received from the "Island Eureka" during the whole year.

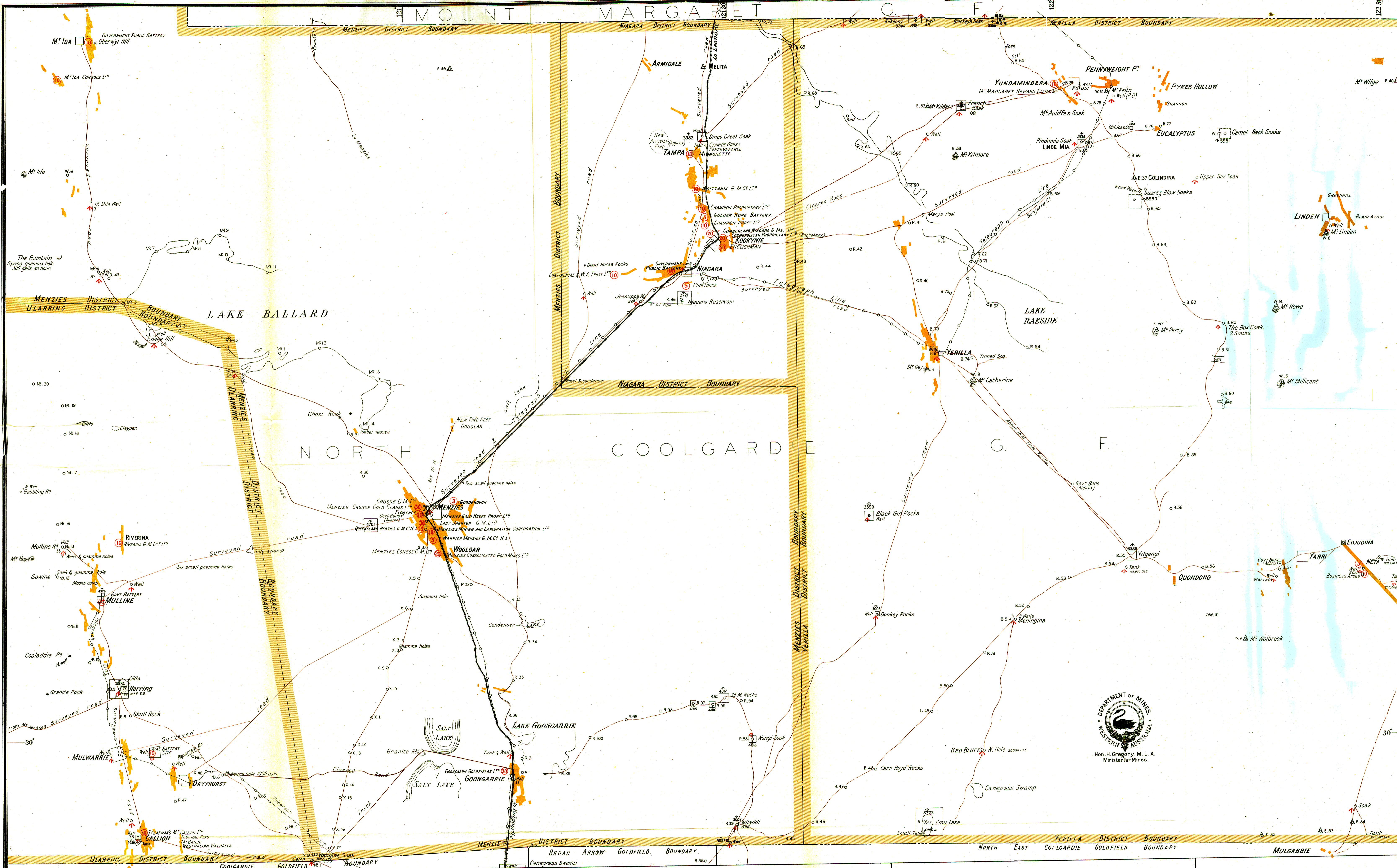
The Warden states that his expectations for the whole field have been reached, and he looks forward to similar prosperity all round during the coming year.

#### NORTHAMPTON AND YANDANOOKA MINING DISTRICTS.

The year has been uneventful, which may be attributed chiefly to the low prices of lead and copper, combined with the distance of the mines from smelting facilities.

Only one lease was applied for during the year. Boring was resorted to at Northampton and Narra Tarra, but, unfortunately, the results obtained in both places were of a disappointing nature.

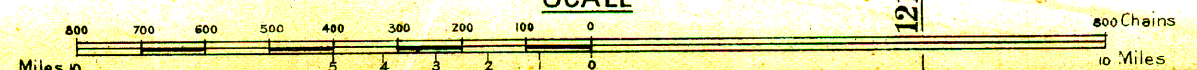




— PORTION OF —  
**NORTH COOLGARDIE GOLDFIELD**

NIAGARA & MENZIES DISTRICTS AND PORTIONS OF YERILLA & ULLARRING DISTRICTS.

SCALE



NOTE— Roads shown as "Cut Tracks" are Private Work  
 "Cleared Roads" are Government Work  
 Gov't Wells are shown thus  $\blacktriangle$   
 Batteries erected & No of Stamps employed shown thus  $\textcircled{\text{O}}$



Hon. H. Gregory, M.L.A.  
 Minister for Mines

A little copper mining has been done at Arrino, in the Yandanooka district, but a good deal more development work is necessary to prove the extent of the deposits.

Prospecting is being carried on for coal near Mingenew by means of a diamond drill, but so far no seams have been encountered. It is intended to carry the bore hole to a depth of at least one thousand feet.

Some prospecting for coal has also been done near Depôt Hill, but towards the end of the year boring was suspended.

#### NORTH COOLGARDIE GOLDFIELD.

The gold yield of this field for 1902, compared with that for 1901, shows an increase of 36,711oz., or an increase of 24·7 per cent. The total gold yield for the year was 185,016oz., being the fourth highest yield for all the goldfields of the State.

The above figures are in a great measure due to the excellent results shown by the State batteries, of which there are four in this goldfield, situated at Mulline, Mt. Ida, Niagara, and Mulwarrie; the total quantity of ore treated by them having been 28,003·00 tons for a gold yield of 30,215·44oz.

Several important new finds have been made, notably Yarri, near Edjudina, and The Cock Robin, 10 miles North-East of Menzies, in addition to which there have been others.

At one mine near Kookynie, known as the "Whale," very satisfactory developments have taken place, and 50 ounces of free gold were picked from the dump of 20 tons. This dump on being crushed yielded an average of four ounces per ton. Some specimens dollied in the presence of the Warden from the Yarri find assayed as much as ten and twelve ounces to the ton.

The impetus given to mining by the discoveries above referred to have caused increased activity in and around Kookynie and Edjudina, and it is fair to suppose that there is still plenty of auriferous country within the field generally which is well worth prospecting.

The population has increased by nearly 2,000 souls. From a commercial standpoint, great progress has been made during the year, while the water supply has been greatly improved, and, in addition, a heavier rainfall than in previous years has to be recorded.

Very considerable additions and improvements have been made in the mining plants. A number of new finds have been made during the year, some of them of great importance. These have given great impetus to mining, and have encouraged prospectors to continue their efforts in this field.

#### NORTH-EAST COOLGARDIE GOLDFIELD.

This Goldfield comprises the Districts of Kanowna, Bulong, and Kurnalpi, the latter of which is in a very quiescent state, though prospectors are still directing their attention towards the discovery of payable reefs or alluvial. So far, however, nothing has resulted which gives promise of better things to come.

The Bulong district during the early part of the year seemed in a depressed state generally, and, with the exception of one mine, the "Mt. Bellew," situated at Balagundi, very little gold has been won. This lease has been a constant gold producer, and some sensational results were obtained. A great amount of development work has been carried out; 45 tons of ore from this mine were crushed at the Hannans Proprietary Mill for a return of 122·5oz., whilst by dollying 428oz. were obtained.

Balagundi is a dry alluvial patch, and gave employment to about 40 men, and some good slugs were obtained, among them being two of 16oz. and 8oz. respectively. At another patch, some little distance from Balagundi, some very nice gold has been obtained. Over 70 men, of whom the majority are making good wages, are still working there.

Latterly, steady progress and solid prospecting have been the main features of the district. The mining seems confined to alluvial patches, but in one or two instances reef mining has been carried on successfully. From a quartz claim on the Oversight Lead, and at a depth of 16 feet, 211 tons of earth were crushed for a return of 1,601·87oz., the result of six months' work. Another claim yielded 1,794·2oz. from 72 tons, and another claim 1,766·04oz. were obtained from 340 tons, and from yet one more claim 536·53oz. were obtained from 159 tons treated. The above successes induced a local syndicate to erect a Huntington mill for public crushing, which, provided an adequate supply of water can be obtained, should materially assist in reducing the present cost of crushing. Several cyaniding plants have been erected, and the work of treating old tailings is now in progress.

The Queen Margaret, where vigorous development has taken place, is now at a depth of 700 feet, but, owing to the patchy nature of the lode, the results have not been too promising.

A 10-head battery is being erected at Hogan's Find, and a fair supply of water is obtainable. This, as well as crushing for its owners, is intended to be used as a public crusher.

The prospects of the district are very promising, and, although round and about the township mining matters have been very quiet, a great deal of legitimate work and prospecting has been done in outlying centres.

Kanowna is the headquarters of the Warden, and has been the scene of steady mining progress. New and additional machinery has been erected.

The goldfield has produced 67,109 ounces of gold during the year, being an increase of 5·4 per cent. on the production of last year.

Among the most promising gold-producing mines in the Kanowna district may be mentioned the following:—

North White Feather	crushed	6,675 tons	for	4,839 ounces.	
Robinson Gold Mines	"	3,567	"	4,642	"
White Feather Main Reef	"	18,038	"	14,168	"
White Feather Reward	"	770	"	2,466	"
Sunbeam	"	820	"	1,266	"
Kanowna	"	233	"	1,810	"
				424	"
Golden Valley Mines of W.A.	"	146	"	2,383	"
					and in addition from dolled and specimens.

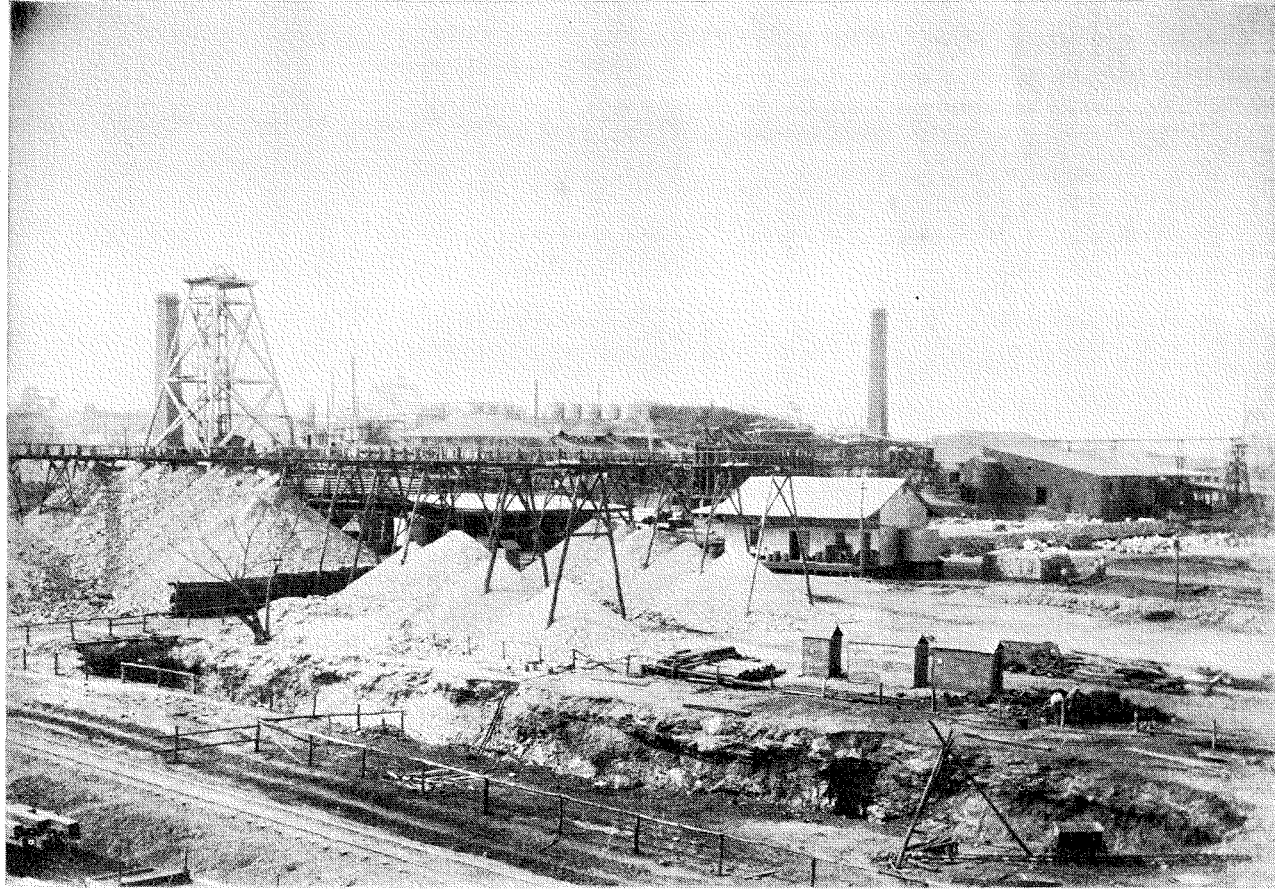
It is a cause for regret that as many as 11 accidents happened during the year, by which three men were killed, and various injuries were sustained by other victims.

A decrease of £411 11s. 3d. is shown in the revenue returns for the year.

The rainfall of the field has been exceptionally good, and 14·91 inches were recorded at Kanowna.

The health of the people has been good throughout.

The Warden, in his report, gives it as his opinion that "though this goldfield has not progressed to the extent expected, yet the State has a valuable asset in it, only requiring capital and labour to unearth its riches."



**GREAT BOULDER PROPRIETARY GOLD MINES, LTD., KALGOORLIE.**  
*(East Coolgardie Goldfield.)*

### PEAK HILL GOLDFIELD.

An increase of 85 per cent. over the gold yield of the year 1901 is reported for this year, the total gold obtained in the former year being 20,255oz., and in 1902 37,487oz. The average yield per ton of ore crushed has, however, decreased from .84 in 1901 to .65 in 1902, though this, of course, cannot be taken as an index to the value of the field. Altogether 57,494 tons of ore were crushed, which averaged 13dwt. per ton.

The State battery, which up to July last worked with rather unsatisfactory results, and was temporarily closed owing to its not being kept sufficiently supplied with ore, was leased to a local mine owner, who has since crushed a good deal of ore from his own mine and for lessees in the vicinity. The whole amount of stone crushed at this battery was 2,183 tons, for a gross yield of 2,526.5oz.

A small quantity—58oz. only—of alluvial gold was bought at the local Bank.

Mining timber and fuel are very scarce commodities, but both these difficulties will no doubt be in a manner greatly overcome as the railway line is extended further towards the field.

The Peak Hill Goldfield, Limited, continue to develop their properties in a most satisfactory manner, and have, during the year, completed an extensive water supply, carried by gravitation a distance of three-quarters of a mile.

The total amount of Revenue collected from all sources during the year was £2,798 7s. 8d.

The stock route from the North-West throughout this field is being vastly improved by sinking wells between the Murchison and the Fortescue Rivers, *via* Upper Gascoyne, and, when completed, will result in a saving of distance of about 100 miles over the present route.

The population of the field is about 566, of whom 66 are females. The State school has an attendance of 20 children.

The public health has been good, and the temperature has ranged from 111.4 on the 13th January, 1902, to 37.7 on the 15th June, 1902. The total rainfall has been 19.53 inches.

At the Horseshoe good developments in mining have taken place, but until a battery is erected any satisfactory results cannot be hoped for, as at present the ore raised is being carted a distance of 15 miles, the cost of which is too great to allow much margin for profit.

The railway, which at present has its terminus at Nannine, is expected to be extended, and this, when carried out, will afford cheaper transport facilities than at present exist, and will also greatly assist in hastening development.

### PHILLIPS RIVER GOLDFIELD.

The progress of this field has been slow and, except in a few instances, development work has been very small. An alluvial find was made at a place called Kundip, the depth being about 12 feet. The gold is very patchy, and only 44oz. were obtained.

There are 40 head of stamps working, and the gold output amounts to about 1,000oz. per month. The output of gold for 1901 was 713oz., whilst that for 1902 was 8,494oz., an increase of 7,781oz.

This field is worked for copper as well as for gold, but the price of copper being low during the greater part of the year, the miners engaged in obtaining the ore have been unable to send any away, as the returns at ruling prices did not pay.

The State Mining Engineer visited the field and reported fully on the mines, with a view of ascertaining if some assistance could not be afforded this branch of the mining industry.

Agricultural pursuits have engaged the attention of several persons during the year, and 200 tons of chaff were grown, besides which a considerable area has been taken up and cleared.

The jetty recently erected at Hopetoun, the port of the field, is greatly appreciated.

#### PILBARRA GOLDFIELD.

As compared with last year, this field shows to considerable advantage, as in gold production alone there is an increase of 18·6 per cent. in the yield for 1902 over 1901. Last year a decrease compared with 1900 was reported, which was accounted for by the want of proper crushing facilities. By Lallarookh Battery making regular crushings this year a better result has been obtained.

A large amount of good and useful development work is being done in the Nullagine District, where a further 10 head of stamps is being erected on the British Exploration and Development Company's property, which, when completed, will enable them to run 15 head, and for which purpose they are carrying out a water scheme which, when completed, will bring water a distance of  $1\frac{1}{4}$  miles from the river to the mine. Later on, still another 20 head is proposed to be erected.

Bamboo Creek and Middle Creek, as well as Mosquito Creek, are all making good progress and turning out good results. Another 10 head of stamps is being erected at the latter place.

A new find, at the head of the Turner River, was reported during the year, but the Warden has been unable to visit it, so that no official information can be given. In addition to its gold, this field is rich in tin, but through the past year the output of tin has rather decreased, at least this appears to be the case from a comparison of the returns; but the Warden explains that a good deal of the tin is sold to storekeepers, and no return of output is obtainable, so that it is possible that a considerable quantity, more rather than less, was obtained this year.

Pastoral leases occupy nearly the whole surface of this field, although the rainfall has been below the average, and consequently feed and water scarce.

The climate, though hot in the summer months, appears to be healthy, as the Warden reports that the health of the population has been good.

No fatal or other accidents in mines have occurred during the year.

The progress of mining on this field must necessarily be slow, owing in a great measure to the cost of transport and scarcity of timber and fuel.

#### YALGOO GOLDFIELD.

Mining on this field has been of a most discouraging nature, and does not promise to improve in the near future. The old pioneers still have hopes that matters will improve, and are most persevering in their efforts. As the result of the many failures of the year a decrease of 36·6 per cent. in the gold yield is reported for 1902 less than

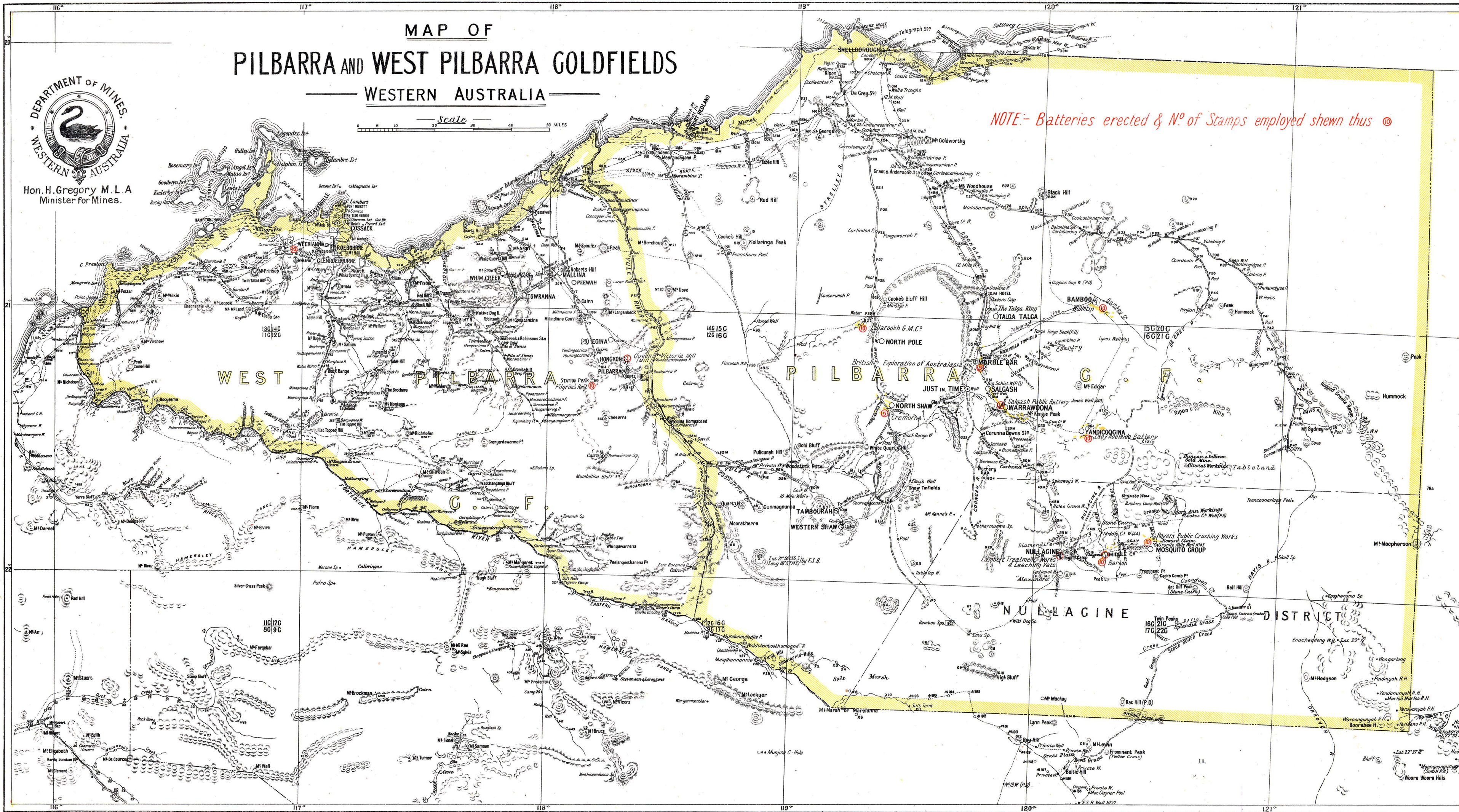
# MAP OF PILBARRA AND WEST PILBARRA GOLDFIELDS WESTERN AUSTRALIA

Scale 0 10 20 30 40 50 MILES



Hon. H. Gregory M. L. A.  
Minister for Mines.

NOTE:- Batteries erected & N<sup>o</sup> of Stamps employed shewn thus



for 1901; the total gold yield being 5,853oz. from 3,992 tons. The Field's Find Company, also the Pinyalling Gold Discovery Company, have had to close down, whilst Wadgingarra—once a very promising centre—has been totally abandoned. At Yuin, regular crushings have taken place, and latterly these have shown a decided improvement. There is every probability of the Phoenix Battery, at Gullewa, making a fresh start during the coming year, and it is also in contemplation to erect a 10-head battery on the Monarch mine. Both these schemes if carried out will, it is hoped, restore prosperity, at all events in this centre.

#### YILGARN GOLDFIELD.

Next to Kimberley in age is Yilgarn, which for the past year or two seemed to be retrogressing to an alarming extent. However, the year just passed has made considerable changes, and the outlook from this field is brighter than it has been for many years.

Progress and development are reported on all sides, and localities almost totally abandoned seem to have suddenly sprung into great prominence. Instances are to be found in Parker's Range, which, three or four years ago, was totally abandoned, and Hope's Hill, after a long period of depression, is now springing into activity.

At Greenmount, an early find, later abandoned, substantial improvement has to be recorded, and a large parcel of ore is now under treatment from this locality at Kalgoorlie, and if the returns are as anticipated, an early start will be made with the erection of a 10-head battery.

Parker's Range is now the scene of active mining operations after a long rest, and from one mine alone in this locality £1,500 worth of gold was obtained.

The large battery at Hope's Hill, though idle till August, is now working 20-head of stamps on payable stone.

Mt. Jackson, with the great handicap of 100 miles road transport to contend with, has been working vigorously, and sound development work has been carried out.

Southern Cross, the principal town of the field, has somewhat progressed, and a rich find, almost within the town itself, caused great excitement. The electric light and rock-drilling plants have been introduced into one mine, while it is in contemplation to test the lodes at a depth by sinking to 1,000 feet.

At Jacoletti's mines the outlook is very promising.

The gold obtained from the field during the year was 23,130oz., as against 26,587oz. in 1901, a decrease of 3,457oz. Thirteen mines in the field are now gold producers, and this number will most probably be added to considerably during the coming year. From a commercial point of view business has improved, encouraging storekeepers to the extent that a number of brick buildings have been erected. Population has materially increased, and men whose families were living in other States have now settled down and made their homes on the field.

The health of the people has been remarkably good.

The Coolgardie Water Scheme main, which passes through the town of Southern Cross, has afforded a means of providing a plentiful supply of fresh water, both to domestic houses and to the mines. The advantages of this can be imagined when it is considered that there is no natural supply of fresh water in the field, and the only means of providing for the requirements of the people was by artificial storage and condensers.





TABLE 26.

Population of Goldfields and Mining Districts on 31st December, 1901 and 1902.

Goldfields and Mining Districts.	Centres.	Males.		Females.		Total.		Increase or Decrease for 1902 compared with 1901.	
		1901.	1902.	1901.	1902.	1901.	1902.	Increase.	Decrease.
Ashburton	Dead Finish ...	2	...	...	...	2	...	...	2
	Gorge ...	6	...	...	...	6	...	...	6
	Mt. Mortimer ...	4	9	...	...	4	9	5	...
	Outside ...	8	...	...	...	8	...	...	8
	Soldier's Secret ...	11	12	...	...	11	12	1	...
	Top Camp ...	5	9	...	...	5	9	4	...
	Uaroo ...	33	14	6	5	39	19	...	20
Broad Arrow	Surrounding districts...	26	35	3	8	29	43	14	...
	...	900	1,000	450	500	1,350	1,500	150	...
Coolgardie	Coolgardie ...	3,447	4,005	2,000	2,598	5,447	6,603	1,156	...
Donnybrook	Kunanalling ...	400	824	115	153	515	977	462	...
	...	560	1,230	245	500	805	1,730	925	...
Dundas	...	1,030	1,050	420	470	1,450	1,520	70	...
East Coolgardie...	...	16,651	†	9,499	†	26,150	30,000	3,850	...
East Murchison	Black Range ...	12	105	4	1	16	108	90	...
	Cork Tree ...	30	26	1	4	31	30	...	1
	Kathleen Valley ...	95	164	9	19	104	183	79	...
	Lawlers ...	705	711	127	134	832	845	13	...
	Lake Way ...	298	340	45	50	343	390	47	...
	Sir Samuel ...	140	181	28	33	168	214	46	...
	Lake Darlot ...	100	221	20	24	120	245	125	...
	Mt. Clifford ...	15	25	...	...	15	25	10	...
	New England ...	8	3	...	...	8	3	...	5
	Wilson's Creek ...	12	30	1	...	13	30	17	...
Gascoyne	...	15	...	...	...	15	15	...	...
	Leonora ...	227	450	89	240	316	690	374	...
	Malcolm ...	147	225	104	86	251	311	60	...
	Mertondale ...	40	110	10	35	50	145	95	...
	Murrin Murrin ...	15	20	10	12	25	32	7	...
	Kurrajong ...	5	15	4	2	9	17	8	...
	Laverton ...	170	310	80	100	250	410	160	...
Mount Margaret	Euro ...	...	210	...	35	...	245	245	...
	Burtville ...	...	465	...	50	...	515	515	...
	Morgans ...	504	805	140	234	644	1,039	395	...
	Surrounding Districts	2,742	2,248	413	373	3,155	2,621	...	534
	Cue ...	...	1,202	...	553	1,509	1,755	246	...
	Day Dawn ...	...	1,500	...	500	1,130	2,000	870	...
	Mount Magnet ...	906	851	346	262	1,252	1,113	...	139
	Nannine ...	950	929	160	165	1,110	1,094	...	16
	Menzies ...	1,318	1,772	856	878	2,174	2,650	476	...
	Ularring ...	1,027	956	149	201	1,176	1,157	...	19
North Coolgardie	Niagara ...	1,000	1,858	300	759	1,300	2,617	1,317	...
	Yerilla ...	350	448	40	82	390	530	140	...
	Kanowna ...	1,400	1,400	600	600	2,000	2,000	...	...
North-East Coolgardie	Bulong ...	350	1,019	160	181	510	1,200	690	...
	Kurnapi ...	90	41	6	2	96	43	...	53
Peak Hill	...	600	500	63	66	668	566	...	97
	Rayensthorpe	298	324	103	121	401	445	44	...
Phillips River	Mt. Desmond	...	...	...	...	...	...	...	...
	Kundip ...	78	55	11	13	89	68	...	21
	Elverdton ...	...	...	...	...	...	...	...	...
	Hopetoun ...	29	14	15	11	44	25	...	19
Pilbarra	Carlingup ...	...	8	...	1	...	9	9	...
	Cocanarup ...	...	...	...	...	...	...	...	...
	Marble Bar ...	777	607	78	77	855	684	...	171
	Nullagine ...	213	204	4	2	217	206	...	11
	Ballaballa ...	11	...	3	...	14	...	...	14
	Croydon ...	4	...	...	...	4	...	...	4
	Egina ...	6	...	...	...	6	...	...	6
	Hong Kong ...	1	...	...	...	1	...	...	1
	Lower Nicol ...	12	...	3	...	15	...	...	15
	Mallina ...	...	...	...	...	...	...	...	...
West Pilbarra	Mons Cupri ...	10	...	...	...	10	...	...	10
	Pilbarra ...	18	...	2	...	20	...	...	20
	Toweranna ...	2	...	...	...	2	...	...	2
	Whim Creek ...	11	142	3	2	14	144	130	...
	Roebourne ...	...	191	...	79	...	270	270	...
	Cossack ...	...	164	...	19	...	183	183	...
	Table Land ...	...	50	...	6	...	56	56	...
Port Hedland ...	...	229	...	15	...	244	244	...	

† Sexes not divided.

TABLE 26.—Population of Goldfields and Mining Districts, etc.—continued.

Goldfields and Mining Districts.	Centres.	Males.		Females.		Total.		Increase or Decrease for 1902 compared with 1901.	
		1901.	1902.	1901.	1902.	1901.	1902.	Increase.	Decrease.
Yalgoo ...	Carlaminda ...	540	395	260	205	800	600	...	200
	Field's Find ...								
	Gullewa ...								
	Noongal ...								
	Pinyalling (Nynghan) ...								
	Rothesay ...								
	Wadgingarra ...								
Yalgoo ...									
Yilgarn ...	Yuin ...	1,037	850	407	800	1,444	1,650	363	...
	Golden Valley ...								
	Greenmount ...								
	Hope's Hill ...								
	Jacoletti ...								
	Mt. Jackson ...								
	Mt. Rankin ...								
Parker's Range ...									
Southern Cross ...									
Kimberley ...	134	...	14	...	148	148	...	...	
Collie ...	887	950	513	600	1,400	1,550	150	...	
Greenbushes ...	412	600	256	300	668	900	232	...	
Northampton ...	Northampton ...	370	370	180	170	550	540	...	10
	Geraldine ...	12	8	3	2	15	10	...	5
Yandanooka ...	...	...	...	...	...	...	...	...	
		41,216	27,798	18,318	9,606	62,213	75,147	14,343	1,409



**MUNDARING RESERVOIR AND DAM.**

*(Coolgardie Water Supply.)*

TABLE 27.

## Water Supply during 1902.

Goldfield and Mining Districts.	Centres.	Average depth at which Salt Water is struck.	Average depth at which Fresh or Stock Water is struck.	Government Tanks.		Rainfall.
				No.	Capacity.	
Collie ... ..	Collie ... ..	...	40 feet	...	...	29-00
Gascoyne ... ..	...	...	...	...	...	9-10
West Pilbarra ... ..	Croydon ... ..	...	25 feet	...	...	16-31
	Egina ... ..	...	110 feet	...	...	No record
	Hong Kong ... ..	...	60 feet	...	...	do
	Lower Nicol ... ..	...	30 feet	...	...	do
	Mons Cupri ... ..	...	70 feet	...	...	do
	Toweranna ... ..	...	100 feet	...	...	do
	Whim Creek ... ..	...	60 feet	...	...	17-61
Phillips River ... ..	Ravensthorpe ... ..	30 feet	...	...	*	17-7
	Harbour View ... ..	40 feet	...	...	*	No record
	Hopetoun ... ..	25 feet	6 feet (stock water)	...	†	18-86
Kimberley ... ..	Hall's Creek ... ..	...	50 feet	...	†	17-36
	Cue ... ..	10 to 100 feet	10 to 100 feet	...	†	6-75
Murchison ... ..	Day Dawn ... ..	do	do	...	...	6-75
	Nannine ... ..	25 feet	19 feet	...	†	6-00
	Mount Magnet ... ..	70 feet	70 feet	...	...	6-00
	Dead Finish ... ..	97 feet	...	...	...	Rainfall very patchy; from 3 to 10 inches was registered at various centres
Ashburton ... ..	Gorge ... ..	...	60 feet	...	...	
	Outside ... ..	35 feet	35 feet	...	...	
	Soldier's Secret ... ..	...	28 feet	...	...	
Pilbarra ... ..	Top Camp ... ..	...	50 feet	...	...	
	Uaroo ... ..	...	80 feet	...	...	18-87
	Marble Bar ... ..	...	35 feet	...	...	15-56
Northampton ... ..	Nullagine ... ..	...	50 feet	...	...	18-87
Yandanooka ... ..	Northampton ... ..	...	20 feet	...	...	15-56
Yilgarn ... ..	Yandanooka ... ..	...	30 feet	...	...	...
		Almost on surface, in lakes, to 20 feet	None found by sinking	5	2,086,000 gals.	10-18
Peak Hill ... ..	Peak Hill ... ..	...	280 feet	...	†	19-53
	Horseshoe ... ..	...	200 feet	...	...	...
North-East Coolgardie ... ..	Kanowna ... ..	110 feet	100 feet	1	3,691,800 gals.	13-93
	Bulong ... ..	220 feet	...	1	3,027,155 gals.	12-35
	Kurnalpi ... ..	200 feet	...	...	...	...
East Coolgardie ... ..	Kalgoorlie ... ..	97 feet	...	1	...	12-34
Donnybrook ... ..	Donnybrook ... ..	...	30 feet	...	...	28-90
	Lawlers ... ..	...	60 feet	...	...	12-24
East Murchison ... ..	Lake Darlot ... ..	60 feet	20 feet	...	...	...
	Lake Way ... ..	60 feet	60 feet	...	...	14-52
	New England ... ..	...	65 feet	...	...	...
	Mt. Sir Samuel ... ..	80 feet	60 feet	...	...	...
Greenbushes ... ..	Black Range ... ..	...	50 feet	...	†	...
	Greenbushes ... ..	...	from 6 to 120 feet	2	§ 5,000 gals. each	29-11
Mount Margaret ... ..	Malcolm ... ..	None, except near lakes	from 50 to 100 feet	...	...	10-33
	Laverton ... ..	do	from 70 to 130 feet	...	...	12-14
	Morgans ... ..	do	from 70 to 120 feet	...	...	10-23
Dundas ... ..	Norseman ... ..	100 feet	100 feet	2	6,000,000 gals.	9-88
Coolgardie ... ..	Coolgardie ... ..	85 feet	80 feet	12	440,000 gals.	11-97
Broad Arrow ... ..	Broad Arrow ... ..	150 feet	110 feet	3	15,223,400 gals.	15-08
Yalgoo ... ..	Yalgoo ... ..	from 15 to 25 feet	from 12 to 30 feet	1	3,600,000 gals.	6-00
	Menzies ... ..	5 to 25 feet at Lake Barlee; 80 to 100 feet at Menzies	70 to 80 feet	1	3,049,400 gals.	11-8
North Coolgardie ... ..	Goongarrie ... ..	...	...	1	1,048,300 gals.	...
	Mulline ... ..	130 feet	130 feet	1	1,527,000 gals.	...
	Speakmans ... ..	...	...	1	1,088,400 gals.	...
	Mulwarrie ... ..	140 feet	...	...	...	13-15
	Niagara ... ..	...	85 feet	1	38,750,000 gals.	6-35
	Yerilla ... ..	...	90 to 100 feet (fresh and stock)	...	...	6-54

\* Condensers—1,000 and 500 gallons daily, respectively.

† Wells.

§ 5 wells; contents unknown.

TABLE 27A.

Mining Revenue for the Years ending 31st December, 1901 and 1902.

GOLDFIELDS AND MINING DISTRICTS.	Revenue collecting centres.	Lease rental under Goldfields Acts.		Other rentals under Goldfields Acts.		Receipts from all other sources under Goldfields Acts.		Lease rental under Mineral Lands Acts.		Other rentals under Mineral Lands Acts.		Receipts from all other sources under Mineral Lands Acts.		Survey fees for Leases, Areas, etc.	
		1901.	1902.	1901.	1902.	1901.	1902.	1901.	1902.	1901.	1902.	1901.	1902.	1901.	1902.
		£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
Kimberley	...	20 16 0	19 18 0	48 15 0	22 15 0	3 10 0	0 10 0	...	...	...	...	0 1 0	...	9 0 0	...
Yilgarn	...	607 17 0	598 19 0	109 15 0	146 6 2	47 13 0	48 1 6	7 17 6	5 5 0	0 10 0	...	2 0 0	0 10 0	82 0 0	79 0 0
Pilbarra	{ M'ble Bar Nullagine }	489 0 0	525 5 0	305 10 0	248 8 9	84 19 0	77 1 0	162 2 0	17 16 3	47 12 6	52 5 0	14.12 6	...	193 10 0	142 13 0
Ashburton	...	...	30 9 0	27 0 0	10 5 0	...	0 5 0	56 13 9	60 16 6	22 5 0	2 15 0	6 5 0	1 11 0	192 10 0	16 10 0
Murchison	{ Cue Nannine Day Dawn Mt.M'gnet }	3,982 19 0	4,558 17 9	798 7 6	746 5 0	488 10 0	437 5 0	22 8 9	20 5 0	3 10 0	3 10 0	10 10 6	11 0 0	1,224 5 0	1,147 10 0
Dundas	...	1,111 13 0	840 13 6	458 2 6	331 1 6	51 8 6	50 9 6	1 13 0	1 13 0	...	...	...	...	141 0 0	139 3 0
Coolgardie	Coolgardie	4,150 4 0	3,446 0 0	555 11 0	473 4 10	201 11 0	219 7 0	3 10 0	3 0 0	2 0 0	2 5 0	1 5 0	0 5 0	720 10 0	485 0 0
E. Coolgardie	Kalgoorlie	5,603 4 0	4,194 13 0	1,336 16 0	1,394 9 6	241 4 0	297 10 6	54 4 0	29 12 6	7 5 0	6 10 0	14 15 0	0 10 0	495 10 0	462 15 0
Yalgoo	...	542 13 0	469 17 0	100 0 0	69 7 9	91 11 6	44 3 0	5 0 0	...	0 10 0	...	...	...	106 0 0	28 12 0
N. Coolgardie	{ Menzies Ularring Yerilla Niagara }	5,502 7 0	5,709 6 6	1,164 6 0	1,684 16 3	406 19 6	362 4 6	10 10 0	3 12 6	6 0 0	1 15 0	4 12 0	...	1,457 5 0	1,960 5 0
E. Murchison	...	2,554 15 0	3,253 9 6	294 3 9	430 7 0	204 16 6	291 11 0	0 11 6	2 1 0	3 5 0	2 15 0	2 0 0	...	695 8 6	557 15 0
W. Pilbarra	...	48 0 0	114 10 0	51 5 0	109 6 3	5 0 0	14 16 6	127 14 9	96 5 0	46 12 6	4 7 6	9 15 0	0 7 6	73 0 0	85 11 0
N.E. Coolgardie	{ Kanowna Bulong Kurnalpi }	2,403 6 6	2,359 1 6	628 18 6	519 9 6	178 0 0	202 0 0	4 10 0	3 6 0	0 10 0	2 5 0	...	1 11 0	680 0 0	564 11 0
Broad Arrow	...	1,298 6 0	1,253 6 0	333 17 6	161 14 3	105 9 6	149 13 0	2 10 0	5 5 0	2 5 0	0 10 0	0 2 6	...	129 0 0	139 10 0
Peak Hill	...	1,586 0 0	764 8 3	152 5 0	354 18 3	44 19 0	65 12 6	...	...	1 15 0	...	...	...	175 10 0	96 0 0
Mt. Margaret	{ Laverton Malcolm Morgans }	4,677 13 6	3,238 4 6	858 3 9	446 13 4	287 7 0	207 4 0	4 17 9	7 12 6	3 10 0	3 0 0	1 0 0	1 0 0	1,039 0 0	552 15 0
Gascoyne	...	13 16 0	...	4 10 0	...	1 3 6	...	...	...	...	...	...	...	...	88 0 0
Donnybrook	...	382 12 0	192 0 0	8 0 0	...	10 17 6	...	20 5 0	14 15 0	3 10 0	0 10 0	1 0 0	...	10 0 0	...
Phillips River	...	659 0 0	455 17 3	173 1 3	161 12 3	26 13 0	77 4 10	557 18 6	158 13 6	50 0 0	17 15 0	47 10 3	32 9 0	553 10 0	164 10 0
Greenbushes	...	...	126 2 0	0 10 0	4 10 0	...	5 9 0	587 12 0	319 19 3	204 17 6	164 2 9	149 11 0	55 7 6	356 10 0	108 0 0
Collie	...	...	2 0 0	1 10 0	4 0 0	...	4 10 0	1,047 11 0	1,191 8 0	3 6 3	8 0 0	2,169 7 3	3,374 1 0	...	35 10 0
Northampton	...	...	...	...	...	...	...	39 1 3	32 5 0	296 10 0	2 10 0	0 10 6	0 2 6	33 10 0	9 0 0
Yandinooka	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Head Office, Perth	...	7 0 0	11 0 0	90 5 0	79 15 0	37 6 0	35 15 0	210 16 3	86 2 6	56 2 6	47 5 0	13 7 6	2 15 0	269 0 0	97 10 0
		39,072 9 0	35,291 7 4	7,960 5 3	7,988 6 10	2,700 3 6	2,772 11 10	3,066 10 6	2,200 3 6	768 1 3	324 0 3	2,460 0 0	3,517 4 0	9,340 8 6	7,327 0 0

TABLE 27A.—Mining Revenue for the Years ending 31st December, 1901 and 1902—continued.

GOLDFIELDS AND MINING DISTRICTS.	Revenue collecting centres.	Examination fees Under-ground Surveyors and Engine-drivers.		Exemption fees Leases, Areas, etc.		Fees under Boiler Inspection Act.		Receipts from Public Batteries.		Receipts from all other sources.		TOTAL.		Increase or Decrease for 1902 compared with 1901.	
		1901.	1902.	1901.	1902.	1901.	1902.	1901.	1902.	1901.	1902.	1901.	1902.	Increase.	Decrease.
		£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
Kimberley	...	...	...	3 8 0	3 13 0	...	...	...	...	0 3 0	0 2 0	85 13 0	46 18 0	...	38 15 0
Yilgarn	...	12 5 0	11 10 0	74 3 0	60 7 0	...	...	...	...	1 15 6	3 1 3	945 16 0	952 19 11	7 3 11	...
Pilbarra	{ M'ble Bar Nullagine }	...	0 10 0	115 3 0	94 19 0	...	...	...	...	5 1 9	11 13 9	1,417 10 9	1,170 11 9	...	246 19 0
Ashburton	...	...	...	1 1 0	9 19 0	...	...	...	...	1 4 6	0 16 6	306 19 3	133 7 0	...	173 12 3
Murchison	{ Cue Nannine Day Dawn Mt. M'gnet }	125 12 6	117 13 0	708 4 6	695 18 0	162 10 0	255 5 0	7,137 3 2	15,846 10 2	22 3 3	30 4 6	14,686 4 2	2,3870 3 5	9,183 19 3	...
Dundas	...	36 11 0	7 5 0	102 8 0	117 16 0	87 10 0	31 10 0	2,585 12 1	6,586 8 11	3 12 9	2 13 3	4,579 10 10	8,108 13 8	3,529 2 10	...
Coolgardie	Coolgardie	33 7 6	25 5 0	508 15 0	354 3 0	317 0 0	344 0 0	822 19 3	548 9 1	17 14 6	14 11 9	7,334 7 3	5,915 10 8	...	1,418 16 7
E. Coolgardie	Kalgoorlie	124 1 0	110 17 6	847 1 0	500 4 0	718 0 0	823 0 0	...	...	60 18 3	52 16 0	9,502 18 3	7,872 18 0	...	1,630 0 3
Yalgoo	...	...	...	109 0 0	126 16 0	...	...	...	...	1 5 6	1 16 6	956 0 0	740 12 3	...	215 7 9
N. Coolgardie	{ Menzies Ullaring Yerilla Niagara }	48 0 0	39 2 6	366 16 0	227 5 0	187 10 0	140 10 0	13,388 4 7	27,694 2 0	20 17 3	20 4 3	22,563 7 4	37,843 3 6	15,279 16 2	...
E. Murchison	...	27 2 6	18 0 0	313 12 0	327 6 0	10 0 0	15 10 0	817 15 1	2,078 16 0	10 4 6	9 9 0	4,933 14 4	6,986 19 6	2,053 5 2	...
W. Pilbarra	...	...	...	72 16 0	34 10 0	...	...	...	...	1 16 6	1 3 0	435 19 9	460 16 9	24 17 0	...
N.E. Coolgardie	{ Kanowna Bulong Kurnalpi }	48 7 6	...	325 17 0	218 14 0	117 10 0	104 10 0	...	...	9 8 6	9 8 9	4,396 8 0	3,984 16 9	...	411 11 3
Broad Arrow	...	...	...	358 0 0	135 18 0	85 0 0	86 10 0	...	...	4 9 0	3 11 0	2,318 19 6	1,935 17 3	...	383 2 3
Peak Hill	...	3 15 0	16 15 0	255 7 0	94 10 0	8 10 0	...	300 2 7	564 18 9	3 4 3	3 14 3	2,531 7 10	1,960 17 0	...	570 10 10
Mt. Margaret	{ Laverton Malcolm Morgans }	11 0 0	19 2 6	311 8 0	92 12 0	...	...	...	2,033 18 6	14 6 9	9 6 6	7,208 6 9	6,611 8 10	...	596 17 11
Gascoyne	...	...	...	317 0 0	343 9 0	101 10 0	254 5 0	1,838 9 5	1,290 10 0	13 11 9	10 6 6	7,281 11 8	5,783 18 7	...	1,497 13 1
Donnybrook	...	...	...	25 6 0	...	...	2 0 0	...	...	...	2 6 0	...	716 3 3	716 3 3	...
Phillips River	...	...	...	...	...	...	...	...	...	0 3 6	...	19 13 0	...	...	19 13 0
Greenbushes	...	...	...	52 1 0	16 9 0	...	...	3 13 0	...	0 15 6	0 1 0	492 14 0	223 15 0	...	268 19 0
Collie	...	...	...	177 17 0	101 12 0	...	...	...	...	7 18 0	3 2 0	2,253 8 0	1,172 15 10	...	1,080 12 2
Northampton	...	...	...	185 0 0	173 1 0	...	...	...	433 6 0	5 4 6	3 8 0	1,489 5 0	1,393 5 6	...	95 19 6
Yandinooka	...	...	...	59 18 0	55 10 0	...	...	...	...	1 16 0	3 3 3	3,302 18 6	4,692 2 3	1,389 3 9	...
Head Office, Perth	...	...	...	7 17 0	...	...	...	...	...	0 9 0	0 4 0	370 0 9	51 18 6	...	318 2 3
	Included in Northampton.	53 5 0	59 15 0	...	26 13 0	936 17 0	959 0 0	161 0 0	50 0 0	44 3 7	115 0 9	1,879 2 10	1,570 11 3	...	308 11 7
		619 19 6	480 0 6	5,264 15 6	3,844 7 0	2,731 17 0	3,016 0 0	27,054 19 2	57,126 19 5	252 7 7	312 3 9	101,291 16 9	124,200 4 5	32,183 11 4	9,275 3 8

## PART VIII.—EXISTING LEGISLATION.

The following are the Acts and Regulations relating to gold-mining:—

1. The Goldfields Act, 1895, and Regulations thereunder.
2. The Goldfields Act Amendment Act, 1896.
3. The Goldfields Act Amendment Act, 1898, and Regulations thereunder.
4. The Mining on Private Property Act, 1898, and Regulations thereunder.
5. The Sluicing and Dredging for Gold Act, 1899, and Regulations thereunder.
6. The Mineral Lands Act, 1892, and Regulations thereunder.
7. The Mineral Lands Act Amendment Act, 1899.
8. The Mines Regulation Act, 1895.
9. The Mines Regulation Act Amendment Act, 1899, and Regulations thereunder.
10. Sunday Labour on Mines Act.
11. Goldfields Act Amendment Act, 1900, and Regulations thereunder.
12. Mining Development Act, 1902.

The first eleven Acts were in force during 1901, and, with the exception of the Mining Development Act, together with a few new regulations and the amendment of some of the existing regulations, no new legislation directly affecting mining has been introduced.

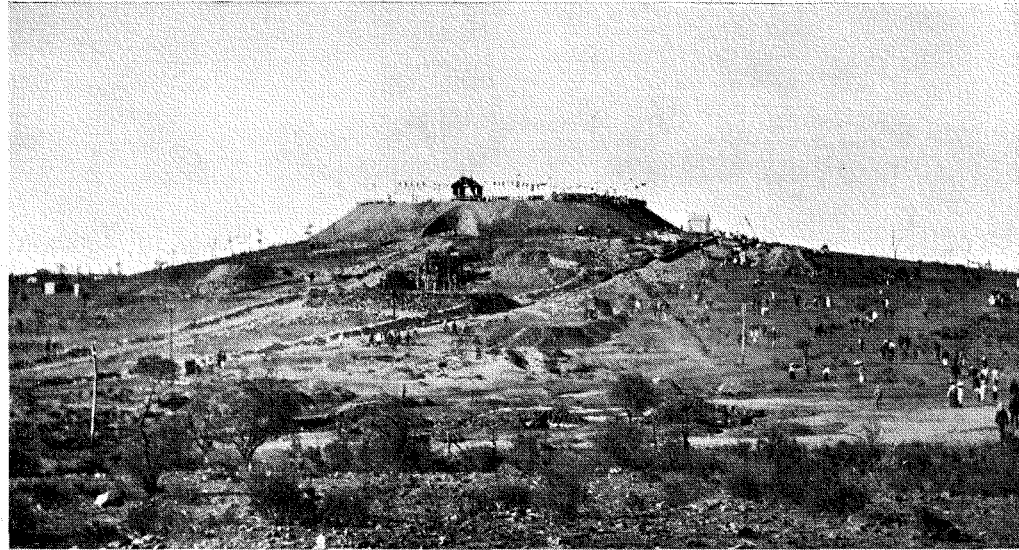
Regulations relating to prospecting areas for coal and oil were framed during the year. Considering the mode of occurrence of these minerals, and the large expenditure involved in prospecting for them, the areas prescribed for other minerals was considered too small, and provision was made for the granting of prospecting areas not exceeding three thousand acres on payment of a nominal fee, the conditions being the employment of three men for every one thousand acres held.

The Mining Development Act was assented to on the 11th December, 1902. Part II. provides for advances not exceeding one thousand pounds to persons or companies wishing to test or develop a mine on which a certain amount of work has already been done, and an advance can be made for the purpose of sinking, boring, or providing machinery. Certain particulars have to be furnished with the application, which is then reported on by a professional officer of the department. All advances under this part of the Act bear interest at the rate of five per cent. per annum, and must be secured by a first mortgage over the property. Part III. provides for advances not exceeding three hundred pounds to miners for prospecting. Advances are paid in such instalments as may be agreed upon, and before any amount is paid the Minister has to be satisfied that the miner has expended, subsequent to the date of agreement, a similar amount in work, labour, or material. Part IV. provides for the establishment of State plants for the treatment of ores, or for the subsidising of persons or companies willing to treat ores for the public at certain fixed rates. It is further provided that before the erection of any State plant the Minister shall be satisfied that:—

- (a.) Large deposits of metalliferous ores exist ;
- (b.) The plant and appliances for treating such deposits in bulk, at reasonable rates, are not available ;
- (c.) The establishment of such plant is necessary for the development of mining.

Part V. deals with assistance for boring, and provides that the Minister, on being satisfied that boring, either for gold, minerals, or water, is desirable in any locality, may





**MT. CHARLOTTE RESERVOIR, KALGOORLIE.**

*(East Coolgardie Goldfield.)*

*W. J. Bay*

agree with any Miners' Association or other body of persons, or with any person, to pay a proportion of the cost of boring not exceeding one half the total cost.

When any boring is undertaken, any Crown lands adjacent to the bore may be reserved, and no lease, claim, or holding shall be granted within such reserve without the consent of the Minister, who may require the applicants to pay by way of premium such proportion of the cost of boring as he may consider reasonable. It is also provided that a lease or claim may be granted to the person who undertook the boring, in priority to any other person.

In certain cases where it is shown that boring is in the general interest of the State the whole cost of boring for gold, minerals, or water may be borne by the Government.

Part VI. provides for the purchase of boring plants and accessories; it also gives the Minister power to advance or expend moneys to drain any mining area, and, in special cases, to assist mining by sinking shafts, etc. Under this part of the Act provision is made for assisting prospectors by providing miners with means of transport to prospect unproved country.

An annual return of all moneys expended under the authority of this Act must be laid before Parliament.

## PART IX.—EXAMINATIONS HELD UNDER THE “MINES REGULATION ACT” AND THE “COAL MINES REGULATION ACT.”

### ENGINE-DRIVERS' EXAMINATIONS.

TABLE 28.

*Number of Examinations for Learners' Permits and Certificates of Competency and Service, held by the several Local Boards on the Goldfields and in Perth, with details of the several Classes of Certificates issued during 1902.*

Goldfield.	Place of Examination.	Number of Examinations.	Learners' Permits.	Interim.		Competency.		Service.		Copies.
				Second Class.	First Class.	Second Class.	First Class.	Second Class.	First Class.	
Peak Hill ... ..	1. Peak Hill ... ..	2	7	...	...	3	2	...	...	...
East Murchison... ..	2. Lawlers ... ..	1	5	...	...	4	1	1	...	...
Do ... ..	3. Mt. Sir Samuel ... ..	1	4	...	...	...	1	...	...	1
Do ... ..	4. Wiluna (Lake Way) ... ..	2	5	...	...	8	10	...	...	...
Murchison ... ..	5. Cue ... ..	3	11	7	8	7	4	...	1	7
Do ... ..	6. Mt. Magnet ... ..	3	9	...	...	8	10	2	...	1
Mt. Margaret ... ..	7. Mt. Malcolm ... ..	2	4	2	5	11	4	2	...	3
Do ... ..	8. Laverton ... ..	2	2	...	...	6	3	1	1	1
North Coolgardie ... ..	9. Menzies ... ..	2	15	...	3	5	5	2	2	4
East Coolgardie ... ..	10. Kalgoorlie ... ..	4	2	15	21	8	12	1	20	4
Coolgardie ... ..	11. Coolgardie ... ..	2	6	3	4	3	1	...	1	1
Yilgarn ... ..	12. Southern Cross ... ..	1	5	...	1	4	1	...	1	...
Dundas ... ..	13. Norseman ... ..	1	5	...	...	3	...	...	...	...
	14. Collie ... ..	1	4	3	3	3	...	...	1	...
	15. Perth (Head Office)	3	1	...	...	11	...	...	2	...
	Total ... ..	30	85	30	45	84	54	9	29	22

Nineteen Boards of Examiners were in existence during the year, but of these only 15 held examinations; in all, 358 certificates of all classes, including “copies,” being issued, as against 522 during 1901.

For the Boards on all the Eastern Goldfields, except Dundas, the Chief Inspector of Boilers acts as chairman; and in his report he remarks that for some months past the improvement in the work of the candidates has been very noticeable, and many of the papers give evidence of considerable study and observation.

The chairman also draws attention to the desirableness, both on the grounds of efficiency and economy, of appointing a central board to deal with candidates for examination, supervisors being appointed in the various centres.

He also points out the good that would accrue, both to the engine-drivers and the employers, by the introduction of a uniform standard of examination for engine-drivers in the various States of the Commonwealth, and reciprocal certificates between the States. For some years past the Surveyors' Licensing Boards in the various States have worked on this system, which has been found to answer extremely well; and there is no reason why a somewhat similar arrangement should not be initiated for engine-drivers' examinations.

#### EXAMINATIONS OF COLLIERY MANAGERS.

A Board was appointed in August, under Section twenty-three of "The Coal Mines Regulation Act, 1902," for the examination of candidates and the issue of certificates to mine managers. The first examination was held on the 18th August, at which nine candidates were examined for Certificates of Service; three first-class and six second-class Service Certificates were granted; one first-class Competency Certificate was also granted (without examination).

The Board, as at present constituted, consists of the State Mining Engineer (Chairman), the Government Geologist, and the Inspector of Mines, Collie, with a secretary.

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#### PART X.—INSPECTION UNDER STEAM BOILERS ACT.

It appears from the report of the Chief Inspector of Boilers that the number of boilers registered under the Steam Boilers Act increased during the year to 2,608, the number registered in 1901 being 2,421. The number of inspections made during the year was 2,609, and the number of certificates issued 2,172.

It is gratifying to record that no accidents traceable to defective boilers occurred during the year, and doubtless is due in a great measure to the rigid inspection enforced. Of the total number of boilers inspected, five per cent. were temporarily and .091 per cent. permanently condemned.

During the year the disadvantage, referred to in previous reports, of boiler inspection being carried out by Inspectors of Mines in addition to their other duties, has been partially removed, and only in three districts under the Act—the Coolgardie, North-East Coolgardie, and Norseman—is this work being performed by Inspectors of Mines. During the year a Boiler Inspector was appointed for the Murchison, East Murchison, Peak Hill, and Yalgoo goldfields, and another for the Mount Margaret and the North Coolgardie goldfields; it is also proposed to separate the work in other districts.

For the year, the cost to the State of boiler inspection was £1,554 15s. 6d. This may appear somewhat high, but the boilers are so scattered, and the expenses of travelling so heavy, in the outlying districts, that despite the strictest economy it could not be reduced.

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## PART XI.—SCHOOL OF MINES.

The question of providing a system of mining education in the State has been before the Government for some years, and in 1897 Mr. Cyril Jackson, the then Inspector General of Schools, visited the Eastern States on business connected with the Education Department, and took the opportunity of inquiring into their system of mining education. The outcome of his visit was the appointment of Mr. A. Purdie, M.A., as Director of Technical Education in Western Australia, and, although no purely mining school was established, arrangements were made to give instruction in mining subjects at the Perth Technical School.

Probably the opening of the Coolgardie Mining and Industrial Exhibition in 1899 was the first occasion on which proposals were made for the establishment of a mining school on the goldfields, when it was suggested that after the exhibition was closed part of the building might be utilised for class rooms. Shortly after the closing of the exhibition in 1899, the question was revived by a committee formed in Coolgardie, which, supported by the Coolgardie Chamber of Mines, urged that the vacant exhibition building be used for School of Mines purposes.

Early in 1901, the Hon. H. B. Lefroy being Minister for Mines, a committee was appointed to report and advise on the establishment of a School of Mines on the goldfields; it consisted of the Government Geologist, the Director of Technical Education, Dr. L. Diehl, and Messrs. J. W. Sutherland, E. L. Watt, A. P. Wymond, O'Connor, J. Reside, M.L.A., J. Lonsdale, and R. V. Gleisberg.

The report of this committee proved of much assistance to the Government in coming to a decision as to the establishment of a school, and it was finally decided that, as a preliminary step, a school should be established at Coolgardie, as buildings were immediately available.

On the passing of the 1901-1902 Estimates, the Hon. H. Gregory being Minister for Mines, applications were invited in Australia and New Zealand for the position of Director of the school, and in July, 1902, Mr. F. B. Allen, M.A., who then held the position of Director of the Thames (N.Z.) School of Mines, was appointed, and, the building having been completed, a start was made in November last, the school being formally opened on the 26th January, 1903, on the occasion of the opening ceremony of the Coolgardie Water Scheme.

It has been decided that the West Australian School of Mines shall be controlled by the Mines Department, assisted by an advisory board consisting of professional officers of the Mines Department and the presidents of the Western Australian Chamber of Mines and of the Amalgamated Miners Association.

Provision was made on the 1902-1903 Estimates for the erection of the main building for the School of Mines, at Kalgoorlie, the ultimate cost of which will be about £10,000. An excellent site for a school has been obtained, and the building should be completed towards the end of 1903, and school work commenced early in 1904.

In another part of this report will be found a report by the Director on the opening term of 1902.

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## PART XII.—DEPARTMENTAL.

TABLE 29.

Return showing Revenue and Expenditure during the Years 1901 and 1902.

Field.	Revenue, 1901.	Percent- age of gross Revenue, 1901.	Revenue, 1902.	Percent- age of gross Revenue, 1902.	Expenditure, 1901.	Percent- age of gross Expendi- ture, 1901.	Expenditure, 1902.	Percent- age of gross Expendi- ture, 1902.
	£ s. d.		£ s. d.		£ s. d.		£ s. d.	
Ashburton ...	306 19 3	·41	133 7 0	·2	476 3 6	·77	543 9 10	·9
Broad Arrow ...	2,318 19 6	3·12	1,935 17 3	2·89	1,286 18 9	2·09	674 17 10	1·11
Coolgardie ...	6,511 8 0	8·88	5,367 1 7	8·00	4,994 6 11	8·09	4,624 13 8	7·78
East Coolgardie ...	9,502 18 3	12·8	7,872 18 0	11·74	4,228 8 7	6·85	3,894 12 10	6·5
North Coolgardie	9,175 2 9	12·3	10,149 1 6	15·13	4,761 8 10	7·7	5,960 14 4	9·96
N.E. Coolgardie ...	4,396 8 0	5·9	3,984 16 9	5·94	3,457 14 0	5·6	2,908 5 6	4·86
Dundas ...	1,998 18 9	2·68	1,522 4 9	2·27	2,406 19 2	3·9	1,813 17 9	3·03
Gascoyne ...	19 13 0	·025	...	...	137 0 0	·22	101 0 0	·17
Kimberley ...	85 13 0	·11	46 18 0	·07	79 9 9	·13	62 5 0	·11
Mt. Margaret ...	12,651 9 0	17·04	9,787 2 2	14·59	6,303 15 10	10·2	5,751 4 2	9·6
Murchison ...	7,549 1 0	10·17	8,023 13 3	11·96	6,264 13 8	10·15	6,010 1 9	10·04
East Murchison ...	4,115 19 3	5·55	4,908 3 6	7·32	1,796 13 0	2·9	1,965 8 7	3·28
Peak Hill ...	2,231 5 3	3·005	1,395 18 3	2·08	1,238 0 5	2·05	1,100 8 9	1·84
Pilbarra ...	1,417 10 9	1·91	1,170 11 9	1·71	2,026 12 9	3·28	1,771 7 0	2·96
West Pilbarra ...	435 19 9	·58	460 16 9	·68	321 5 0	·52	93 15 7	·16
Yalgoo ...	956 0 0	1·29	740 12 3	1·14	305 12 2	·49	399 17 3	·67
Yilgarn ...	945 16 0	1·27	952 19 11	1·42	1,013 15 10	1·64	898 8 6	1·55
Phillips River ...	2,253 8 0	3·04	1,172 15 10	1·75	1,064 9 1	1·73	892 18 9	1·54
Collie ...	3,302 18 6	4·45	4,692 2 3	7·00	985 9 3	1·6	524 7 8	·88
Northampton ...	370 0 9	·5	51 18 6	·08	111 7 10	·18	121 1 11	·11
Greenbushes ...	1,489 5 0	2·0	959 19 6	1·43	1,065 2 2	1·71	848 3 8	1·4
Donnybrook ...	489 1 0	·66	223 15 0	·33	404 3 6	·65	113 11 5	·19
Head Office ...	1,718 2 10	2·31	1,520 11 3	2·27	17,007 13 10	27·55	18,769 12 10	31·36
	74,236 17 7	100	67,073 5 0	100	61,737 3 10	100	59,844 4 7	100

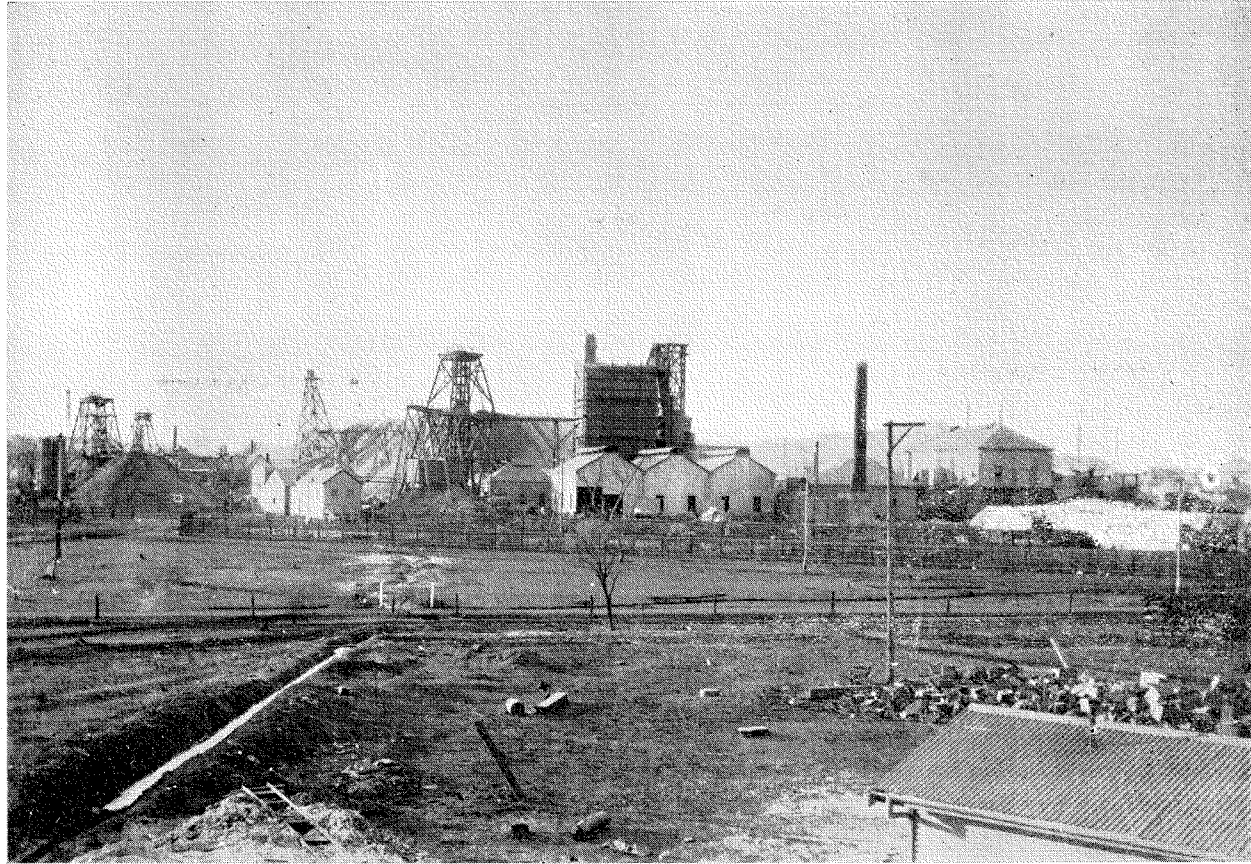
Revenue and Expenditure under "State Batteries" not included in above figures.

NOTE.—The above figures include the Revenue and Expenditure under "Mining Schools" and "Steam Boilers Act," as per Summary.

	Revenue, 1901.	Revenue, 1902.	Expenditure, 1901.	Expenditure, 1902.
	£ s. d.	£ s. d.	£ s. d.	£ s. d.
"Mining School" ...	...	81 19 0	...	948 1 2
"Steam Boilers" ...	2,731 17 0	3,016 0 0	3,662 6 6	4,570 5 6

In the above table is shown the revenue and expenditure for the years 1901 and 1902, the revenue from State batteries being excluded. Including battery revenue the total mining revenue was £124,200, showing an increase of £22,909 as compared with the previous year. Excluding battery revenue a decrease of about £7,163 appears. The principal decreases are under the following heads:—Rents on gold mining leases, £3,781; rents on mineral leases, £866; other rentals in mining districts, £444; survey fees, £2,013; exemption fees, £1,420; while increases are found from miscellaneous receipts from holdings under the Mineral Lands Act, £1,059, and from receipts under the Steam Boilers Act.

From Table 31, which really shows mining revenue proper, it will be seen that in nearly all the fields there has been a falling off in revenue, the only fields in which increases of any consequence appear being the North Coolgardie, Murchison, East Murchison, and Collie; the total for the last-mentioned including royalty on coal. On examining the column "Percentage of gross revenue" it will be seen that about 82 per cent. of the revenue is obtained from eight districts, viz.:—North Coolgardie, Mount Margaret, Murchison, East Coolgardie, Coolgardie, East Murchison, Collie, and North-



**GREAT BOULDER MAIN REEF, LTD., KALGOORLIE.**  
*(East Coolgardie Goldfield.)*

East Coolgardie, the percentages ranging from 15 per cent. in the case of the first-mentioned to 6 per cent. on the last-named field.

The expenditure shows a decrease of £1,893, reductions being shown in nearly all cases. As I have pointed out in previous reports, a considerable amount of the expenditure is strictly chargeable to other State Departments for which Mines Department officials carry out many duties.

TABLE 30.

Showing the Number of Registrars' Offices, also the Number of Officers on Goldfields and Mining Districts.

FIELD.	No. of Wardens.		No. of Registrars' Offices.		No. of Mining Registrars.		No. of Clerks.		Survey Staff.		No. of Inspectors of Mines.		No. of Clerks to Inspectors of Mines and Boilers.		No. of Inspectors of Boilers.	
	1901.	1902.	1901.	1902.	1901.	1902.	1901.	1902.	1901.	1902.	1901.	1902.	1901.	1902.	1901.	1902.
Ashburton <i>a</i> ...	1	1	1	1	1	1	...	...	...	...	...	...	...	...	...	...
Broad Arrow <i>b</i> ...	1	...	1	1	1	<i>j</i> 1	...	...	...	...	...	...	...	...	...	...
Coolgardie ...	1	1	1	1	2	2	1	...	3	<i>k</i> 3	1	+1	1	1	...	...
East Coolgardie ...	1	1	1	1	2	2	1	1	1	1	1	1	1	1	1	1
North Coolgardie ...	1	1	2	3	2	3	2	1	1	1	1	1	1	<i>l</i> 1	...	<i>l</i> 1
North-East Coolgardie	1	1	2	2	3	2	...	1	1	1	1	+1	1	1	...	...
Dundas ...	1	1	1	1	2	1	...	...	...	...	1	+1	1	...	...	...
Gascoyne <i>a</i> ...	...	...	1	...	1	...	...	...	...	...	...	...	...	...	...	...
Kimberley <i>c</i> ...	1	1	1	1	1	1	...	...	...	...	...	...	...	...	...	...
Mt. Margaret ...	1	1	2	3	3	4	2	...	1	1	1	1	1	...	...	...
Murchison ...	1	1	3	3	4	4	...	...	2	<i>m</i> 2	1	1	1	1	...	1
East Murchison ...	1	1	1	1	1	1	...	...	...	...	...	...	...	...	...	...
Peak Hill ...	1	1	1	1	1	1	...	...	...	...	...	...	...	...	...	...
Pilbarra ...	1	1	4	2	4	2	...	...	1	1	...	...	...	...	...	...
West Pilbarra <i>d</i> ...	1	1	1	1	1	1	...	...	...	...	...	...	...	...	...	...
Yalgoo <i>e</i> ...	...	...	1	1	1	1	...	...	...	...	...	...	...	...	...	...
Yilgarn <i>f</i> ...	1	...	1	1	1	1	...	...	...	...	...	...	...	...	...	...
Collie ...	...	...	1	1	1	1	...	...	...	...	1	1	...	...	...	...
Northampton ...	...	...	1	1	1	1	...	...	...	...	...	...	...	...	...	...
Greenbushes <i>g</i> ...	...	...	1	1	2	2	1	1	...	...	...	...	...	...	...	...
Donnybrook <i>h</i> ...	1	...	1	...	1	...	...	...	...	...	...	...	...	...	...	...
Phillips River <i>i</i> ...	1	1	1	1	1	1	...	...	...	...	...	...	...	...	...	...
	17	14	30	28	37	33	7	4	10	10	8	8	7	5	1	3

*a* The Ashburton and Gascoyne Goldfields are controlled by an Acting Warden, who has in addition the duties of Mining Registrar of the Ashburton Goldfield. *b* The Warden of the North-East Coolgardie Goldfield also acts as Acting Warden of the Broad Arrow Goldfield. *c* The Deputy Mining Registrar at Hall's Creek also acts as Warden of the Kimberley Goldfield. *d* Acting Warden, in addition to his duties as Government Resident. *e* The Warden, Murchison, also acts as Warden of the Yalgoo Goldfield. *f* The Warden, Coolgardie, also acts as Warden of the Yilgarn Goldfield. *g* The Registrar, Greenbushes, also acts as Warden of the Greenbushes Tinfield and Donnybrook Goldfield. *h* Office closed. *i* Business is being carried on from Greenbushes. *j* The Warden also acts as Mining Registrar. *k* The Offices of Mining Registrar and Draftsman are carried out by one Officer. *l* Includes Inspecting and Field Surveyor. *m* The inspection of boilers on the North Coolgardie and Mt. Margaret Goldfields is carried out by one Inspector, Mt. Malcolm being his head quarters. The duties of Clerk for both fields are also carried out by one Officer, residing at Mt. Malcolm. *n* Includes Inspecting Surveyor.

+ Also act as Inspector of Boilers for their respective fields.

The total number of officers employed on the goldfields and mining districts has decreased by ten, as compared with the number employed in 1901. Resident Wardens have been dispensed with at Southern Cross and Broad Arrow, and the Warden's work at Donnybrook is done by the Registrar, Greenbushes.

The number of Mining Registrars' offices has been decreased by two, the offices at Donnybrook and Bangemall having been closed.

Mining Registrars show a decrease of four, although new offices have been opened at Mulwarrie and Mount Morgans. A reduction of three also appears in the number of clerks.

Two more boiler inspectors are employed, and their staff of clerks reduced by two.

## OFFICERS EMPLOYED AT HEAD OFFICE.

TABLE 31.

*Return showing Number of Officers employed at Head Office.*

Branch.	1901.	1902.
Clerical ... ..	Chief Clerk, 10 Clerks, and 4 Messengers ... ..	Chief Clerk, 9 Clerks, and 4 Messengers.
Accountants ... ..	Chief Accountant, 4 Clerks, and Junior Clerk ... ..	Chief Accountant, Assistant Accountant, 5 Clerks, and Junior Clerk.
Drafting ... ..	Chief Draftsman, 7 Draftsmen, Plan Mounter, and Typographical Printer	Chief Draftsman, 7 Draftsmen, 1 Junior Draftsman, Plan Mounter, and Typographical Printer.
Registration ... ..	Inspecting Registrar, Registrar, Relieving Registrar, and 4 Clerks	Inspecting Registrar, Registrar, Relieving Registrar, and 4 Clerks.
Statists ... ..	Statist, 3 Clerks, and Junior Clerk ... ..	Statist, 3 Clerks, and Junior Clerk.
Survey ... ..	Assistant Inspecting Surveyor, Computing Draftsman, and 2 Junior Draftsmen	Assistant Inspecting Surveyor, Computing Draftsman, and 2 Junior Draftsmen.
State Batteries ... ..	Superintendent, and 2 Clerks ... ..	Superintendent, and † 2 Clerks.
Steam Boilers ... ..	Chief Inspector, 3 Clerks, and * 3 Assistant Inspectors	Chief Inspector, † 4 Clerks, and * 3 Assistant Inspectors.

\* Engaged in boiler inspection in the South-West District. † The duties of Typewriter for "State Batteries" and "Steam Boilers" Branches are performed by one clerk, whose inclusion is shown under both branches.

The head office staff has varied very little during the year, a net increase of one clerk and one draftsman appearing. The accountant's staff has been increased, owing to the large increase in the work, principally in connection with the State batteries. During the year a State Mining Engineer was appointed, to advise the department on all technical matters and exercise a general supervision over mining inspection.

ACCOUNTANTS' BRANCH.—The work of this branch has been most efficiently conducted during the year. The extension of the State Battery system has naturally largely affected the work passing through this office.

CLERICAL.—The work of this branch has been well performed, and, although the work has increased, the staff employed has been slightly decreased. Table 32 gives a summary of the work, as far as it can be presented statistically. The requisitioning and issue of stores is performed by an officer of this branch.

TABLE 32.

*Letters, Telegrams, etc., despatched during 1902.*

Branch.	Letters.	Wires.	Circulars and Advices.	Statistics and Publications.	Totals.
Batteries ... ..	1,950	130	100	...	2,180
Boilers ... ..	3,480	194	57	...	3,731
Chief Accountants ... ..	3,615	86	2,501	...	6,202
Correspondence ... ..	7,870	1,020	1,140	* 6,855	10,030
Registration ... ..	5,850	300	...	...	6,150
Statistical ... ..	516	161	1,300	* 10,000	1,977
Drafting ... ..	60	5	...	...	65
Survey ... ..	800	30	13	...	843
	24,141	1,926	5,111	* 16,855	31,178

\* Not included in totals.

*Correspondence registered.*

	1901.	1902.
Batteries ... ..	...	641
Correspondence ... ..	7,481	6,858
Total ... ..	7,481	7,499





**SURVEYS.**—Tables 35 and 36 give a summary of the survey work carried out in the various goldfields and mining districts. The salaried staff was reduced towards the latter end of the year by the resignation of the Inspecting Surveyor, Central Goldfields. The usual inspection of contract surveyors' work has been made, and results show that a high standard of survey work has been maintained. The whole of the office inspection of plans is now done in the head office under the immediate direction of the Assistant Inspecting Surveyor, and is up to date.

TABLE 35.

*Showing total number of Surveys, and compared with those of 1901.*

	1901.		1902.	
	No.	Area.	No.	Area.
Surveys on Eastern Goldfields ... ..	769	10,236	730	10,394
Surveys on Central Goldfields ... ..	310	5,362	286	4,344
Surveys on all other fields ... ..	270	6,729	132	2,622
	1,349	22,327	1,148	17,360

NOTE.—The above does not include groups of Business and Residence Areas.

TABLE 36.

*Traverses and Special Surveys.*

	1901.		1902.	
	Traverses.	Cost.	Traverses.	Cost.
	M. C. L.	£ s. d.	M. C. L.	£ s. d.
Eastern Goldfields ... ..	30 58 28	102 18 3	25 47 19	77 8 5
Central Goldfields ... ..	2 63 32	9 6 1	4 63 00	15 19 2
Other Fields ... ..	11 14 66	37 5 7	6 71 86	22 19 10
	No.	£ s. d.	No.	£ s. d.
Residence and Business Areas ... ..	181	169 9 0	361	376 11 10

**GENERAL.**—I am pleased to say that the work of the Wardens' and Mining Registrars' offices has, as a whole, been carried out in an accurate and methodical manner, and, judging by the few complaints that have reached me, to the satisfaction of the mining public. I am convinced that the various Mining Registrars and their assistants make every effort to assist the public in their dealings with the department, and as in many cases they act for several departments their work is rendered considerably more difficult than if their duties were confined to mining work only.

I have been always able to rely on the generous co-operation of all officers of this department, and for this I wish to express my thanks.

I have, etc.,

H. S. KING,

Under Secretary for Mines.

Department of Mines, Perth, 5th May, 1903.

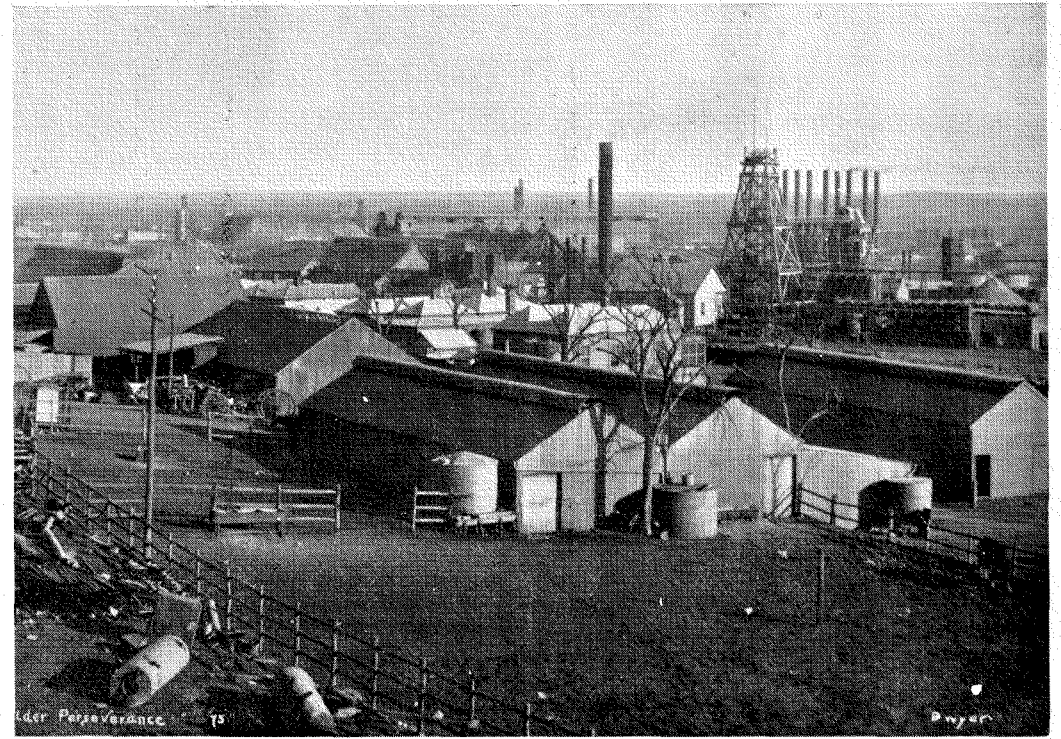
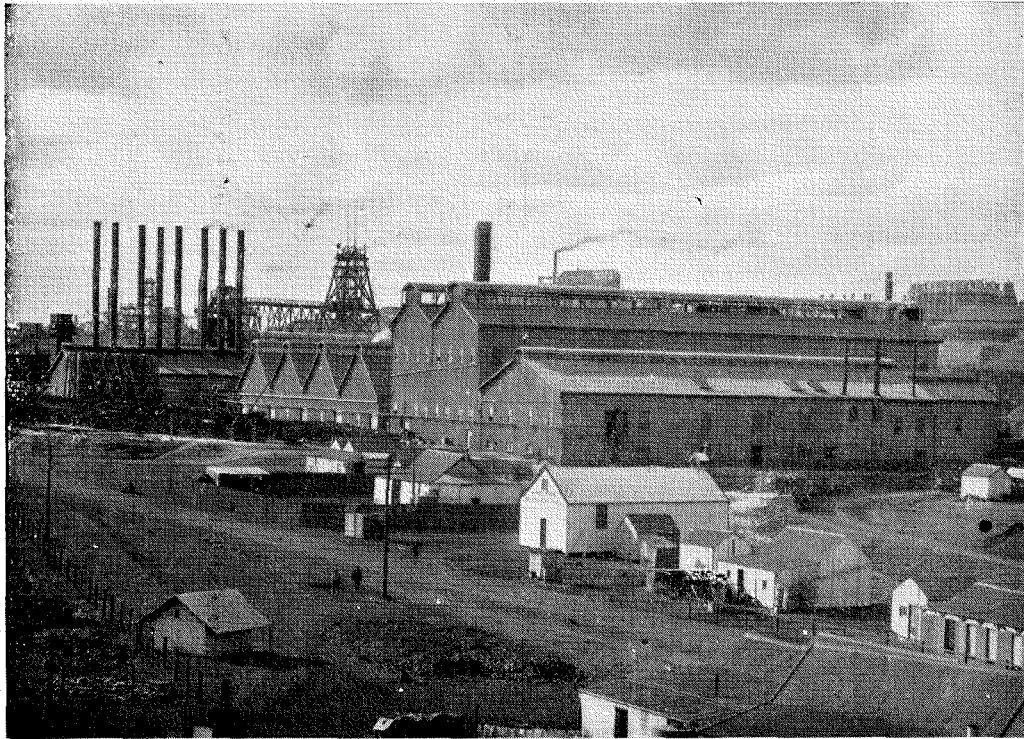


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**GREAT BOULDER PERSEVERANCE GOLD MINE, LTD., KALGOORLIE.**

*(East Coolgardie Goldfield.)*

## DIVISION II.

### *Report of the State Mining Engineer for Year 1902.*

*To the Honourable H. Gregory, M.L.A., Minister for Mines, Perth.*

SIR,

I have the honour to submit a report on the work of my office for the year 1902. As I only entered upon my duties early in November, there was but little time available for examination of the mining districts of the State. A visit was made to the Phillips River Goldfield, with a view to investigating the question of the proposed erection of a State smelting works there; and a report, dated 23rd February, 1903, has been forwarded to you upon this matter, and has been printed for public information. The rest of my time during the year was taken up with various departmental duties, relating mostly to applications for assistance under "The Mining Development Act, 1902," the establishing of the School of Mines, the regulation and inspection of mines, and various technical matters coming before the department for consideration.

As you have been pleased to put me in general charge of the work of the Inspectors of Mines, I have now to forward a synopsis of their annual reports.

#### KALGOORLIE DISTRICT.

Mr. G. Lightly, Inspector of Mines, took charge of this district on 1st August, 1902, in succession to Mr. F. J. Lander, transferred to the Central Goldfields District. Mr. Lightly reports:—"As regards the security of the underground workings at the mines and the safety of the persons who are employed both underground and at surface in them, I quite believe that, generally speaking, it has been the sincere desire and the honest endeavour of those who are responsible in these matters to do whatever may have been considered by them to have been requisite in those directions. But, notwithstanding, it has been necessary in some instances to require that stopes should be more closely or more compactly filled in, and, in other cases, both at surface and underground, that precautions should be taken and provision made against the possible occurrence of accidents. No reports of defective ventilation have been received, nor has defective ventilation been noticeable in underground workings when inspections were being made. The extensive use of compressed air for drilling, and the systematic blocking-out of the ground in the larger mines is, no doubt, answerable for the prevalence in them of so satisfactory a condition. The magnitude of the operations that are in constant progress at many of the mines, and the large number of men that are employed in connection with them, cause the occurrence of accidents to be unavoidable. To minimise the number of these, as far as can be, is all that seems possible to be done.

"The record for the year shows that fifty-five (55) accidents, involving sixty (60) persons occurred. Seventeen (17) of them were attended with fatal results, and of these thirteen (13) took place underground, and four (4) at surface. Of the non-fatal ones, twenty-seven (27) happened underground and eleven (11) at surface. The total number of men employed at the mines at the close of the year was about six thousand (6,000), of whom about four thousand five hundred (4,500) were distributed in and about eight of the larger mines at the Boulder centre."

#### CENTRAL GOLDFIELDS DISTRICT.

Mr. F. J. Lander, Inspector of Mines, took charge of this district at the end of August, in succession to Mr. W. F. Greenard, transferred to the North Coolgardie District. The Inspector reports five (5) fatal and eighteen (18) non-fatal accidents during the year, but notes that in no instance where coroners' inquiries have been held have the jury held the management responsible for the fatalities. Some of the non-fatal accidents were very slight and a good number of them could have been avoided by the exercise of a little more caution on the part of the injured men. Two of the non-fatal accidents were due to explosions. Though good timber is expensive to obtain in the district, in not a single instance was there an accident recorded owing either to the want of timber or to the manner in which the mines have been timbered. No accidents have resulted from defective safety appliances on cages, and all the mines of importance comply with the Act in this respect. There are, however, some so-called safety cages which, properly speaking, could hardly be classed as such. The Inspector draws attention to the need for provision in the Act for inquiring into the relative merits of the different safety appliances in use, and recommends particularly that all springs should be in full view of the braced man or other attendant. The ventilation of the mines in the field is reported as being well attended to in all the larger concerns.

#### KANOWNA DISTRICT.

Mr. George Jenkyn, Inspector of Mines, reports that every mine in his district that is being worked has been inspected once in two months, and in many cases, as when new shafts are being sunk, more frequently. On the North-East Coolgardie field 341 inspections of mines and 21 of gold mining leases have been made, and on the Broad Arrow field 108 inspections of mines and 19 of leases.

Fifteen accidents occurred during the year, three of which were fatal. The majority of the others were simply slight cuts or bruises.

The safety cages on the fields and safety hooks and ropes have been tested and found satisfactory, on only four occasions out of thirty-seven there being any cause to complain about them.

Ventilation, as a rule, is in a satisfactory condition, and the Sunday Labour in Mines Act has been well observed.

## NORTH COOLGARDIE DISTRICT.

The Inspector of Mines at Menzies, Mr. W. F. Greenard, was Inspector for the Central Goldfields District up to September, when he was transferred to Menzies, in succession to Inspector Hudson, who went to the Mount Margaret district. Mr. Greenard reports having made regular inspections of all mines at Menzies, Woolgar, Goongarrie, Kookynie, Niagara, Edjudina, Yundamindera, Davyhurst, Mulline, and Mulwarrie, and expected to visit Mount Ida shortly. All accidents have been reported to the department in Perth. The Inspector notes that the most striking feature of the list of accidents is the number resulting from premature explosions of dynamite.

## MOUNT MARGARET DISTRICT.

Mr. J. O. Hudson, Inspector of Mines for the Mount Margaret and East Murchison Goldfields, took charge of this district on 26th September, having been transferred from the North Coolgardie Goldfield in succession to Mr. Crabb, who had gone to Coolgardie. Owing to the extent of the district, and the short time he has been in it, Mr. Hudson reports that he has as yet only been able to make one trip round the mines in his charge, and that it will not be possible in future to make inspections much oftener than once in every three months.

There were twenty-two (22) accidents during the year in the Mount Margaret Goldfield, by which three persons received fatal injuries, and thirteen (13) were seriously hurt. In the East Murchison Goldfield there were four (4) fatally injured and nine (9) seriously injured. Eleven of the accidents were due to falls of ground. The Inspector considers the majority of this class of accident to be due to inexperience of the men employed, having repeatedly noticed on his inspections men working under bad ground which could be made perfectly safe by taking down the ground which had been shaken by the shots which they had fired. In other cases there is a neglect of the sufficient use of timber.

Owing to the scarcity of mining timber in the outlying centres, and the ore bodies being large, there is extreme difficulty in securing the ground in an efficient manner. The method usually adopted is to keep the stopes close filled, and, where necessary, toms and headboards are used. This system works well in the majority of cases, but there is a tendency to work the stopes too high above the filling.

The matter of ventilation requires special attention in this district, proper provision not always having been made for airways, and the miners often having to depend on compressed air. In one case an airway was found completely covered by a fall of ground.

The Inspector is of opinion that provision should be made in the Act for the safe raising and lowering of men in underlay shafts. At present there is no uniform system, and the men in some mines have to walk 1,200 feet to work, and climb the same distance to the surface. In others the men are raised and lowered in the mullock skips. He would recommend that man-skips provided with safety appliances be used.

## COOLGARDIE DISTRICT.

During the year Mr. J. Crabb, previously Inspector of Mines at Mount Margaret, took charge of the Coolgardie district, in succession to Mr. Lightly, transferred to Kalgoorlie. The district includes the Coolgardie and Yilgarn Goldfields, and Mr. Crabb is assisted by Mr. W. M. Deeble, the Inspector of the Dundas district. Both Inspectors were also Inspectors of Boilers during the year, but during the present year a separate Inspector of Boilers has been appointed, and they have been relieved of this work.

Mr. Crabb reports two (2) fatal and nine (9) non-fatal accidents on the Coolgardie Goldfield, and two accidents, resulting in the death of two men in one instance and of slight injuries to three men in the other, on the Yilgarn Goldfield. The ventilation throughout the mines has been satisfactory. In many instances General Rule 2 as to storage of explosives has been found to be insufficiently attended to. The code of signals now used has given very satisfactory results; but, in the Inspector's opinion, an improvement could be made by having it required that the knocks indicating "men on" should precede any others. In some mines the knocks indicating men on are signalled first, at others the reverse is being done, a confusion of practice which might result in accidents. The safety appliances on cages have been kept in good order, and mine plans well up to date. Mr. Crabb thinks the scale prescribed for mine plans in Section 31 of the Act is not always suitable for the mine plans. He also suggests that persons without engine-drivers' certificates might be allowed to take charge of engines other than those by which persons are raised or lowered.

Mr. Deeble reports generally on the progress of the fields, and on his work as Inspector of Boilers. He thinks that there should be prescribed uniform methods of testing safety cages, winding ropes, brakes, and other appliances, and notes that he has found the signal code worked in different ways in different mines, so that the object of having a uniform code is not secured.

## DUNDAS GOLDFIELD.

Mr. W. M. Deeble, Inspector of Mines, reports having made two visits of inspection to this field during the year, but was kept very much in the Coolgardie field owing to press of work in consequence of the change of Inspectors there. Only three (3) accidents were recorded, and in each instance the injured man has been able to return to his work again. With regard to the inspection of boilers, the Inspector thinks that the present system would be improved by having the tests and inspections made by the mining manager or engineer of the mine instead of by the Inspector, the latter only repeating the inspection when it might seem necessary to do so.

## COLLIE COALFIELD AND DONNYBROOK GOLDFIELD.

Mr. T. D. Briggs, Inspector of Mines for these districts, reports eight (8) accidents on the Collie field, six (6) underground, and two (2) on the surface, none of which resulted fatally. The ventilation of the mines has been good, especially since the coming into force, on 1st June, of "The Coal

Mines Regulation Act, 1902." The Inspector considers that this Act affords a large measure of protection to the miners, and secures an efficient supervision, control, and management of the mines in every particular.

In the Donnybrook field there were no accidents during the year, and the workings were kept in good order.

#### MINING ACCIDENTS.

The mining accidents for the year ended 31st December, 1902, are tabulated in Tables 22 and 23 of Part V. of the Annual Report of the Department by the Under Secretary for Mines, in comparison with the figures for the preceding year. It is satisfactory to note that the death rate is lower than it has been for several years past.

The diagram facing page 28 of the annual report shows that there were nine fatal accidents on surface, a higher number than usual, but equalled in 1900. The deaths from causes classed as "miscellaneous underground" are unusually high, numbering 10 altogether, which is double of any previous year in this class. Fatal accidents in shafts were fewer than in any year since 1895, being only five in number. Accidents from falls of ground also were fewer than usual, there being nine deaths from this cause, the lowest number since 1899. Fatalities from explosions numbered six, which is the smallest record since 1896. It is seen, therefore, that the number of fatal accidents for the year 1902 is lower than usual in the three most important classes of underground accidents, and that the total number is largely made up of accidents at surface and miscellaneous accidents underground, which arise from a great variety of causes which are not always able to be provided against by any ordinary care and foresight.

Without giving details of all the accidents during the year, it may be of service to draw special attention to some cases which might convey a warning that would lead to provision being made in other mines against the recurrence of similar accidents. The following are selected:—

At Peak Hill, on 11th January, 1902, a miner was very badly burned at the bottom of a shaft not usually in use, into which another man had some time before carelessly thrown some 8lbs. of blasting powder that had been wetted. The powder had apparently dried, and been set on fire by the man probably dropping his candle. The injuries were so severe as to cause a fatal result. This case emphasises the necessity for destroying all damaged explosives, so that they cannot possibly be a source of danger later on.

Two accidents at the Cosmopolitan mine at Kookynie on 13th March, 1902, and at the Kanowna Consolidated mine at Kanowna on 28th November, 1902, caused the death of two men, serious injuries to three, and lesser injuries to three more, through explosions while sinking. In the first case the men were known to have attempted to bore out an old hole that had been previously fired, and in the second it is supposed that they most probably did something of the same sort. Miners should be warned by these, and numerous other accidents that have resulted from the same practice, not to attempt to bore in any part of an old hole on any account whatever.

Two accidents are ascribed to the bad gases generated by dynamite explosions. In one case a man was overcome while going to surface in the cage, and fell from it and was killed. He had been breathing the fumes from explosions for some little time previously. In the other case two men were killed and two injured by descending into a winze in which about 20lbs. of dynamite had been fired without blowing out the fumes with their airpipe. One man went down to see the effect of the shots, was overcome, and fell to the bottom and was killed; the others followed, and fell one after the other, two being but little injured, but one fatally hurt. The whole affair arose from their own neglect to use the airpipe before venturing down into the smoke.

At the Jacoletti mine, Yilgarn Goldfield, on 11th March, 1902, two men died from the effects of fumes arising from sands from the cyanide plant that had been used for filling the stopes. This shows the absolute necessity of having all such sands exposed for a long time at surface, until thoroughly innocuous, before they can be used for filling underground.

One man was killed by the collapse of an overhead tramway on which he was trucking. In this instance examination showed that the structure was much too weak for the load put upon it, and the manager of the mine was, in consequence, prosecuted on a charge of negligence, under Section 28 of the Mines Regulation Act, and was fined £5 and costs.

An engine-driver at the White Feather Main Reef mine, Kanowna, on the 12th March, 1902, was fatally scalded by falling into the feed tank. He went to screw up a leaky pipe, which broke and caused him to lose his balance and fall into the tank.

On 30th April, 1902, an engine-driver's assistant at the Cosmopolitan mine at Kookynie stepped on to the spokes of a fly wheel to assist in starting the engine. The cylinder being full of steam, which he had previously turned on in attempting to start the engine, the fly-wheel made two revolutions suddenly and jammed him to death. The wheel could have been safely turned from the other side by lifting. The dangerous practice of standing on such wheels to start them should be forbidden.

Three other fatal accidents were recorded owing to persons oiling machinery in motion. In some instances the means of access to the bearings requiring oiling were not so satisfactory as they should have been. Mine managers and engineers should give very great attention to provision of protection to persons engaged in cleaning and oiling machinery, as numerous accidents continually arise from this cause.

One bad accident, whereby a man was killed, took place at the Great Boulder mine at Kalgoorlie, owing to the fall of a cage from between the 300 and 400 feet levels down to the 1,400 feet level. The fall dislodged some timber and stone, which fell on two men working 85 feet below the penthouse, and

killed one of them. The fall of the cage was due to the copper rivet of the safety detaching hook shearing through and allowing the rope to escape. The safety catches apparently did not act, and the cage fell. This shows the necessity for frequent inspection and adjustment of all safety appliances.

#### INSPECTION OF BOILERS.

Several of the Inspectors of Mines acted during the year as Inspectors of Boilers. The results of Boiler Inspection are given in the report of the Chief Inspector of Boilers in Division VI. of the Annual Report of the Department. During the present year the whole of the Boiler Inspection work has been taken over from the Inspectors of Mines by the officers of the Boilers Department, which will leave the former free to attend more particularly to their underground inspection work.

I have, etc.,

A. MONTGOMERY,

State Mining Engineer.

Perth, 15th June, 1903.

#### *Western Australian School of Mines.*

REPORT: OPENING TERM, 1902.

To the Under Secretary for Mines, Perth.

SIR,

Coolgardie, 15th December, 1902.

I have the honour to report on the work done at the School of Mines just established at Coolgardie, as follows:—

I reached Perth at the end of July, 1902, and found that some of the alterations necessary to convert the Coolgardie Exhibition Buildings into a School of Mines were in progress, that assay furnaces were being built, and that a certain quantity of chemicals and apparatus had been ordered. After arranging for the further alterations necessary, I compiled a list of the chief chemicals and apparatus required for the work of the school, and then journeyed to Coolgardie to hold a preliminary meeting of intending students, and to explain to them the intended course of instruction. Later on, at the end of October, as the contractors had nearly completed their work in and about the buildings, and as a sufficient portion of the chemicals had arrived, it was decided to hold a general meeting of the students and arrange for the commencement of class-work at the beginning of November, as it was anticipated that much valuable information would thus be gained as to the requirements of the students, their standard of education, and the best method of arranging the work for the next year. Accordingly, class-work was started on 3rd November, with a staff consisting of Mr. E. A. Penny, late of the Perth Technical School, as assistant, and myself as Director. It was possible to work only a short term to the end of the year, but considerable interest was evinced by the students in their work, and there is no doubt but that the Schools of Mines on the goldfields will be taken full advantage of when once fairly established.

The following is a brief account of the different class-rooms, etc., in the School of Mines, Coolgardie:—

*Assay Room.*—The assay room contains four melting and three muffle furnaces, connected with a 40ft. chimney-stack. The room is equipped with flux-bench, assay balances, lockers for students, slag bench and anvils, tongs rack, crushers, bullion rolls, cupel machine, sink, and other appliances necessary in assaying. The fume cupboards of the chemical laboratory are easily accessible to students working in the assay room.

*Chemical Laboratory.*—This is entered from the main hall, and contains three working benches, fitted with students' lockers, shelves, and water sinks. A separate division of each bench is set apart for each student, who is provided with a complete set of reagent bottles, apparatus, etc. Three large fume cupboards along one wall serve for evaporations and parting assays, while on the other side of the laboratory is a long titration bench equipped with the necessary burettes, etc.

*Museum.*—A fair-sized room has been set apart for the display of mineral and rock samples, and arrangements are now being made to provide suitable show cases. At the present time the room is used as an instrument room for survey instruments, etc. The office and store rooms are provided with the necessary furniture, cases, and shelving. All the class rooms are lofty, well ventilated, and lighted throughout with electric lamps, and when the rest of their equipment arrives they will enable good work to be done.

*Balance Room.*—This is provided with five bullion and chemical balances, supported upon a slate slab. The room is well lighted by day and at night, and is fitted with shelves, table, cupboards, etc.

*Lecture Rooms.*—The main lecture hall is a large room, capable of accommodating 40 students, and is equipped with lecture bench, cupboards, sink, black-board, and screen for lantern work, apparatus cases, and students' tables and chairs.

A smaller lecture room, accommodating 20 students, serves for the smaller classes.

*Stock, etc.*—Orders have been placed with Messrs. Townson and Mercer and other firms in England and America for supplies, which are expected to come to hand early in the new year. Collections of rocks,



PHOTO LENT BY "WESTERN MAIL."

KALGOORLIE, FROM MT. CHARLOTTE, 1902.

*(East Coolgardie Goldfield.)*



minerals, fossils, thin sections of rocks and minerals, as well as various instruments, have been included in the orders. Provision has also been made to form the nucleus of a library of standard scientific mining works and magazines, which will, as time goes on, prove of very great value.

## STUDENTS.

The number of students enrolled for the separate classes was as follows:—

<i>Opening term 1902 (part term).</i>							
Mathematics	...	...	...	...	...	...	41
Chemistry	{	Theory	...	...	...	...	29
		Practice	...	...	...	...	29
Assaying	...	...	...	...	...	...	25
Surveying	...	...	...	...	...	...	9
Metallurgy	...	...	...	...	...	...	6
Mineralogy	...	...	...	...	...	...	4
Mining Geology	...	...	...	...	...	...	5
Drawing	...	...	...	...	...	...	6
							154

The total number of individual students was 60.

The work done in all the classes was chiefly elementary, as the majority of the students had not previously attended a School of Mines, and in many cases required tuition in first principles. To suit the requirements of students working shifts, all the classes were duplicated; the opportunity being thus given students of attending any particular lecture or class either in the morning or in the evening.

## TIME-TABLE FOR OPENING TERM 1902.

The following time-table was followed for the short opening term held in 1902:—

<i>Chemistry</i>	...	...	Monday, Wednesday, and Friday—9·30 to 10·30 a.m.; 7 p.m. to 8 p.m.
<i>Mineralogy and Metallurgy</i>	...	...	Tuesday and Thursday—9·30 to 10·30 a.m.; 7 p.m. to 8 p.m.
<i>Mathematics</i>	...	...	Monday and Wednesday—10·30 to 11·30 a.m.; 8 p.m. to 9 p.m.
<i>Mining Geology</i>	...	...	Monday—11·30 a.m. to 12·30 p.m.; 9 p.m. to 10 p.m.
<i>Surveying</i>	...	...	Wednesday—11·30 a.m. to 12·30 p.m.; 9 p.m. to 10 p.m.
<i>Drawing</i>	...	...	Friday—10·30 a.m. to 12·30 p.m.; 8 p.m. to 9·30 p.m.
<i>Assaying</i>	...	...	Tuesday and Thursday—10·30 a.m. to 12·30 p.m.; 8 p.m. to 10 p.m.

Field practice, Tuesday afternoon. Assay and chemical laboratories open as required.

It gives me great pleasure to record my appreciation of the labours of the Provisional Committee—Messrs. A. P. Wymond, A. E. Thomas, M.P.; C. E. Stokes (secretary), E. J. Case, J. Lonsdale, G. D. Brown, E. Price, and G. Williams—who have worked long and earnestly for the establishment of the school, and from whom I received material assistance on my arrival in Coolgardie.

Donations of mineral and rock samples have kindly been made by the following gentlemen:—Capt. Rodda, Messrs. Sargent, Nathan, Phillips, and Belgrove, and I hope to shortly have a series of show cases in readiness in the museum for the proper display of samples.

I, personally, have pleasure in donating to the W.A. School of Mines a collection of typical rhyolites and auriferous auesites, etc., specially collected by myself in New Zealand, and brought over to form the nucleus of a collection which, it is to be hoped, will speedily increase in size and importance.

A concession equal to half fare has been obtained from the Railway Department to enable *bonâ fide* students living at a distance to attend the school.

It is unnecessary here to discuss the advantages to be derived from mining schools, but the fact should be emphasised that the Western Australian goldfields now afford an excellent opportunity for the establishment of a first-class mining school, which, when fully equipped and in full working order, will become a factor for good in the State, the value of which will be difficult to estimate. The work of firmly establishing such a school should be vigorously pushed ahead.

I have, etc.,

F. B. ALLEN,

Director, School of Mines.

Coolgardie, 15th December, 1902.

### DIVISION III.

#### *Report by the Superintendent of State Batteries for the Year 1902.*

*To the Under Secretary for Mines, Perth.*

SIR,

In submitting my fifth Annual Report, for the information of the Hon. the Minister for Mines, I have the honour to report as follows on the work done and progress made during the year:—

**LEASING OF PLANTS.**—At the close of last year's operations the batteries at Tuckanarra, Paynesville, and Ravelstone were doing very little work, and the expense of departmentally running them intermittently being heavy, a trial of leasing them to individuals (who either had properties in the district, or who were apparently prepared to work them on cheaper lines than the department could do) was made; the result, so far, has been unsatisfactory, and it is apparent where State batteries are placed and the district does not warrant the department retaining full control of them, that a removal to some more likely centre is the wisest course to pursue.

**WATER SUPPLY.**—At the beginning of the year it was necessary to seek a further supply of water for Widgiemooltha; but, unfortunately, a supply was not met with, nor has the district proved worthy of the liberality shown it by the department. Water was also a costly item at Mulwarrie; while the supply at Darlôt, together with the then condition of the plant, decided the removal to a quarter where a suitable supply was known to exist.

Meekatharra has also had a shortage of water, and up to the present this has not been overcome, although efforts are being made to tap a supply.

The supply at the Laverton battery gradually fell off after starting crushing, but by driving an adequate supply was found, which up to the present has proved permanent.

**BATTERIES OPENED DURING THE YEAR.**—The Laverton battery commenced crushing in May, and up to the close of the year had crushed 2,710 tons for a yield of 3,286·6ozs. This result must be considered very satisfactory. Owing to the dismantling and re-erection of the Darlôt battery, crushing was not resumed till August, from which date satisfactory work has been done. The erection of a battery at Boogardie is at present being proceeded with, and, it is contemplated, will be available for crushing early in the year. Arrangements are also being made to purchase a battery for Burtville, the erection of which will be proceeded with at an early date.

**GENERAL REMARKS ON WORKING.**—A reference to the statement showing the output of each battery for the year will give a clear indication of the relative amount of work done by each, and the result of such work.

The Mulline district has again enabled the Mulline battery to head the list of successful batteries for the year. Others which have given a very good record are Niagara, Mulwarrie, Darlôt, Leonora, and Laverton.

The Norseman plant has again had an unsuccessful year, and it has become necessary to seriously consider abandoning the old plant for a new one. The Lennonville battery has not done as good work as might be expected, although the cyanide operations have been satisfactory.

**CYANIDE PLANTS.**—(a.) *Mt. Ida*: At the beginning of the year the plant at Mt. Ida had not been running long, and although it was known that a percentage of copper existed in the tailings, it was anticipated that the bulk of the tailings would pay for treatment. For the year only 2,040 tons were treated, most of which might be considered as experiments, but so far without satisfactory results, the gold extracted being 224·54oz., valued at £957.

(b.) *Norseman*.—During the year 3,905 tons were treated, realising £3,176. A larger output was anticipated, as it was hoped that the slimes plant would have been fully employed, but a change in design has been found necessary, and the plant is at present idle pending the necessary alterations.

(c.) *Mulline*—At this plant 8,635 tons were treated during the year with very satisfactory results, the yield being 2,548·37ozs., valuing £10,959·81. The question of erecting a slimes plant is at present engaging the attention of the department, and its erection should materially increase the output for the coming year.

(d.) *Lennonville*.—This plant treated 5,141 tons for 2,091ozs. fine gold, valued at £8,943·81. These tailings, although giving a very good extraction, are somewhat slimy, which increases the working cost slightly over the other plants. Taking the four plants, 19,721 tons of tailings have been treated, yielding 5,541·46ozs. fine gold, valued at £24,037. The cost of treatment has amounted to £9,248, while £12,329·82 has been paid to owners of tailings.

At Meekatharra a small experimental plant is at present working, but no return is yet to hand, although it has demonstrated that there will be no difficulty in treating the sands, which, however, are of low value. It is now contemplated to erect additional cyanide plants at Mulwarrie, Laverton, and Darlôt batteries.

**REVENUE AND EXPENDITURE.**—The revenue in connection with the State batteries and cyanide plants amounts to £53,492·80, whilst the expenditure was £51,538·42. Included in this expenditure was the sum of £1,685·31 for additions and improvements to plants, items which, in previous years, were paid from Loan Fund and not from Revenue. This practically shows a profit of £3,639·69 over working expenses for the year.

When compiling my last year's returns I did not anticipate the above results, but trust, with sufficient stone available, and careful management by those in charge of the various plants, that the progress made will continue.

**STONE TREATED.**—The quantity of stone treated for the year amounts to 39,517 tons, or an increase of 12,742 tons over the previous year; whilst the gold yield has been 57,255ozs., or an increase of 25,124ozs. The average yield per ton for the year has been 1·448oz. This is a decided improvement on last year's average. The total quantity of stone treated through State batteries now reaches 108,308 tons, yielding 134,788ozs., averaging 1·244oz. per ton. The value of gold recovered from tailings by cyanide treatment now amounts to £32,542. This amount, together with the value of gold produced through State batteries, totals £534,307.

**TIN-DRESSING PLANT.**—The introduction of the plant at Greenbushes did not create the revival that was anticipated, and although it has given many an opportunity of testing the value of their properties, very little fresh development has taken place. The value of tin produced for the year amounts to £2,159.

**GENERAL.**—At the close of the year the various managers visited Perth and held a short conference with the Hon. the Minister on various matters of interest, and I confidently believe that the exchange of opinions will have a very desirable effect. The progress made during the year, it is hoped, will be considered satisfactory; and, in conclusion, I trust that the further extension of the State battery policy will continue, and meet with the support of Parliament.

DAVID H. WHITE,  
Superintendent State Batteries.

Perth, 27th February, 1903.

THE STATE BATTERIES AND CYANIDE PLANTS.

Statement showing Transactions for the Year ending 31st December, 1902.

Goldfield.	Name of Battery.	No. of Stamps.	Tons Crushed and Tailings treated.	Gold Yield.	Average.	Crushing and Cyaniding charges per ton.	Wages and Maintenance.	Additions and Improvements.	Total Expenditure, including Additions and Improvements.	Revenue.	Profit.	Loss.	Cost of Crushing.
			tons.	ozs.	ozs.	15/- to 17/- 10/- or value	£	£	£	£	£	£	£
Dundas ... ..	Norseman ... .. (Cyanide) ... ..	10	3,489 3,905	3,629·97 677·55	1·04 ·17	15/- to 17/- 10/- or value	3,713·33 1,845·36 a 943·56	200 149·20	3,913·33 2,938·12	2,781·62 3,176·34	...	1,131·71	1·05
North Coolgardie ... ..	Mulline ... .. (Cyanide) ... ..	20	7,372·75 8,635	12,933·63 2,548·37	1·75 ·3	15/- 10/- or value	4,239·86 3,765·34 a 5,992·26	336·28	4,576·14 9,757·60	5,814·24 10,959·80	1,238·10 1,202·20	...	·57
Mount Margaret ... ..	Lennonville ... .. (Cyanide) ... ..	10	4,430·25 5,141	9,780·56 2,091	2·20 ·4	15/- 10/- or value	3,497·46 2,531·65 a 5,394	65·90	3,563·36 7,925·65	3,335·56 8,943·81	...	227·80	·78
North Coolgardie ... ..	Mount Ida ... .. (Cyanide) ... ..	10	1,230·75 2,040	1,277·25 224·54	1·03 ·10	16/- Value of gold	1,038·97 1,105·74	...	1,038·97 1,105·74	989·77 957·08	...	49·20 148·66	·84
Mount Margaret ... ..	Leonora ... ..	10	1,737	2,224·20	1·28	15/-	961·49	...	961·49	1,290·50	329·01	...	·55
North Coolgardie ... ..	Niagara ... ..	10	3,254·50	4,609·35	1·41	15/-	2,035·18	57·36	2,092·54	2,602·85	510·31	...	·62
Coolgardie ... ..	Widgiemooltha ... ..	10	1,029	367·35	·35	15/- & time	935·71	...	935·71	548·45	...	387·26	·90
Murchison ... ..	Meeekatharra ... ..	10	3,611·35	3,485·75	1	15/- & time	2,606	34·36	2,640·36	2,603·67	...	36·69	·72
North Coolgardie ... ..	Mulwarrie ... ..	10	5,470	8,622·30	1·57	15/-	3,505·56	514·36	4,019·92	4,144·95	125·03	...	·64
Mount Magnet ... ..	Paynesville ... ..	5	327·50	293·26	·9	Leased	61·27	...	61·27	85·92	24·65	...	...
East Murchison ... ..	Darlôt ... ..	10	2,033	3,570·30	1·75	20/- & 17/6	1,445·90	234·05	1,679·95	2,078·80	398·85	...	·71
Murchison ... ..	Tuckanarra ... ..	10	638·10	647·86	1·01	Leased	72·50	...	72·50	97·30	24·80	...	...
Peak Hill ... ..	Ravelstone ... ..	10	2,182·75	2,526·45	1·15	Leased	605·00	...	605·00	564·92	...	40·08	...
Mount Margaret ... ..	Laverton ... ..	10	2,710·75	3,286·60	1·21	15/-	1,733	93·80	1,827·44	2,033·92	206·48	...	·63
Head Office ... ..	...	...	...	...	...	...	b 1,104·41	...	1,104·41	50	...	1,054·41	...
	Total Batteries ...	145	39,516·70	57,254·81	...	...	27,556·28	1,685·31	50,819·50	53,059·50	5,315·81	3,075·81	...
	Total Cyanide ...	...	19,721	5,541·46	...	...	9,248·09	...	...	...	...	...	...
	a Total Payment to Owners of Tailings ...	...	...	...	...	...	12,329·82	...	...	...	...	...	...
	Total Greenbushes ...	5	1,169·50	40·6 tons black tin, £2,159	...	7/-	718·92	...	718·92	433·30	...	285·62	·61
	Grand Totals ...	150	60,407·20	...	...	...	49,853·11	1,685·31	51,538·42	53,492·80	5,315·81	3,361·43	...

b includes—

- £691·4 Head office salaries and wages.
- 160 Postage and telegrams for all batteries.
- 136·61 Accident and fidelity guarantee policies for all batteries.
- 116·4 For travelling expenses, printing, stationery, and other head office expenditure.

£1,104·41

Plus improvements and additions ... 1,954·38  
1,685·31  
Gross profit ... .. £3,639·69

## GOVERNMENT STATE BATTERIES.

*Expenditure from General Loan Fund for Year 1902 and from Inception of Scheme to 31st December, 1902.*

Name of Battery.	Year 1902.	Amount from Inception.
	£	£
Norseman ... ..	373·21	9,100·58
Mulline ... ..	11·89	12,344·98
Lennonville ... ..	12·55	8,988·20
Mt. Ida ... ..	23·73	10,956·15
Leonora ... ..	...	6,178·18
Niagara ... ..	...	2,947·03
Widgiemooltha ... ..	...	2,413·22
Meekatharra ... ..	219·79	6,902·98
Mulwarrie ... ..	878·00	7,281·06
Paynesville ... ..	...	2,752·86
Darlôt ... ..	1,120·30	3,305·15
Tuckanarra ... ..	...	6,294·25
Ravelstone ... ..	...	6,456·99
Greenbushes ... ..	48·22	2,457·11
Mosquito Creek ... ..	...	505·25
Donnybrook ... ..	...	1,542·16
Laverton ... ..	2,438·73	4,760·18
Bulong ... ..	...	5,879·56
Yerilla ... ..	...	8,061·99
Yalgoo ... ..	...	4,813·40
Boogardie ... ..	2,815·40	2,815·40
Burtville ... ..	16·36	16·36
Subsidies to Batteries ... ..	...	403·70
Head Office ... ..	315·55	564·02
	£8,273·73	£117,740·76

Less Credits as under—

	£
Meekatharra ... ..	0·45
Niagara ... ..	21·18
Donnybrook ... ..	120·00
	141·63

Total ... .. £117,599·13

## GOVERNMENT STATE BATTERIES.

*Return showing number of Tons Crushed, Gold Yield, and Average per Ton for Year ending 31st December, 1902.*

Name of Battery.	Tons Crushed.	Gold Yield.	Average.
		ozs.	ozs.
Norseman ... ..	3,489	3,629·97	1·04
Mulline ... ..	7,372·75	12,933·63	1·75
Lennonville ... ..	4,430·25	9,780·56	2·20
Mt. Ida ... ..	1,230·75	1,277·25	1·03
Leonora ... ..	1,737	2,224·20	1·27
Niagara ... ..	3,254·50	4,609·35	1·41
Widgiemooltha ... ..	1,029	367·35	·35
Meekatharra ... ..	3,611·35	3,485·75	·96
Mulwarrie ... ..	5,470	8,622·30	1·57
Ravelstone ... ..	2,182·75	2,526·43	1·15
Paynesville ... ..	327·50	293·26	·89
Darlôt ... ..	2,033	3,570·30	1·75
Tuckanarra ... ..	638·10	647·86	1·01
Laverton ... ..	2,710·75	3,286·60	1·21
Total ... ..	39,516·70	57,254·81	1·44
Greenbushes ... ..	1,169·50	Tons Black Tin. 40·6	...

## STATE BATTERIES.

Returns showing the number of Tons crushed, Gold Yield, and Average per Ton and Value from Inception to 31st December, 1902.

Name of Battery.	Tons Crushed.	Gold Yield.	Average.	Value.
Norseman	10,222	ozs. 9,035·40	ozs. ·88	£ 34,332
Mulline	23,959·25	36,205·28	1·51	127,180
Lennonville	11,175·25	18,827·80	1·68	71,545
Mt. Ida	11,785·25	12,781·86	1·08	48,569
Leonora	8,686	7,884·77	·90	29,961
Niagara	5,906·75	7,577·06	1·28	28,790
Widgiemooltha	2,617	1,032·75	·39	3,923
Meekatharra	6,674·85	6,514·15	·97	24,752
Mulwarrie	5,935	9,586·30	1·61	36,426
Paynesville	1,699·50	1,527·81	·89	5,803
Darlôt	2,852·75	5,035·70	1·76	19,133
Tuckanarra	3,329·10	6,277·81	1·88	23,852
Ravelstone	4,535·25	4,946·48	1·09	18,794
Laverton	2,710·75	3,286·60	1·21	12,488
Batteries closed	6,219·50	4,268·33	·68	16,217
<b>Total</b>	<b>108,308·20</b>	<b>134,788·10</b>	<b>1·24</b>	<b>501,765</b>
Greenbushes (Tin Plant)	1,169·50	Tons Black Tin. 40·6	...	2,159



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*(Murchison Goldfield.)*

## DIVISION IV.

*Annual Progress Report of the Geological Survey for the Year 1902.*

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## PLATE.

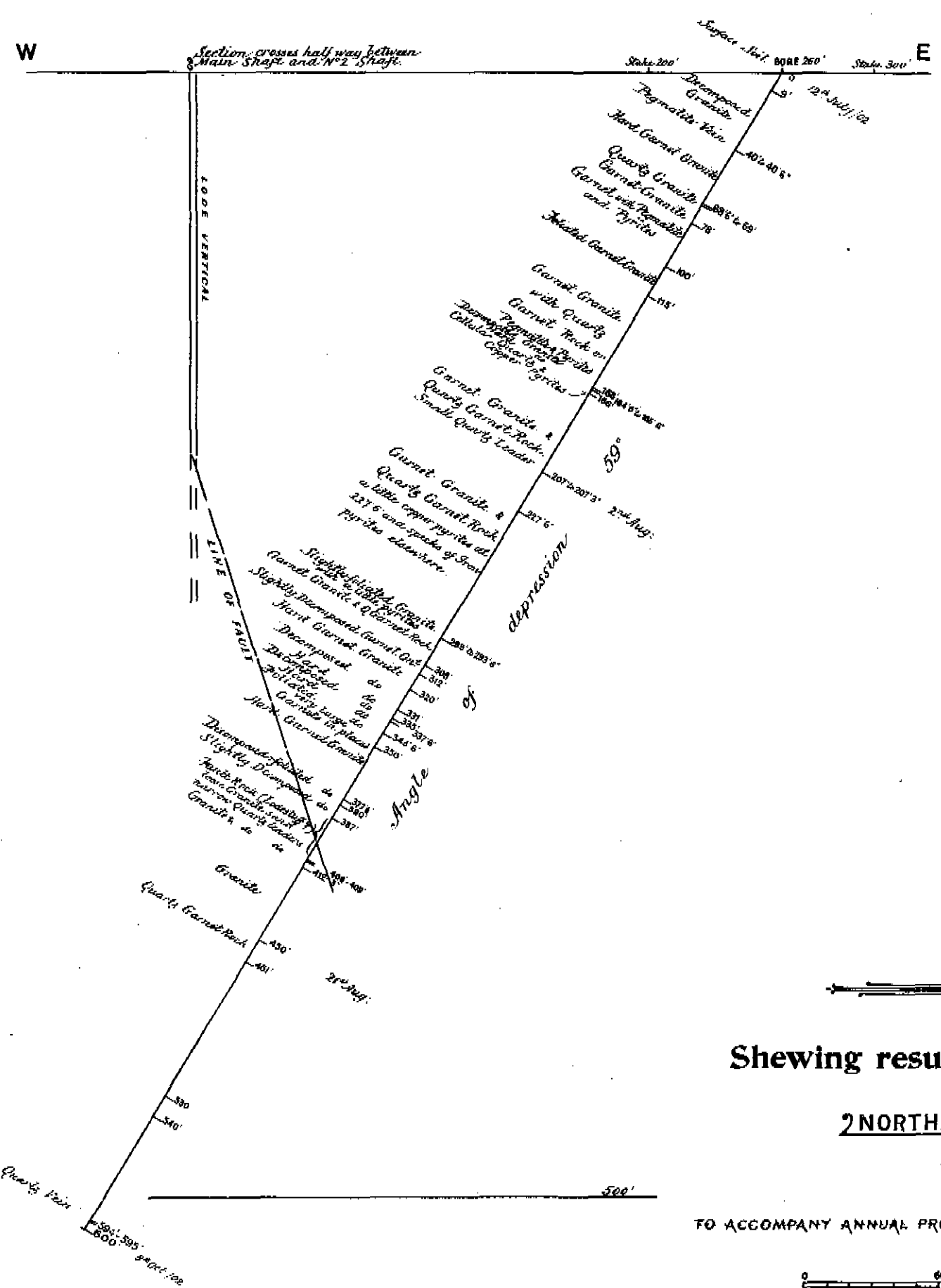
Sections showing results of Boring for Copper and Lead in the Northampton Mining Districts.

## FIGURES.

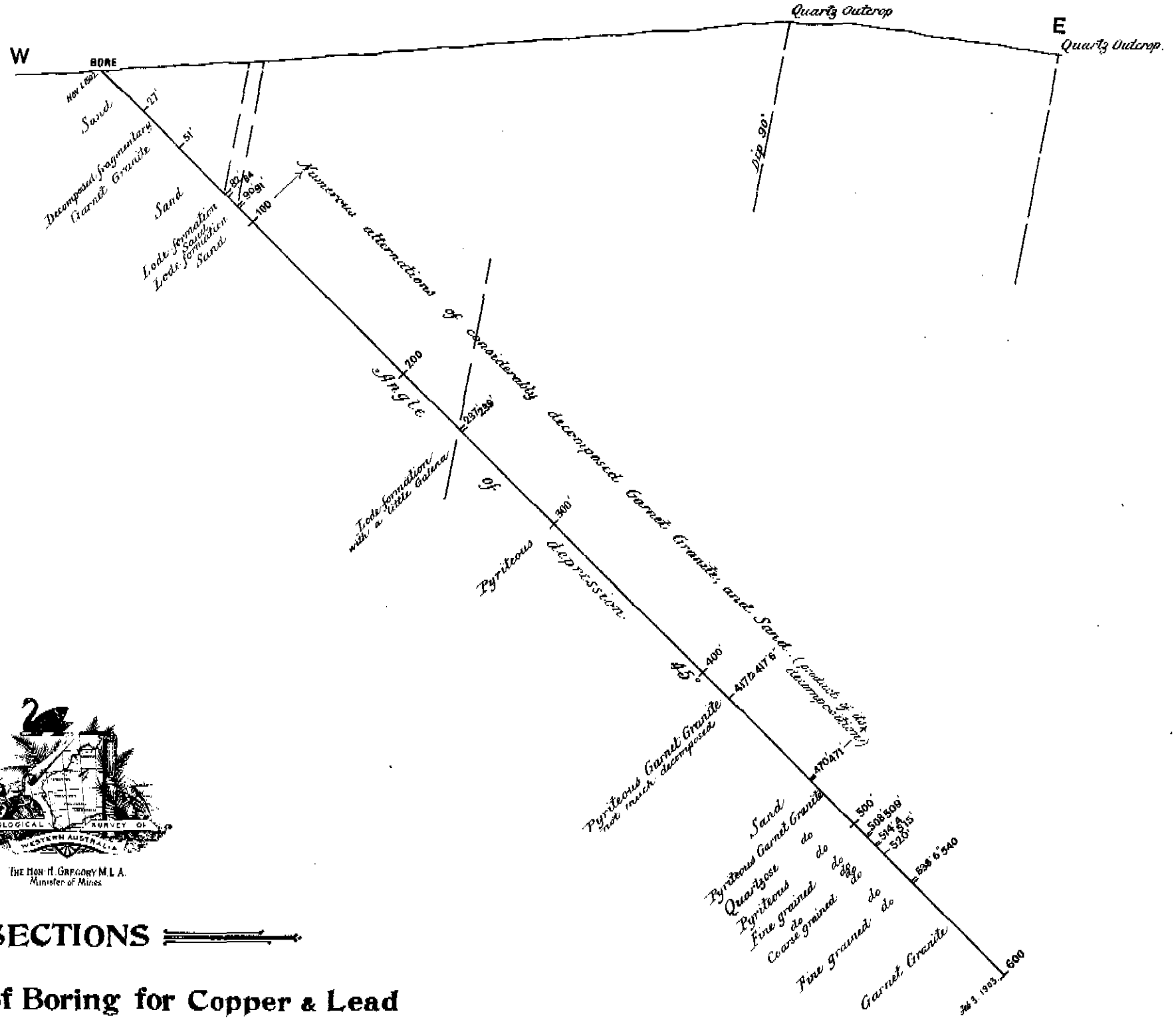
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**CROSS SECTION  
OF THE  
WHEAL MARGARET COPPER MINE**  
MAGNETIC BEARING 142°

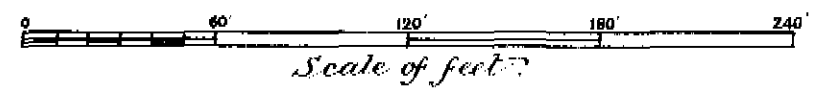


**CROSS SECTION  
AT  
BORE SITE NEAR OLD COW ROCK NARRA TARRA.**  
MAGNETIC BEARING 284°



**SECTIONS**  
**Shewing results of Boring for Copper & Lead**  
IN THE  
**2 NORTHAMPTON MINING DISTRICTS**  
BY  
**W.D. Campbell AM.I.C.E., F.G.S.,**  
ASSISTANT GEOLOGIST

TO ACCOMPANY ANNUAL PROGRESS REPORT OF THE GEOLOGICAL SURVEY FOR 1902



*Alfred Wailland*  
Government Geologist

## DIVISION IV.

### *Annual Progress Report of the Geological Survey for the Year 1902.*

*The Hon. Henry Gregory, M.L.A., Minister for Mines, Perth.*

Geological Survey Office, the Museum,  
Perth, 24th April, 1903.

SIR,

I have the honour to submit, for your information, the Report of the Geological Survey for the Calendar Year 1902. For the delay in the presentation of this report, I alone am responsible, having been practically continuously engaged since the close of the year upon field work and other multifarious duties appertaining to the office.

The arrangement of the different matters dealt with is somewhat similar to that followed in the previous reports.

During the year 1902 the work of the Department proceeded practically on the lines of previous years. A very large portion of the time of the staff has been devoted to inquiries connected with the Mines Development Act, recently passed by the Legislature. The newly created appointment of State Mining Engineer having been filled, it is hoped that the Geological Staff will not in future be required to any very great extent in connection with the administration of the Mines Development Act, and that their services will be available for the systematic examination of the various auriferous formations of the State, a class of work upon which the officers can always be most profitably employed.

It is highly desirable that the lesser known portions of the State be systematically examined, with the view of ascertaining how far their geological characteristics are likely to affect their possibilities as mineral-bearing country, and this information be made available to the public, under Government authority, through the medium of official reports and maps. This important class of work should, whenever possible, be carried out in advance of the occupation of the country for mining and other industrial purposes.

The extensive tract of country lying between Laverton and the South Australian Border, and that between Peak Hill and Nullagine, may be especially noted as areas which it is essential should receive early examination at the hands of geologists specially trained for the work.

In this connection it may be noted that since the Department was instituted on its present basis, it has not been found possible to examine and report upon more than about 50,000 square miles out of a possible 975,920. The work already done has been chiefly the detailed examination and mapping of important mining centres.

During the year twenty-three reports connected with the alienation of mineral lands were made; some of these entailed special visits to the districts in which the land occurred; others it was possible to deal with by the information contained in the Geological Maps already prepared by the Department.

#### THE STAFF.

During the year the work of the office has been carried out by eleven officers. The only changes in the *personnel* of the staff have been the appointment of Mr. H. B. Talbot to the position of Field Assistant, rendered vacant by the resignation of Mr. J. H. Brooking. Mr. Talbot's appointment dated from the 1st of February, 1902.

#### FIELD WORK.

The field work of the year 1902 has been, as in previous years, distributed over such portions of the State as the exigencies of the public requirements necessitated.

**A. GIBB MAITLAND:** The latter part of February, and the early portion of March, found me engaged in an examination of the valleys of the Warren and Donnelly, with the view of reporting upon the reputed occurrence of petroleum in the district. From the 1st to the 22nd of April I was absent from Perth on leave. The latter end of that month and the early part of May I was at Bulong in connection with an application for State aid towards the development of mining. On the 17th of June I left Perth for the Murchison, and was engaged in an examination of Cue, Lennonville, and Yalgoo, returning to Perth on the 6th of August, after having called in at Arrino to examine a copper mine in the vicinity. The latter end of September found me at Broad Arrow, dealing with a general application

for boring for reefs and alluvial deposits at Paddington and Broad Arrow. Two days towards the close of October were devoted to an examination of the valley of the Helena River in connection with a claim against the Government. From the 7th of November until the 17th of December my time was devoted to an examination of the country between Niagara and Edjudina, on the North Coolgardie Goldfield.

W. D. CAMPBELL: During the year this officer was employed in the field 127 days. In the months of March and April, Mr. Campbell was engaged in the valley of the Helena River for the purpose of acquiring certain information dealing with the foundations of possible sites for supplementary reservoirs, in connection with the Coolgardie Water Scheme, at the instance of the Department of Public Works. May and June found Mr. Campbell on the Murchison engaged on the preparation of a map of the auriferous reefs of Cue and Day Dawn, in connection with a proposal to test the reefs at a depth by means of the diamond drill. Donnybrook was visited by him in August in connection with an application for State aid towards gold mining; and Brunswick Junction respecting a water supply. Portions of September and October were devoted to the examination of the Coastal Plain within the Metropolitan Area, in connection with the water supply of Perth and Fremantle. Several visits were paid to Northampton during the months of June and October, in connection with the State boring carried out in that district.

C. C. GIBSON: In the month of June, Mr. Gibson joined his colleague, Mr. Campbell, at Cue, assisting him in the field work in that district. The latter part of June and a portion of July were devoted by this officer to assisting me in Lennonville. The month of September found Mr. Gibson at Broad Arrow engaged upon duties in connection with a proposal to carry out boring operations under the provisions of the Mines Development Act. From October the 14th up to the 19th of December this officer was engaged upon an examination of the auriferous formations of Boogardie and Mt. Magnet. Mr. Gibson was employed 82 days in the field during the year.

#### LABORATORY WORK.

The work in the laboratory was carried out during the year under the immediate supervision of Mr. E. S. Simpson, the Mineralogist and Assayer.

The new laboratory in Museum Street, alluded to in the Annual Report of last year, was completed, and the staff entered into possession in the month of September. The building provides ample accommodation for all needs in the immediate future; unfortunately, owing to the structure of the building, the heat is a source of discomfort to the staff during the summer months, the temperature in the coolest part of the building having already exceeded 100° on several occasions. This high temperature is also a great disadvantage to the storage of chemicals, and in some cases of analysis.

Stock was taken, as usual, at the end of the financial year, viz., 30th June, and it was found that the total cost of upkeep of the laboratory for the year 1901-2, was £703 11s. 8d., which amount includes the salaries of the staff.

Reporting on the work performed by the laboratory staff during the year 1902, the Mineralogist and Assayer informs me that 897 assays, analyses, and other determinations were made. The following table shows a detailed statement of the analytical work carried out during the period covered by this report:—

*Table showing details of Assays, etc., made in the Geological Laboratory during 1902.*

Classification.	Public.		Official.		Totals.
	Pay.	Free.	Geological Survey.	Other Departments.	
Total samples dealt with ...	68	170	126	242	606
Determinations ... ..	1	22	2	17	42
Assays for Gold ... ..	48	125	18	202	393
" Silver ... ..	3	40	15	54	112
" Platinum ... ..	...	1	...	...	1
" Mercury ... ..	...	...	...	1	1
" Copper ... ..	9	12	7	50	78
" Nickel ... ..	...	3	2	...	5
" Cobalt ... ..	...	9	2	1	12
" Tin ... ..	3	6	1	8	18
" Lead ... ..	2	3	3	3	11
" Iron ... ..	...	2	1	...	3
" Antimony ... ..	...	...	3	...	3
Chemical Analyses, complete ...	2	3	26	10	41
" " proximate ... ..	1	...	4	4	7
" " partial ... ..	2	2	4	21	29
Sections ... ..	...	2	109	...	111
Miscellaneous ... ..	2	4	5	19	30
Total of Assays, etc. ...	73	234	200	390	897

The routine work of the laboratory has included assays and analyses for the general public of various substances, including metallic ores, rocks, boiler water, etc., for a small proportion of which fees are charged. A considerable amount of information has been given by word of mouth to various applicants. In addition, many assays of tailings and ores, and some analyses of boiler waters, etc., have been made in the interests of the Superintendent of Public Batteries, and towards the end of the year for the State Mining Engineer. A number of rock sections were cut and examined, and many analyses, assays, and other determinations for the guidance of the field staff, with a view to rendering available further information on the minerals and rocks of the State.

During my necessarily frequent absences in the field, Mr. Simpson's time has been considerably encroached upon by his having to take general control of the office; despite this, in addition to the usual laboratory routine, this officer found time for the investigation of several matters of both scientific and economic interest.

Application having been made to the Government, in connection with the Friedrich process of pug treatment, the request of the patentees for an investigation to be carried out, officially, Ministerial instructions were given to have the tests carried out in the laboratory.

Mr. Simpson reports that "it is as well to state at the outset the difficulties hitherto encountered in treating this material (which is composed mainly of a very fine grained clay):—

- (1.) Owing to its very sticky nature when wetted, it is practically impossible to crush it in a battery in the ordinary wet way.
- (2.) If crushed dry it breaks up into an extremely fine powder, which requires an excessive quantity of water and careful mixing to produce a pulp suitable for amalgamation.
- (3.) When attempts have been made to cyanide it, it is found to settle in the vats into a solid sticky mass, which absolutely refuses to allow the solutions to pass through it.
- (4.) A considerable proportion of the gold in it is in a very fine state of division.

In short, this ore presents, in an exaggerated degree, all the difficulties met with in the treatment of battery slimes.

Friederich's process aims at securing a complete breaking up of the ore and conversion into an even pulp in a rapid and thorough manner, followed by the concentration of the gold in a small proportion of the slimy ore, or in the still smaller amount of gritty material in the ore, from which the gold is then recovered by amalgamation or other means. The breaking up of the pug is effected by adding caustic soda to the coarsely broken ore and then pouring in boiling water, and allowing to stand for some time. The lumps of ore under the influence of the hot caustic solution disintegrate, and, on the addition of further hot water, followed by agitation, the whole mass becomes converted into a thin pulp, free from lumps. The disintegration of the ore is accompanied by a separation of gold and quartz grit from the fine clay, and, when the pulp is allowed to stand for a short time, these for the most part sink to the bottom of the pulp, whilst very little of the fine clay settles. At this stage about two-thirds of it are run to waste off the top of the mixture. The remainder containing most of the gold can then, after slight dilution, be run over plates to amalgamate the gold, or can be further concentrated by repeated mixing with water, settling, and decanting, until nothing remains but quartz-grit and gold, which latter can then be recovered by amalgamation or otherwise.

The success of the process will depend upon the percentage of gold which it is possible to extract in this way, and upon the cost of extraction. The former is a matter which can be very closely ascertained in the laboratory, but the latter depends upon many questions which cannot be settled there.

Several experiments were made with the process in order to determine the quantity of water and soda needed to obtain the best results, as well as the time taken in treating the ore. In each instance one pound of ore was used. The size of the ore particles was such that whilst the whole of it would pass a one-inch screen, less than ten per cent. would pass a ten-mesh screen. The ore assayed loz. 19dwts. 4grs. per ton.

The following are the figures for the most successful experiment:—

One pound of ore was taken and caustic soda added, at the rate of 40lbs. per ton. Boiling water, at the rate of 440 gallons per ton, was poured on and the ore allowed to stand for 15 minutes, during which the lumps disintegrated under the influence of the soda, aided by a slight agitation. (N.B.—In practice this agitation, as well as the boiling of the water, will be effected by passing steam through the pulp.) More boiling water, at the rate of 880 gallons per ton, was then added and the mixture boiled for 15 minutes; after which the ore was found to be completely broken up and mixed with the water in an even pulp. This state, it appeared, could not be reached with less soda or water. The pulp was then allowed to settle for 15 minutes, and a considerable portion of it decanted off. This decanted portion may be called First Tailings. The balance was repeatedly washed with water, the tailings (Second Tailings) being saved, until finally a small quantity of gritty concentrates remained. The following are the quantities of each product, with the distribution of gold therein:—

1st Tailings,	70	per cent. of ore	contained	28	per cent. of total gold.
2nd "	29	"	"	4	"
Concentrates	1	"	"	68	"

The experiment showed, therefore, that it is possible to extract 68 per cent. of the gold in this manner in about one hour's time. Mr. Friedrich's experiment, made in my presence, gave an apparent extraction

of 69 per cent. With such an ore this result would appear very satisfactory, and might possibly be improved upon in practice by perfecting the details of the process.

I am not in a position to give an estimate of the cost of labour, water, heating, etc. The soda at 35s. per cwt. would cost 12s. 6d. per ton of ore."

#### MINERAL COLLECTION.

New specimens, to the number of 1,189, were added to the collection during the year, bringing the total number registered up to 4,390. By far the greater part of these were collected by the officers of the staff in the ordinary course of their duties, and designed to illustrate their reports and maps.

*Diatomite* (variously known as diatom earth, diatomaceous earth, infusorial earth, kieselguhr, etc.) was the only new mineral recorded during the year. This mineral is used for a variety of purposes in Europe and America, but it is doubtful whether it would pay to export. Diatomaceous earth is chiefly employed in the manufacture of dynamite, disinfectants, heat-proof paints and packings, and metal polish. The deposit, which appears to be extensive, occurs at Lake Gngangara or Nangerup, in the Wanneroo district.

#### PRINCIPAL RESULTS OF THE YEAR'S FIELD OPERATIONS.

##### MINERAL RESOURCES.

The following reports on the mineral resources of various portions of the State were prepared during the year:—

**Iron Deposits of Western Australia.**—In the month of September the Chairman of the Select Committee of the House of Representatives of the Commonwealth Parliament on the Bonuses for Manufacturing Bill approached the Government for a report on the iron ores of the State. Information was especially required as to the extent of the deposits, their locality, distance from the sea coast, means of transit, analyses of the ore, together with data bearing on the possibility of obtaining coal in the State for smelting purposes. In response to the request of the Minister for Mines, the following report was supplied:—

*General.*—The ores of iron are extremely widely distributed throughout Western Australia, but, with one or two exceptions, the area in which the exploitation of such deposits is actively prosecuted is very limited, such areas being at present confined to localities where ore used as a flux can be obtained in considerable quantities. Some of the richest and most extensive deposits are absolutely valueless, owing to their geographical position. The iron deposits of the State so far examined, can be broadly separated into two main divisions—(a) the ores associated with the crystalline schists and other allied rocks; and (b) the superficial deposits of limonite (laterite ore), which occupy extensive areas in many and widely separated portions of the State, and the soft porous deposits of hydrated oxide of iron (bog ore) of comparatively recent origin.

*Extent and Locality of Deposits.*—The important ores associated with the crystalline schists are developed most extensively in the watershed of the Murchison River, more especially between 25 degrees and 28 degrees of South Latitude, and 116 degrees and 119 degrees East Longitude. The most important localities are Horseshoe, Peak Hill, Mount Gould, and Mount No Name, Peak Hill; and Mount Hale, Weld Range (Wilgie Myah), Munara Hills, and Mount Narryer, Murchison. Less important deposits of this nature occur at Marble Bar, Pilbarra; Kilalo Well, Murchison; Wiluna, Mount Townsend, and Mount Marion, East Murchison; Bardoc, Broad Arrow; Mount Jackson, Yilgarn; and Jennapullin, Blackboy Hill, and Greenhills, Avon District.

These deposits consist of highly inclined beds, bands, and lenses of almost pure hematite (occasionally magnetite) or admixtures in all proportions of hematite and quartz, interbedded with and sometimes replacing quartzites, and quartz schists.

No detailed geological survey of any of these important deposits having yet been made, it is impossible to give even a rough approximate estimate of the minimum quantity of ore in sight in any one of them. That quantity of ore must be large as is evidenced by the following descriptions:—

**Mounts Hale, Taylor, etc.**—The sigma-shaped range of hills on the West side of the Murchison, of which Mounts Taylor, Hale, Matthew, Yarrameedie and Erawandoo form the most prominent summits, is remarkably prolific in iron-bearing schists. The summit of Mount Hale is formed of contorted quartz schists with bands of hematite, which occur in lenticular masses; some bands are often as thin as a sheet of paper, whilst others widen out to considerable dimensions. One band measured 70 feet across and outcropped for over a quarter of a mile, but varied in thickness in different parts. There were similar bands parallel to it and equally persistent along the strike. Just under the Western summit of Mount Hale the quartzite is replaced by a great bed of hematite, several huge monoliths of which stand out prominently on the range. This hematite can be followed along the range to a point just South of the summit of Mount Matthew. A partial analysis of a sample of this bed yielded, in the Official Laboratory, the following in parts per hundred:—

Ferric oxide, Fe <sub>2</sub> O <sub>3</sub>	...	...	...	...	94.05 per cent.
Ferrous oxide, FeO	...	...	...	...	0.97 "

The outcrop of a bed of ironstone forms a conspicuous feature on the surface at the foot of the Mount Narryer Range. The bed, which is vertical, attains a thickness of eight or nine feet, and rises about two feet above the ground.

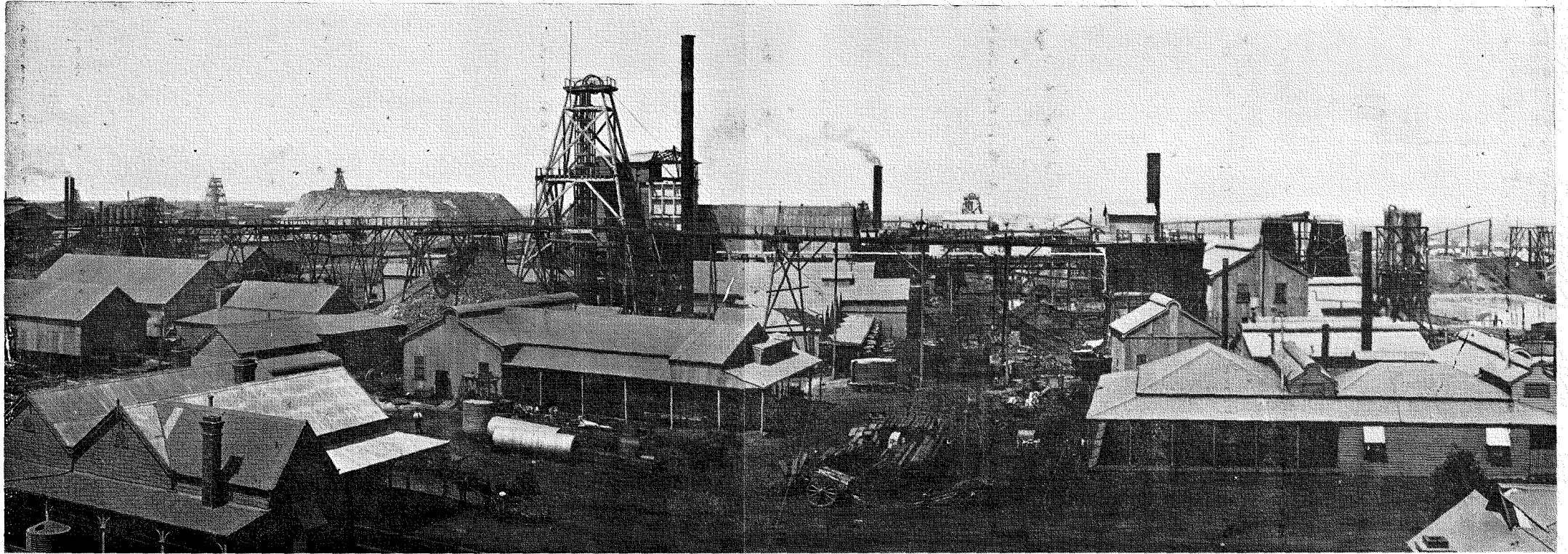


PHOTO LENT BY "WESTERN MAIL."

**GOLDEN HORSESHOE ESTATES COMPANY, LTD., KALGOORLIE.**

*(East Coolgardie Goldfield.)*

The following are complete analyses by Dr. F. S. Earp, in the Official Laboratory, of two ores of this description:—

	No. 338, Mount Narryer.	No. 342, Mount Hale.
Water, H <sub>2</sub> O, etc. ... ..	4·82	1·08
Alumina, Al <sub>2</sub> O <sub>3</sub> ... ..	·60	·94
Manganese sesquioxide, Mn <sub>2</sub> O <sub>3</sub> ... ..	Trace	·55
Iron peroxide ... ..	82·07	92·66
Iron protoxide, FeO ... ..	Trace	·97
Lime, CaO ... ..	3·32	·11
Magnesia, MgO ... ..	Nil	·55
Titanium dioxide, TiO <sub>2</sub> ... ..	·53	1·09
Silica, SiO <sub>2</sub> ... ..	9·33	3·14
Sulphuric anhydride, SO <sub>3</sub> ... ..	·32	·09
Phosphoric anhydride, P <sub>2</sub> O <sub>5</sub> ... ..	Trace	·17
	100·99	101·35

In the Weld Range, at the head of Roderick River, is the Wilgie Myah, said to be one of the richest iron lodes in the world.\* This deposit was worked by the natives before the white invasion of Western Australia, and the ore (used as war paint) was traded for great distances. It has been opened up by them to a depth of over 100 feet, and at the bottom of the excavation to a width of 50 yards. The deposit is a banded hematite, the soft, red clayey bands being those to which the natives only devoted any attention. An official analysis of the massive hematite variety of the deposit yielded 61·91 per cent. of metallic iron, and the hard, red Wilgie gave 34·17 per cent. of iron. A deposit of the enormous size of the Wilgie Myah from 150 to 200 feet in width naturally varies in its chemical composition, but at the time this deposit was visited in 1900, it was not found possible to adequately sample the whole width of the lode.

The following table shows the results of the assays of the iron-bearing schists as made in the Departmental Laboratory:—

*Assays of Iron-bearing Schists.*

Locality.	Description.	Metallic Iron.	Silica.	Water hydroscopic.	Water combined.
		per cent.	per cent.	per cent.	per cent.
Mt. No Name, Peak Hill ...	Banded limonite ...	50·33	7·30	·38	11·45
Munara Hills, Murchison ...	Massive hematite ...	63·7	?	?	?
Mt. Hale, Murchison ...	Do. ...	65·62	<i>Vide</i>	analysis	above.
Wilgie Myah, Murchison ...	Do. ...	61·91	1·13	·13	3·97
Do. do. ...	Hard red "Wilgi" ...	34·17	21·93	1·11	11·51
Wiluna, East Murchison ...	Argillaceous limonite ...	35·5	?	?	?
Mt. Narryer, North-West ...	Hematite quartz schist ...	57·45	<i>Vide</i>	analysis	above.
Mt. Jackson, Yilgarn ...	Fibrous limonite ...	60·20	1·62	·39	14·79
Bardoc, Broad Arrow ...	Siliceous hematite ...	55·5	?	?	?
Pinyalling Range, Yalgoo ...	Massive hematite † ...	66·55	·91		

† Also Phosphoric Anhydride, P<sub>2</sub>O<sub>5</sub>, '13.  
Sulphuric Anhydride, SO<sub>3</sub>, '24.

Deposits of very pure magnetite have been found in the ferruginous dyke-rocks of the Darling Ranges, at Serpentine and the Collie Rivers. Similar deposits exist in the neighbourhood of Ravens-thorpe, Phillips River, but their extent is at present unknown. A recent analysis of the Magnetite ore, from a locality 12 miles north of Collie, yielded at the hands of the assayer—

Metallic iron ... ..	52·87 per cent.
Silica, SiO <sub>2</sub> ... ..	·45 "
Titanium dioxide, TiO <sub>2</sub> ... ..	14·13 "

The following table shows the position of the Murchison deposits with reference to the nearest coalfield on the Irwin River, and the means of transport thereto:—

Deposit.	Distance from nearest sea-port by rail and road.	Distance from railway line.	Distance to nearest coalfield by road and rail.
Mt. Hale ... ..	362 miles, Geraldton ...	100 miles, Cue... ..	441 miles, Irwin River
Mt. Narryer ... ..	362 " " ... ..	100 " " ... ..	441 " "
Wilgie Myah ... ..	312 " " ... ..	50 " " ... ..	391 " "

(b.) The superficial deposits comprise the Laterite ores and the Bog Iron ores. The Laterite ores, together with the gravel resulting from their denudation, are the most widely distributed ores in the State; they vary very much in their composition. The ores are most largely developed on the tops of hills or ranges; in depth they pass gradually, without any distinct line of demarcation, into the rock upon which they lie. These deposits owe their origin to the concentration of the ferric oxide by the action of atmospheric changes. Nowhere do any of these ores attain any great thickness. The ores of this class have been principally used for fluxing purposes, to which end 45,772 tons have been raised up to the end of 1901.

\* H. P. Woodward. The Murchison Goldfield. Perth: By Authority, 1893, p. 20.

The following table gives the results of the assays of the laterite ores as made in the Official Laboratory by Mr. E. S. Simpson :—

*Assays of Laterite Iron Ores.*

Locality.	Description of Ore.	Metallic Iron.	Silica.	Water (hygroscopic).	Water (combined).
Mt. Baker, South-West	Nodular laterite	51·33	4·44	P	P
Do. do.	do.	50·54	5·49	P	P
Darling Range, South-West	do.	34·73	19·44	P	P
Do. do.	do.	45·00	9·88	P	P
Do. do.	do.	41·60	11·33	P	P
Do. do.	do.	59·63	1·59	P	P
Do. do.	do.	52·57	?	P	P
Serpentine	do.	29·95	9·71	·81	14·26
Greenbushes	Turgite nodule	62·47	?	P	P
Do. do.	Laterite	52·43	(1·52)*	P	P
Do. do.	Loose pebbles from laterite	38·88	(23·26)*	P	P
Murrin Murrin, Mt. Margaret	Compact ironstone	52·55	2·55	·57	9·00
Kalgoorlie, East Coolgardie	Dark, slightly cellular laterite	57·63	1·53	·52	8·10
Do. do.	Mottled laterite	47·42	4·07	·63	10·84
Coolgardie, Coolgardie	Cellular laterite	25·13	?	P	P

\* Total insoluble matter.

The ores of this type already worked all occur either close to or at no great distance from the Railway Line.

The Bog Iron ores consist of soft porous deposits of hydrated oxide of iron: these occur at different points along the Southern and Western Coast Line. Up to the present, however, deposits of this class have not been exploited.

Two samples, only, of this class of ore have been examined, with the following results:—

*Assays of Bog Iron Ores.*

	2582 Herdsman's Lake.	2341 Wanneroo.
Water lost at 100°	3·17	...
Water and organic matter lost at a red heat	11·93	...
Metallic iron	51·75	48·61
Silica	2·82	8·52

The following table shows the production of Iron Ore in Western Australia up to the end of August, 1902 :—

*The Production of Iron Ore in Western Australia.*

Year.	Locality.	Ore raised.	Estimated value.	Remarks.
Previous } to 1899 }	West Pilbarra	100·00	300·00	Used as a flux
1899	Clackline	1,540·00	1,071·00	
1899	Coate's Siding	4,712·00	3,277·00	
1899	Greenbushes	2,000·00	1,391·00	
1899	Werribee	4,600·00	3,200·00	
1900	Avon	12,251·00	9,258·00	
1901	Avon	9,972·00	6,983·00	
1901	Greenbushes	2,725·00	2,086·00	
1901	Clackline	7,422·00	3,930·00	
1901	Boulder	450·00	247·00	
1902	State generally	4,800·00	2,040·00	
	Total	50,572·00	33,783·00	

*Coal for Smelting Purposes: Collie River Field.*—The only coalfield at present opened up in the State to any extent is the Collie River Field. The coalfield embraces an area of about 50 square miles, and is connected by rail with the main railway system of the State. A considerable number of workable seams have been proved by mining and boring to exist in the basin. All these seams are practically identical in character, being hydrous, non-caking, bituminous coals, varying noticeably in the proportion of ash present. The inability of the coal to yield coke, and the fragility, low calorific value, and relatively high percentage of ash, prohibits its use in smelting.

*Irwin River.*—The Irwin Coalfield is embraced by the area drained by the eastern branches of the Irwin River. The field, however, has not yet been sufficiently explored to pronounce any definite opinion as to whether any coal suitable for smelting purposes is likely to be discovered. The area covered by the coal-bearing series, however, is very great. Having in view the delimitation of the geological area of the coalfield, two bores were put down by the Government at Dongarra and Yardarino, but, owing to an



accident to the boring rods, operations were stopped in both cases without having unequivocally reached the base of the Coal Measures.

*Gascoyne River.*—Undoubted Carboniferous Rocks being known to exist on the Gascoyne River, the possibility of the occurrence of commercial coals associated therewith is apparent. In view of the utility of such in connection with the exploitation of the Murchison iron ores, the Government are putting down a bore on the coast at Carnarvon. This bore has now attained the depth of over 2,000ft.,\* and, after piercing a considerable thickness of Tertiary Rocks, entered the Carboniferous Series at about 1,200 feet. The bore is now in progress, and it is contemplated continuing it until the base of the formation has been unequivocally reached, when the question of the occurrence of coal seams will be definitely settled.

*Summary.*—The ores of iron are very widely distributed in Western Australia. The deposits of the Murchison stand out prominently before any of the others yet reported upon, but, owing to their geographical position, they are practically valueless under present conditions. Although practically neglected at present, they are destined to form a very important State asset. No detailed geological surveys of any of the Murchison deposits having yet been made, an approximate estimate of the minimum quantities of ore in sight in any one of these deposits cannot be made. No coal suitable for smelting has yet been found in the State.

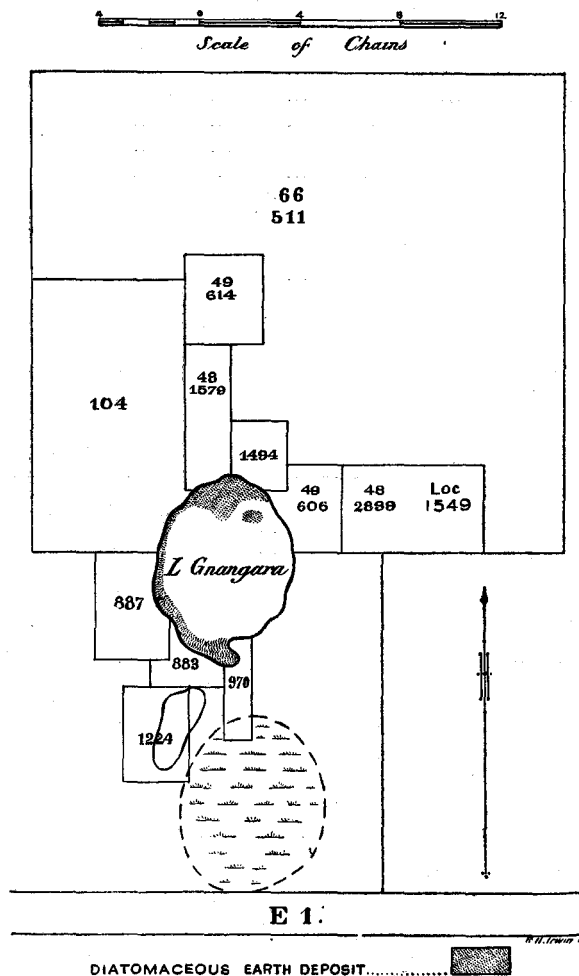
**Diatomaceous Earth, Wanneroo.**—The discovery of an extensive deposit of Diatomaceous earth at Lake Gnangara, in the Wanneroo district, formed the subject of the following report by Mr. Simpson:—

“The first sample of this material was sent to the laboratory, through the medium of the Hon. the Minister for Mines, by Mr. W. B. Gordon, M.L.A. It was marked “clay,” and a report was desired as to its value and possible applications. It has been partly calcined, and a preliminary examination revealed its extreme lightness, and also that it was composed mainly of silica (78·26%), alumina (9·44%), and water. This pointed to the probability of the material being a silicious infusorial earth, and a subsequent examination proved that it was composed almost entirely of the skeletons of the minute algæ known as Diatoms, and of equally minute fresh-water sponges (*Spongilla*).

Through the courtesy of Mr. Gordon and Mr. McLeod, the owners of the land adjacent to the main deposit, I have been able to inspect the deposit *in situ*. It occupies the northern and western edges of Lake Gnangara, a permanent fresh-water lake eleven miles due north from Perth, and about four miles north-east of Wanneroo.

**PLAN OF  
LAKE GNANGARRA — SWAN DISTRICT**

SHEWING PROBABLE EXTENT OF DIATOMACEOUS EARTH DEPOSIT



\* On the 8th of June, 1903, the depth reached was 2,611 feet.

At the time of my visit (October, 1902), the main deposit was found to form a quaking bog, with a smooth surface starting immediately at the foot of the sandy banks on the north-eastern shore of the lake at a height of a few inches above water level, and sloping gradually towards the lake, beneath the surface of which it passes. The whole deposit is covered with a scanty growth of reeds, and, from all appearances, is still in process of formation. Opposite blocks 48/1579 and 10/357 these reed beds are seen to extend out into the lake for about 10 chains, and may be taken as a rough indication of the extent of the deposit. On the shore side it passes under the sand banks for some little distance, as evidenced by the quaking nature of the latter close to the lake on the north side.

Towards the east the reed beds gradually become narrowed, and finally disappear near the boundary of blocks 10/357 and 49/606, where they give place to a beach of fine, white sand, mixed with small pebbles of dried diatom-earth. Towards the west, also, the deposit narrows, but does not disappear altogether, continuing as a narrow edging to the lake, more or less obscured by drift sand, etc., all along the west side and possibly also (judging by the reeds) the extreme south side.

It was found that for a few yards from the shore on the north side the deposit had dried sufficiently on the surface to support the weight of a man, though not that of a horse or other beast. The surface quaked considerably with each step, and was composed of moist earth, dark brown in colour, and somewhat sun-cracked, on the top of which were scattered small, dry flakes of the same earth, almost white in colour. These latter floated readily when thrown into water. The earth could be easily dug out with a spade in large blocks, resembling sticky, dark-brown clay, the hole subsequently filling in with water. By means of a short pole, a hard bottom was felt in one place at a depth of five feet; in other places bottom was not reached at that depth.

It was impossible to visit the south-western corner of the lake, where the reeds widen out somewhat; whilst the existence of any notable quantity of the earth along the western shore is more or less hypothetical. Owing to the deposit dipping under water at a short distance from the shore on the northern side, the extent southwards of this, the main deposit, can only be conjectured. Assuming it to have an area of at least 15 acres, with an average depth of five feet, there would be about 75,000 cubic yards of the moist earth available. This would yield (as shown by experiment) 45,000 cubic yards of calcined earth, weighing, roughly, 8,000 tons.

The deposit is saturated with water, and very rich in organic matter. When dug up and exposed to the sun and air, it dries to a tenaceous mass of a dirty white colour on the outside and a light brown within. In this condition it floats readily on water, and, on being thrown into a fire, will smoulder until all organic matter is burnt out of it, leaving an extremely porous mass, which is somewhat tender to handle. During air-drying and calcination, a shrinkage occurs from 100 volumes of crude wet earth to 66 in the first process, and still further to 60 in the second.

The following is the analysis of the partly calcined earth submitted by Mr. Gordon:—

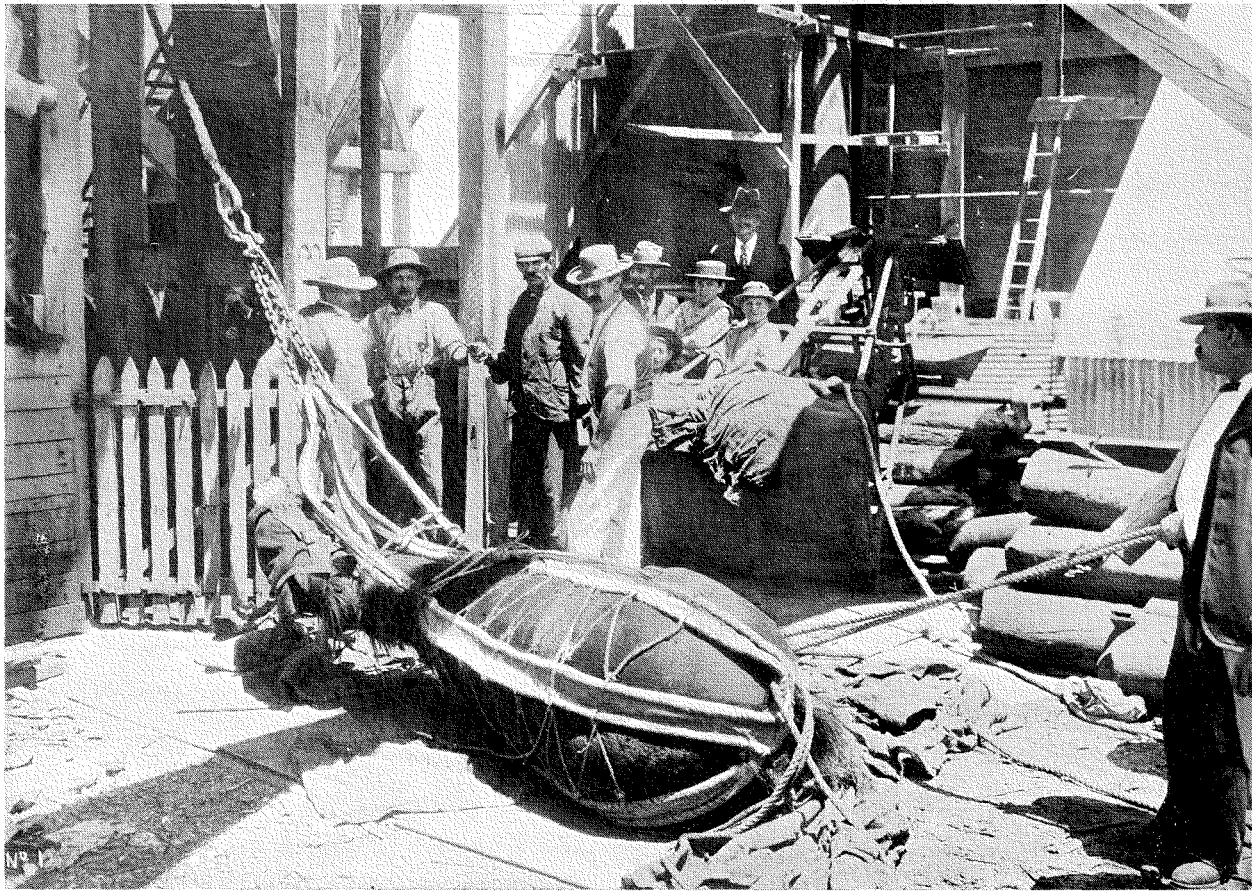
Water and Organic Matter lost at 100°	...	...	5.63	per cent.
Water and Organic Matter lost on ignition	...	...	16.69	"
Silica, SiO <sub>2</sub>	...	...	67.72	"
Alumina, Al <sub>2</sub> O <sub>3</sub>	...	...	9.98	"
Iron protoxide, FeO	...	...	Trace	
Lime, CaO	...	...	.22	"
Magnesia, MgO	...	...	Trace	
			100.24	

Silica in calcined earth ... .. 86.91 per cent.

Several samples of the crude earth were collected by myself at Lake Gngara, and the following results were obtained from an examination of a sample from about 12 inches below the surface of the deposit on the north side of the lake. The detailed analysis was made on the air-dried sample, and the other analyses calculated therefrom.

Analysis.	Crude wet.	Air-dried.	Calcined.
	per cent.	per cent.	per cent.
Moisture and organic lost on air drying	77.88	<i>Nil</i>	<i>Nil</i>
" " " at 100°	2.48	11.20	<i>Nil</i>
" " " on ignition	7.93	35.79	<i>Nil</i>
Silica, SiO <sub>2</sub>	10.89	49.08	92.96
Alumina, Al <sub>2</sub> O <sub>3</sub>	.78	3.51	6.65
Iron protoxide, FeO	Trace	Trace	Trace
Lime, CaO	.03	.16	.30
Magnesia, MgO	.01	.05	.09
	100.00	99.79	100.00
Bulk specific gravity	1.145	.383	.232
Relative change in weight	100.0	22.1	12.2
Relative change in bulk	100.0	66.1	60.2

Under the microscope, the earth is seen to be composed of a felted mass of siliceous spicules, in which are embedded numerous diatom frustules, of perfect form. They belong mainly to the groups of Naviculæ and Eunotieæ, a very large species of Pinnularia being especially noticeable. The genus Bacillaria, which is said to yield the best dynamite, is apparently entirely absent.



LOWERING A HORSE DOWN THE GOLDEN HORSESHOE G.M., KALGOORLIE.

Diatom-earth (called also infusorial earth, diatomaceous earth, tripoli and kieselguhr) has been put to a great many uses, owing to its lightness, its abrasive power, its great absorbent power, and its low conductivity for heat. Foremost of its uses is that of an absorbent for nitro-glycerine, the resulting mixture being known as dynamite. The Wanneroo earth would not appear to be well suited for this purpose, owing to the high percentage of alumina in it, and also owing to the forms of the diatoms present in it. It is eminently suited for the manufacture of disinfectants by the absorption of phenol, etc., as well as for lining cold storage rooms, and railway wagons, and as an ingredient for refrigerating paint. Owing to the extremely small percentage of iron and other mineral impurity present, it would be an excellent source of silica for the manufacture of soluble and other glass. It could be used as an ingredient of metal-polishing powders and soaps. For all these purposes it would require to be calcined and crushed."

**The Reputed Petroliferous Deposits of the Warren and the Donnelly Rivers.**—Considerable attention having been directed to the reputed occurrence of petroleum in the country drained by the lower reaches of the Warren and the Donnelly Rivers, it has been considered desirable, owing to the fact that the conditions governing the occurrence of petroleum depend upon considerations of geological structure, that an examination of the locality should be made with a view of determining how far the conditions prevailing on the Warren and the Donnelly had any bearing on the future of the district.

The structure of the country drained by the Warren and the Donnelly is of extreme simplicity, as can be seen by a reference to the two sketch sections, on a later page, which may be regarded as typical of the country in this district.

A large quantity of bitumen is reported to be washed up and left by the receding waves all along the South Coast of the State, but more especially in that portion between Cape Leeuwin and Point D'Entrecasteaux, into which the Warren and the Donnelly Rivers empty themselves.\* No trace, however, was seen by me of asphalt anywhere along the beach. Somewhat similar material has been reported as being found on the beach at many different localities round the shore of the Great Australian Bight. These fragments are washed up from sources at present unknown.

The formations exposed consist of:—

- (a.) *Superficial deposits*, comprising sand dunes, alluvial deposits, etc.
- (b.) *Basaltic lavas*.
- (c.) A series of *sandstones, grits, clay shales, and coal seams*, and
- (d.) *Crystalline rocks*, which form the floor upon which the other formations were laid down.

**The Warren River.**—The Warren River flows over the hilly country, composed of crystalline rocks, until within a short distance of the coast, when it eats its way gradually to the sea through the sand dunes and peaty swamps which extend for about five miles from the coast.

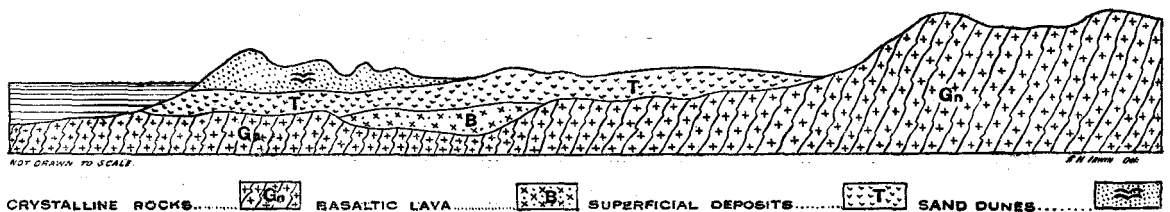
Emerging from the somewhat constricted valley in the hills, the river is flanked on either side by variable width of alluvial deposits. The full thickness of the deposits was not exposed in any single section. In several localities, within a mile or two of the coast, the section in the river exposes at one or two places a deposit of cement, discoloured by vegetable matter—in reality a carbonaceous sandstone. The cement, which rests upon a floor of clay of somewhat variable character, is of not great thickness.

It having been pointed out that this cement yielded mineral oil to such an extent as to warrant its being designated "petroleum rock," two analyses were made in the Departmental Laboratory of the deposit, without any trace of petroleum or asphalt (oxidised petroleum residue) being obtained. It, of course, is conceivable, from the fact that the deposit is exposed at the surface, coupled with the relatively high temperature prevailing during the summer months, that some at any rate of any oil stored therein might evaporate; any such loss would be comparatively insignificant.

The underlying peaty clay ("bituminous clay") also yielded, on analyses in the Departmental Laboratory, no trace of either petroleum or asphalt. Neither of the two deposits can in any sense be regarded as petroliferous.

The local discolouration of the sea in the vicinity has been held to be due to the escape of petroleum from those portions of the rocks which pass beneath the ocean. Owing to the state of the weather it was impossible for me to collect any of the yellowish scum appearing at intervals for analysis, but everything points to the fact that it merely owes its origin to the decomposition of seaweed and the like.

The crystalline rocks make their appearance on the beach beneath the sand hills at high-water mark, some distance to the North of Black Head, which lies to the South of the Warren River. There is every geological reason for believing that they extend Northwards and pass at a relatively shallow depth beneath that portion of the district drained by the lower reaches of Meerup Brook and the Warren River.



**GENERALISED SECTION DOWN THE WARREN RIVER.**

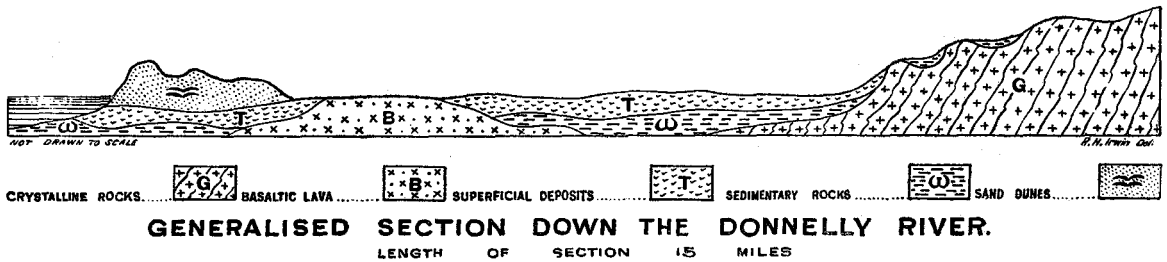
LENGTH OF SECTION 10 MILES

\* H. P. Woodward. The South-Western portion of the Colony. Annual Report of the Department of Mines for the year 1894. Perth: By Authority, 1895, p. 9.

Owing to the fact that there are no data which will enable an idea to be formed as to the shape of the surface upon which the superficial accumulations rest, it is impossible to form any precise idea as to the actual thickness of the cover which conceals the underlying crystalline rocks and basaltic lavas; that, however, it cannot be relatively great, would appear obvious from an inspection of the ground. In close proximity to the beach, however, near the mouth of the river, the deposits would naturally be expected to be of a greater thickness than further up the valley.

*The Donnelly River.*—The country between the Warren and the Donnelly Rivers is of identical geological constitution to that exposed in the valley of the former.

The basaltic lava, however, rises to the surface a little to the North of Silver Mount, at a point about midway between the two rivers, and again makes its appearance in great force in that bold headland known as Black Head, some distance to the North of the mouth of the Donnelly.



On the tributaries of the Donnelly River, a series of sandstones, grits, and clay shales, together with one or two coal seams, are exposed. This series of strata is coterminous with that which occupies the country between the Donnelly and the Vasse. In the neighbourhood of Busselton these strata have been pierced by means of six bores, the deepest being 656 feet, at which depth the floor of granite and gneiss was encountered. At Newton, near Busselton, the base of the series was 329 feet from the surface, at which depth gneissic rocks were encountered. In these bores brown coals of variable thickness were met with in every case.

On Fly Brook, a tributary of the Donnelly, boring and shaft sinking was carried out some years ago, and a series of strata identical with that of the Vasse was encountered; seams of brown coal were met with at shallow depths, but in no case does it appear that any petroleum was encountered. The strata on Fly Brook reach a fairly considerable altitude, and have been laid down in irregular hollows of variable extent, on the surface of the underlying crystalline rocks. Owing to the configuration of the country, sections of those rocks are rarely exposed in the watercourses. Towards the coast these strata pass beneath the sand dunes, which effectually conceals them from view. There, however, is no evidence by which their thickness can even be conjectured, though all the available evidence points to the fact that these superficial deposits attain a greater thickness than in the Warren.

In the light of our knowledge of the geological structure of the valleys of the Warren and the Donnelly, it may be reasonably doubted whether the district can in any sense be regarded as being petroleum-bearing. No petroleum has been discovered in the district, nor does its geological structure seem to conform to that which regulates the occurrence of oil elsewhere.

There is nothing clearer, from all the evidence at present available, that the country is unlikely to rise to any importance as an oil-producing district.

Since this report was written, three bores have been put down in the neighbourhood, and, according to the bore journals supplied to the Government, they prove incontestably that the deposits in the valley of the Warren reach a much greater thickness than had been anticipated. The following are the details of the strata passed through in the bores, as supplied by the owners of the property:—

#### No. 1 BORE.

Nature of Strata.	Thickness.	Depth
	feet.	feet.
Sand and black mud ... ..	49	0
Basalt ... ..	32	49
Total ... ..	81	81

#### No. 2 BORE.

Nature of Strata.	Thickness.	Depth.
	feet.	feet.
Sand ... ..	504	0
Total ... ..	504	504

No core available, the boring being through loose sand.

## NO. 3 BORE.

Nature of Strata according to Bore Journal.	Thickness.	Depth.
	feet.	feet.
Incoherent sand	80	0
Black clay, interspersed with seams of sand	20	80
Quartz pebbles	10	100
Incoherent sand	52	110
Basalt, partly decomposed	21	162
Shale and brown coal	2	183
Bitumenous sandstone	10	185
Brown coal, with particles of ashes, mud, pumice, etc.	10	195
Decomposed graphite	Thin seam only (?)	205
Scoriæ from pyrites, sand, mica, clay, artesian flow, fresh water, graphite, and small quantity of gas	60	205
Quartz pebbles and iron pyrites	2	265
Decomposed basalt; gas	18	267
Hard basalt; no water	30	285
Calcite	(?) 2	315
Black mud, apparently bitumenous, volcanic matter, and black mud	5	317
Sand, charcoal, and decomposed basalt	9	322
Brown shale, pieces of basalt, iron pyrites, anthracitised matter	9	331
Quartz pebbles	1	340
Pumice, mica, etc.; graphite	8	341
Artesian flow, salt water, sand, scoriæ, ashes, coal particles, graphite	21	349
Apparent cement material of nature of lye, with graphite	(?) 1	370
Dry sand	106	371
Quicksand	25	477
Clay, with sand and shale	10	502
Sand, with garnets and mica (coal particles at 555ft.; slightly saline water at 565ft.)	78	512
Alternating fine and coarse calcareous sandstone, coherent where fine, incoherent where coarse; slight flow fresh artesian water, and fine particles of anthracite below 690ft.	140	590
Calcareous sandstone, fresh artesian water, gas, particles of coal, anthracitised lignite, fireclay, and fossils	(?) 3	730
Fine-grained sandstone, not hard enough to core	27	733
Sand	10	760
Alternating light grey and brown sand	20	770
Sand, with traces of shells, fossils, and anthracitised lignite, at about 820ft.	70	790
Fine-grained calcareous sandstone	40	860
Fine-grained calcareous sandstone, gradually altering in colour from light to dark yellow; coarse grained; not hard enough to core	17	900
Total	917	917

N.B.—The figures are taken from a tracing of the bore section, and as the thickness of the strata are not given in figures in every case on the tracing, they have been scaled off. The tracing appears to be only approximately drawn to scale, hence the figures of the strata given in this table may not be in every case absolutely correct.

A series of samples have been submitted to me from time to time by the Company, and the following is a description thereof:—

Nature of Strata.	Depth.
Micaceous shale, with plant remains	Between 195-205 feet.
Débris of black sandy shale	322
Sand with fragments of dark shale	Between 492-503
Micaceous and somewhat sandy shale, and portion of a core of grit or quartzite	„ 503-572
Débris of clay shale	505
Coarse angular sand of quartz, felspar, a little mica, pale garnets (?) and fragments of pyritous shale	Between 550-570
Fine angular sand of quartz, felspar, and mica	„ 571-597
Fine angular sand of quartz, felspar, mica, and pale garnets (?)	„ 640-652
Angular sand of quartz, felspar, mica, with a few pale garnets (?)	„ 652-705
Coarse angular sand of clear transparent quartz and white felspar	„ 705-720
Fine angular sand of quartz, felspar, and a little mica	„ 720-722

In addition to the above, there are amongst the material submitted—

- (a.) Fragments marked "portion of core from lower flow of basalt."
- (b.) A tin containing fragments of a quartz sand cemented by carbonaceous matter, such as is found in many of the coastal swamps.

These two samples have no distinctive labels; hence it is not quite clear whether they were obtained from No. 3 bore, from which the other specimens have been derived.

Cue.—Having received instructions to visit Cue in connection with an application to carry out some diamond drilling in the district, Mr. Campbell, Assistant Geologist, was employed to collect the necessary geological data bearing on the question. Owing to the nature of the application, it became

necessary to examine a very large extent of country, which embraced an area of about 10 miles in length by about 6 in breadth.

A plan has been made by Mr. Campbell, with the object of throwing light on the proposal for prospecting the reefs at a depth. This plan shows the position and extent of all the reefs of the district, and, wherever possible, the amount and direction of their underlie.

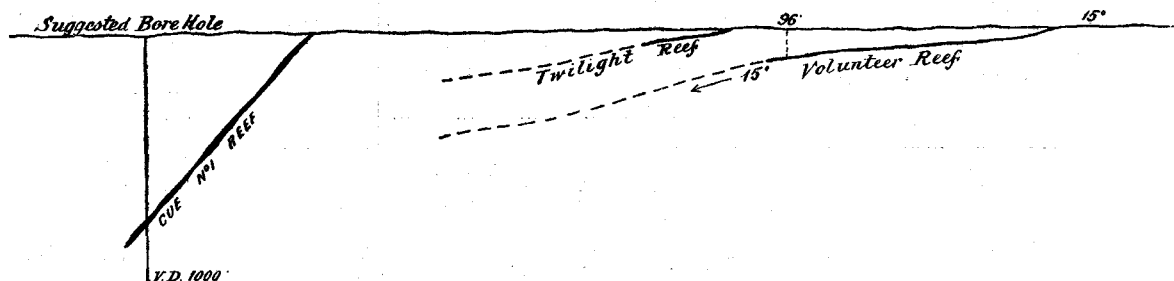
In the year 1897 I visited Cue at a time when enterprise seemed to be on the wane, and the returns showed signs of falling off. It was then pointed out in an official report\* that—"The Cue district in its geological structure is identical with that of the other productive goldfields in Australia and elsewhere, " . . . . . There is no falling off in the supply of ore available for crushing in the district as a whole, " although there are local variations in the dimensions of the reefs in almost every case. . . . . " So far, the reefs have shown themselves to be well defined fissure veins, in some cases, of large size, and, as such, are likely to be as persistent in depth as anything in the nature of reefs ever can be. Local fluctuations in the gold yield per ton are, of course, only to be expected in the future, but there are no scientific grounds for believing that such large and well-defined reefs as those at Cue have, on the whole, " shown themselves to be, will not prove equally productive when followed to greater depths." This condition of affairs still obtains.

The reefs of Cue and Day Dawn are arranged along certain well-defined lines, which have been delineated on the plan, and their assumed continuity indicated.

After giving careful consideration to the whole question, it was recommended that (bearing in mind the general considerations which should determine the granting of State aid in this direction) the best assistance that could be rendered would be by means of a bore put down to the West of the Volunteer leases, just North of the township of Cue, at such a distance as would enable the drill to intersect the reefs at from 800 to 1000ft.

Over this area there are certain well-defined and persistent parallel reefs which all underlie generally to the Westward. The Volunteer and the Twilight reefs both underlie to the Westward at an angle of 15° from the horizontal. The Cue One reef, which outcrops some distance to the West, underlies in a similar direction at an angle of from 50° to 60°.

A bore put down at a point about five chains East of the North-East corner of G.M.L. 217 would demonstrate the relation which may be called the horizontal reefs bear to the highly inclined. In such a bore the Cue One Reef, its present strike being measured, should be met with at about 800 feet from the surface. The Twilight Reef, if continuous, unless cut off by that last mentioned, should be met with at about 500 or 600 feet, and the Volunteer at about 300 feet lower down.



#### SECTION SHEWING THE POSITION OF THE VOLUNTEER . TWILIGHT AND CUE N<sup>o</sup>1 REEFS.

In view of the fact that any boring carried out would confer a direct benefit upon the holders of the leased land adjoining, it was further suggested that a contribution on their part, on a basis to be mutually arranged, would not be unreasonable.

The Warden provisionally reserved such an area as would include the ground operated upon.

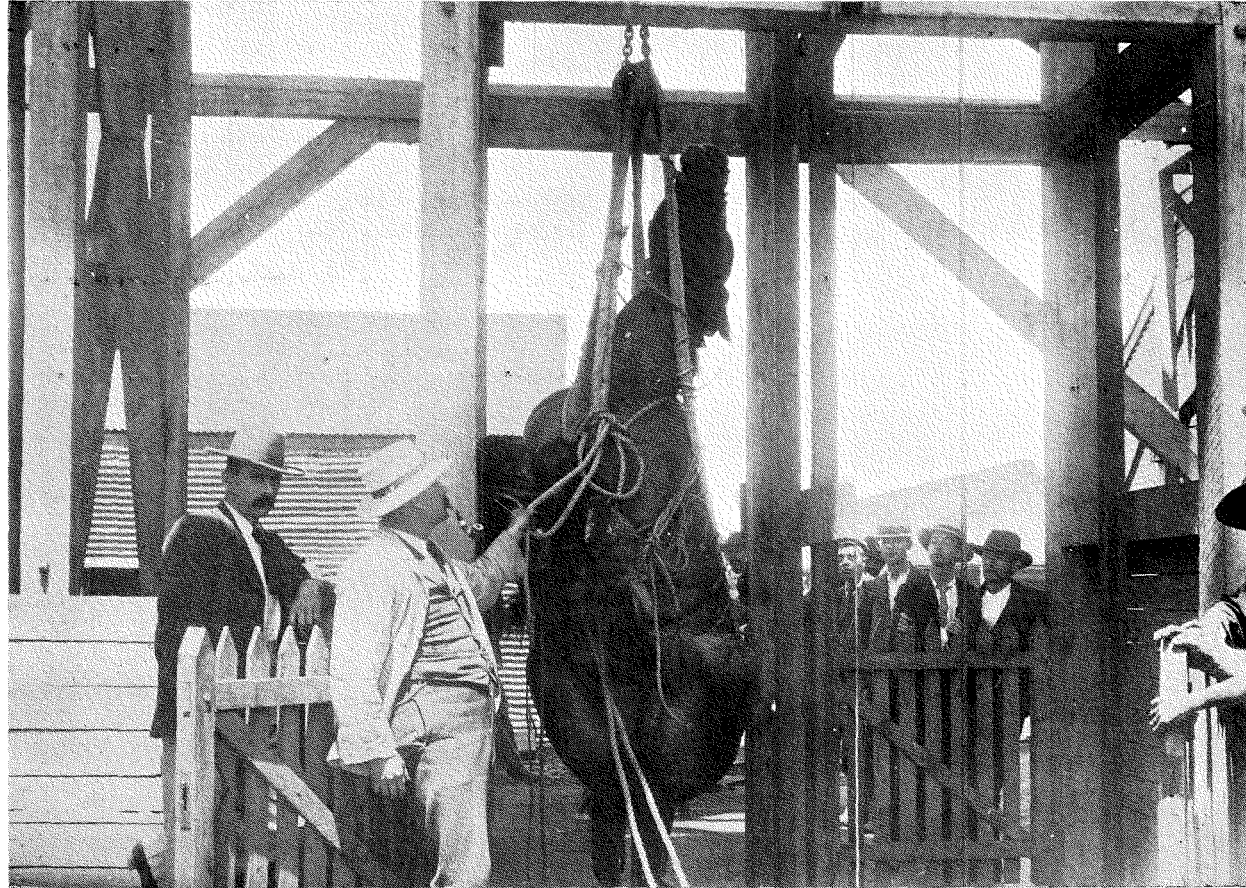
**Lennonville, Boogardie, and Mt. Magnet.**—During the year a short visit was paid to Lennonville, with the object of investigating its mineral resources.

It was found that the auriferous deposits were of two distinct types—viz., white quartz reefs and banded quartz or jasper veins (which in some cases proved to be exceptionally ferruginous), approaching very closely the banded hematite-bearing quartzites, which form such a conspicuous feature in some portions of the Murchison. The white quartz reefs present all the characteristics common to deposits of this nature; they are of later formation than the banded quartz veins, for in many cases they intersect the latter. These laminated quartz veins form the principal feature of the district, and, so far as they have at present been worked, have proved to be rich in gold, though it cannot be said that they have had that prospecting which their importance warrants.

The two types of deposits bidding fair to become of economic importance, it seemed that the greatest assistance the Department could render to private enterprise in the district would be in the direction of mapping these formations, in the hope of furnishing a reliable guide for the conduct of the operations of the prospector and the mining engineer.

From an examination of the Lennonville district, it was found that the ore deposits exhibited a remarkable parallelism, having a general North and South trend. They were found to sweep across country, with scarcely any interruption, for about four miles, and to extend both North and South far beyond the limits of the inspection.

\* Cue Water Supply for Crushing Purposes. Perth: By Authority, 1897, p. 6.



LOWERING A HORSE DOWN THE GOLDEN HORSESHOE G.M., KALGOORLIE.



A map, embracing an area extending from  $11\frac{1}{2}$  miles North, three and a-half miles South, two and a half miles West, and one mile East from the Lennonville Post Office, embodying the results of this work, was issued to the public in the month of September.

It was deemed desirable that the Southern extension of these deposits in the direction of Mount Magnet and Boogardie should be mapped and reported upon; this work was entrusted to Mr. Gibson. The area embraced by his labours extended over about 36 square miles. Upon the map, which is now being prepared for the lithographer, there are shown all shafts, alluvial workings, existing leases, the strike and underlie of all the reef and ore bodies, in addition to the geological boundaries, so far as they can be followed.

The main auriferous series is enclosed in a belt of more or less highly altered greenstones, which extend in a general Northerly direction from West Mount Magnet, through Moyagee, and as far North as Lake Austin and the town of Cue. The belt attains a maximum width of about 15 miles. This belt is composed of rocks, for which the term Greenstone has been provisionally adopted, and includes diorite, pyroxenite, together with hornblendic and chloritic schists, which may merely represent the crushed or plated out variety of the former, induced by shearing. Owing to the paucity of natural sections, it has been found impossible to distinguish on the map, or even trace out the field, the relative area occupied by each, and further, mining operations have not been carried sufficiently far to afford much assistance in this direction. The Greenstones are intersected by numerous faults, and are also traversed by belts of laminated quartzites (cherts?), often highly ferruginous, which rise up from the surrounding country in the form of low ridges.

The Greenstones are bounded on either side by belts of Granite, from which small tongues of aplite emanate. In many portions of the district there are dykes of granite intersecting the greenstone. The foliation of the greenstone seems to have taken place prior to the intrusion by the granite.

The laminated quartzites (cherts?), which are exclusively confined to the greenstones, are of two distinct varieties, viz., the hematite-bearing, the purely silicious type; the former predominates in the neighbourhood of Boogardie, whilst the silicious type is more prominent at Lennonville. The deposits of the Lennonville type are practically vertical, and forms belts varying from two to four chains in width. They invariably carry gold, but not always in payable quantities; they are, however, traversed by numerous rich chutes, which are being worked with satisfactory results.

The deposits of the Boogardie type differ somewhat from those of Lennonville in that, at any depth yet attained, they prove to be more compact, and are in some places exceptionally magnetic, rendering work with a compass well nigh impossible. They are traversed by numerous faults, the mapping of which is of considerable importance from a mining point of view, in that it is along these lines that the rich chutes of gold for which the district is noted occur. The bulk of the gold has been found to occur in rich chutes where the faults intersect the quartzites. Wherever seen, these faults cross the strike of the quartzite at right angles, and as the latter are generally only about from 30 to 60 feet in width, it necessarily follows that the width of the chutes is small; they are never found to continue into the country rock in either wall. The fault fissures are invariably filled with brecciated quartzite, recemented with chalcedone quartz, and traversed by small angular quartz veins. The fissures vary from three to six feet in width.

The quartzites (cherts?) appear to have been old fault lines, or shear zones, along which thermal solutions carrying iron, silica, etc., have found their way to the surface.

The quartz reefs occur plentifully in both the granite and the Greenstone, though, as a rule, it is only those close to the Greenstone which have proved to be auriferous to any extent. The chutes in these reefs are short, but frequently rich. It is interesting to note that these quartz reefs often form the continuation of the faults by which the laminated quartzites (cherts?) are intersected.

So far as observations have at present been carried, these auriferous deposits of Boogardie bear a remarkable resemblance to those of Peak Hill and the Horseshoe. It is highly desirable, in the interests of the State, in view of the light conferred by the recent work in the Mount Magnet District, that when opportunity offers the Northern extension of this belt should be geologically examined with the view of showing its relation to the deposits of Nannine, Meekathara, and other districts in the North Murchison District.

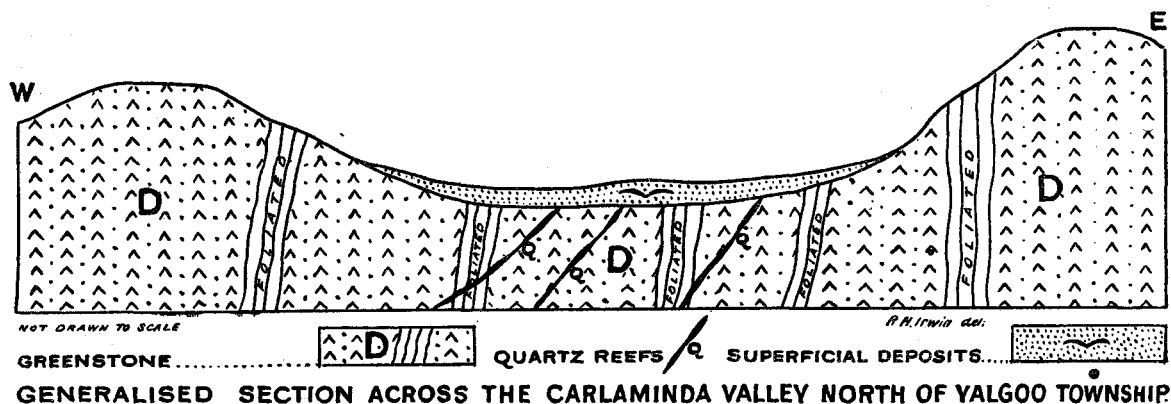
The map and report on the Boogardie-District will be shortly available to the public.

**Yalgoo.**—In accordance with instructions, I visited Yalgoo on my return from the Murchison, for the purpose of reporting upon the alluvial deposits in the more immediate vicinity of the Township.

The Township of Yalgoo lies in a broad valley, flanked on either side by low ranges composed of amphibolite rock, which seems to be the staple formation of the district. It is in this valley that deep alluvial ground has been held to exist. The valley is drained by a small watercourse, which carries all the water Southwards. The broad expanse of the valley is covered with a variable thickness of superficial deposits, some of which are partially cemented into solid rock. The dam at the Railway Reserve shows the nature of the "cement."

The Public Battery water shaft is reported to have met with "alluvial wash" in a drive which had been put in from the bottom, but no gold was apparently obtained. I visited the site of the shaft, which is at present inaccessible. From what can be seen at the present time, it would seem that the sinking was through (below a few feet of superficial deposits) decomposed amphibolite of the type prevailing in the district. There is no evidence as to the existence of "deep alluvial" in the shaft. I incline to the belief that the "wash" encountered in the drive is nothing more than a belt of decomposed fault rock containing rounded and sub-angular fragments of the surrounding rocks. In many places along the flat in the valley the country rock is exposed at the surface. This, coupled with the evidence

derived from such of the sections as are open to inspection, would make it appear that no deep alluvial deposits exist in the Carlaminda Valley. The generalised section herewith shows the structure of the Carlaminda Valley:—



While in Yalgoo the opportunity was taken to examine the various workings on the Emerald Reef, which yielded such sensational returns in the early days of the field. About 4,000ozs. of gold were obtained from a flat or boat-shaped reef, about 100 feet in length, and 10 feet in width and depth. Since the flat reef has been worked out a good deal of prospecting work has been done in the hope of finding the continuation thereof, but so far without any success. A fairly well-defined fissure has been proved to extend along what may be called the outcrop of the reef, which has a trend of North-East and South-West. The Emerald Reef is hemmed in, as it were, between two comparatively barren belts of foliated greenstone, separated by either a line of fault or joint, which is fairly persistent to the North-East and South-West. The deposit seems to be neither more nor less than a network of irregular veins, embraced within certain well defined limits, parallel to the general strike of the reef. The known phenomenal richness of the surface would seem to me to encourage the prosecution of more judicious prospecting than has been up to the present carried out. No attempt would seem to me so far to have been made to seriously test the possible continuity of the reef at a depth.

In addition to this, Carlaminda was visited, but as most of the properties had long been abandoned, or otherwise inaccessible, description thereof is impossible. So far as could be seen the reefs were remarkably persistent in their strike, and all had a steep underlie to the West. The quartz, judging by that lying on the various dumps, was of an exceptionally glassy nature, and, in places, contained small though appreciable quantities of the green and blue carbonates of copper, together with a little limonite.

A visit was also paid to the almost deserted township of Melville, where similar conditions prevailed.

To the South of the old Gold Mining Lease 94 three men were engaged in dryblowing, but with what success I was unable to learn. In the vicinity of this locality were several quartz and jasper veins, identical in character with those occurring at the Horseshoe, Peak Hill, the Weld Ranges, Lennonville, and elsewhere on the Murchison. The judicious prospecting of these should lead to the discovery of rich ore chutes here as elsewhere.

I was guided by Mr. Howie, of Yalgoo, to the gullies west of Melville, which appeared to have been extensively worked in the early days for alluvial deposits. These deposits, however, did not attain any thickness. The occurrence of deep leads anywhere in these gullies is not to be expected.

**Paddington and Broad Arrow.**—The residents of Paddington and Broad Arrow, through the medium of the Town Clerk of the two Municipalities, approached the Government for assistance in boring for either lodes or alluvial deposits, at the same time agreeing to pay one-half of the expense. In accordance with an official request the local authorities delineated upon a plan those places which, in their eyes, seemed to merit especial attention, and for which aid was required, it being held that the discovery of fresh deposits would tend to establish confidence in the future of the district, and encourage the systematic exploration of the deeper ground.

Having received instructions to visit Paddington and Broad Arrow in connection with the application, the Assistant Geologist, Mr. Gibson, was employed to collect the necessary geological data bearing on the question.

The mining centres of Broad Arrow and Paddington are, in their geological features, identical with those of Bardoc, with which the various formations are coterminous. The gold produced from Broad Arrow and Paddington has been derived from two distinct sources, viz., the superficial deposits and the lode formations or quartz reefs: these having yielded, up to the end of 1901, 57,199·13ozs. of gold by the crushing of 68,815·13 tons of ore, being at the rate of ·83ozs. per ton. At the time the district was visited very little mining was going on, and most of the properties were abandoned, or otherwise inaccessible. Abandonment of a mining district, however, does not necessarily mean that the locality is worked out; and, further, strangulation of lodes or reefs is not a proof of limited extent in depth, but a necessary consequence of their mode of origin. The auriferous belt of Paddington and Broad Arrow is confined to a comparatively narrow strip of country a little over a mile in width, and is practically coincident with the area over which the country rock has suffered the greatest amount of movement. The reefs and formations are all practically parallel, and trend generally North-West and South-East. These, as far as can be seen on the surface, have a considerable longitudinal extent, being, however, cleavage veins they are liable to pinch out at any time, but will make again. Most of the numerous workings being

inaccessible, I was unable, by ocular demonstration, to form any idea as to their behaviour or nature underground. The element of chance in the discovery of reefs is unusually prominent in such capricious deposits as those along cleavage or shear planes.

The superficial deposits of Broad Arrow and Paddington cover a great extent of ground, and consist for the most part of the rocks decomposed *in situ*.

The proposal made to the government by the Municipalities embraced four areas in which it was held that alluvial deposits were likely to occur, and which should be prospected, and two which would seem to afford the best chances of success in respect to boring for reefs.

The Northernmost of the alluvial areas lay in a broad valley, flanked on either side by low hills of amphibolite, and was covered with a small thickness of superficial deposits. Several shafts have been put down on the flanks of the valley and expose nothing but amphibolite; one or two shafts have been sunk in the depression of the valley, and expose little else than rock decomposed *in situ*, overlaid by a foot or two of loam. From all the evidence available it does not appear at all likely that the cover can be more than 20 or 30 feet thick.

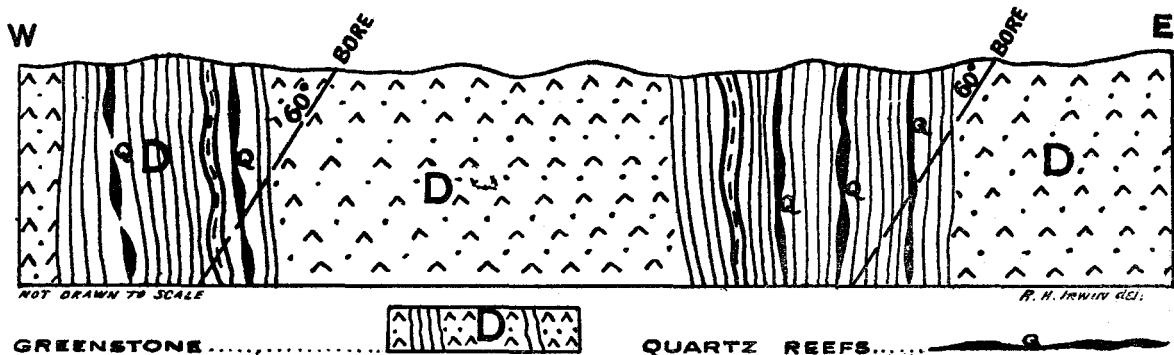
The next area lay in a low broad valley between the Explosives Reserve (4101) and the Railway Line; this had been exhaustively tested by several shafts, which were abandoned and inaccessible. From what could be seen in the dumps the sinking had been through the ubiquitous superficial deposits and the decomposed slaty rocks which, in many cases, weather in the direction of kaolin. In the dumps of one or two shafts were large boulders of a quartzose cement, so characteristic of certain of the claims near the head of the North Lead, Kanowna.

A little further to the Westward of this area is the head of the wide valley embracing the third tract of country pointed out by the Municipalities. This valley trends Southwards, and from its physical conformation would seem hardly likely to contain any material thickness of alluvium. The floor of the valley is underlaid by amphibolite and its decomposition products. Several shafts have been sunk, and they show that the bed of the valley is concealed by merely a foot or two of superficial deposits. There would seem to be little probability of any deep alluvial ground being found to the north of the Cemetery.

Another suggested possible alluvial area lay to the West of Paddington; the surface of the ground is covered with a thin mantle of superficial deposits. Near the northern end of the area one or two shafts of shallow depth show that the cover nowhere exceeds a few feet. It would, therefore, be hardly probable to expect any development of deep alluvial ground in this area.

A considerable portion of what may be called the Smithfield Area has been dryblown, but with what result there appears to be no record. The slaty country rock (and its decomposition products) rises practically to the surface, and is concealed by a few inches only of superficial *débris*. Several shafts have been sunken in the area, but they all bore signs of having been for a long time abandoned. Judging by the material lying in the various dumps, it would seem that only small quartz leaders had been worked. The prospect of any deep alluvial ground over this area is remote.

The most northerly area selected by the Municipalities lies between the township of Windanya and Paddington, and is about two miles long and half a mile broad. The ground is traversed, however, by several persistent lines of reef, all of which are roughly parallel to one another. The mode of occurrence of these deposits is shown in the following generalised section:—



**GENERALISED SECTION SHEWING THE SUGGESTED BORE SITES N<sup>o</sup> BROAD ARROW**

From a careful inspection of the district, and such evidence as was available, it appeared that (a.) the chances of discovering payable deep alluvial deposits are remote, and the search for such would be in the nature of "blind stabbing"; (b.) the greatest service which could be rendered to the district would be in the direction of testing the nature, character, and continuity of the lodes at a depth. It was suggested that the ground shown in the section above be tested by two bore holes located in such a position as would intersect the deposits at such a depth as would be attained in 500 feet of boring in each hole. To intersect any of the deposits in the required depth of boring, the hole would have to be inclined at an angle of about 60° from the horizontal.

**Queen Margaret Gold Mining Co., Ltd., Bulong.**—The Queen Margaret Gold Mining Company of Bulong has made application to the Government for assistance towards prospecting the as yet untested ground to the East of the present workings, at a depth of 600 feet from the surface.

It was proposed to do this by penetrating the country from the face of the eastern crosscut for a distance of 1,000 feet, in the hope that other lodes parallel to those already worked on the property of the Company may be found.

In accordance with instructions, a personal inspection of the property of the Queen Margaret Company was made. Owing to the nature of the application it was found unnecessary to devote much time to a detailed examination of the existing workings, attention being principally directed to that portion of the country which would be explored by the present operations, with the view of ascertaining whether there were any reasonable geological grounds for believing that the ground might be likely to develop further reefs.

The geological constitution of the neighbourhood consists of graphitic and talcose schists, breccias and quartzites, associated with igneous rocks of somewhat obscure origin (diabase?). That a considerable amount of *boná fide* work has been done upon the Company's property may be seen by an inspection of the mine plans.

There are two distinct lodes—the Queen Margaret and the Eastern Lode—upon the property, both of which have been worked. These have been opened up by means of two shafts for a length along the strike of about 1,400 feet as shown by the plan. The deepest workings have been carried down to a vertical depth of about 700 feet from the surface. From the 600 feet level a crosscut has been driven to the East for a distance of 1,320 feet from the shaft. The crosscut has been carried through a considerable thickness of graphitic and talcose slates and schists, dipping at an angle of 50 to the West, intersected by diabase and certain other igneous rocks of doubtful origin. These rocks are traversed by certain parallel fissures, two of which have proved to be ore channels containing gold in such quantities as to render them worth working.

Some considerable distance to the East of the Queen Margaret, a parallel lode—the Great Oversight—has been worked along its outcrop, and has proved to be extremely rich in places. In its mode of occurrence the ore deposit of the Great Oversight is practically identical with that of the Queen Margaret.

The mode of formation of fractures which prove to be ore channels is such as to produce more or less parallel fissures of variable extent, and that such a condition obtains in the ground under consideration is evidenced by the section exposed in the crosscut and the workings to the East.

The surface of the ground between the two lodes, the Queen Margaret and the Great Oversight, contains quantities of quartz fragments of such a nature as indicate that they have resulted from the disintegration of rock *in situ*, in which case it would not be at all unreasonable to expect that the strata beneath would be traversed by similar quartz veins, some of which might possibly be of workable dimensions.

In view of all the evidence available, there are no grounds for believing that the unexplored country between the face of the Eastern crosscut and the Great Oversight cannot be traversed by further ore channels parallel to those already opened up, but whether any such would prove to be payable could only be determined by practical work.

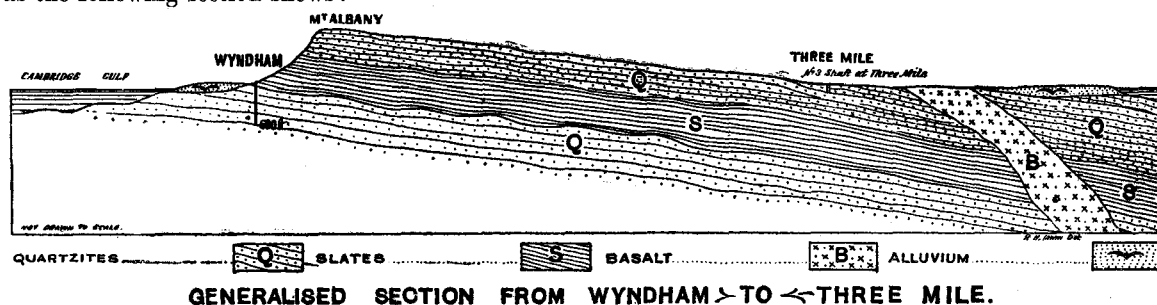
On the grounds that the discovery of lodes in the country to the East of the face of the long crosscut would tend to encourage prospecting at greater depths than those at present obtaining in the more immediate vicinity, I am of opinion that the request of the Queen Margaret Gold Mining Company for a subsidy might very reasonably be granted. Such subsidy should be given on the basis of pound for pound, but contingent upon satisfactory answers being given to queries put to the local Inspector of Mines as to the method in which the mine has hitherto been worked. The Government would be involved in a liability of about £500 to enable the amount of boring, viz., 1,000 feet, to be carried out. In order to enable the greatest amount of virgin ground to be tested in the 1,000 feet of boring, it will be necessary to incline the hole at an angle of from 20° to 30° from the horizon.

To minimise the possibility of undue advantage being conferred upon the lessees at the expense of the general public, I am of opinion that a reserve of some extent should be created to cover the site of the bore.

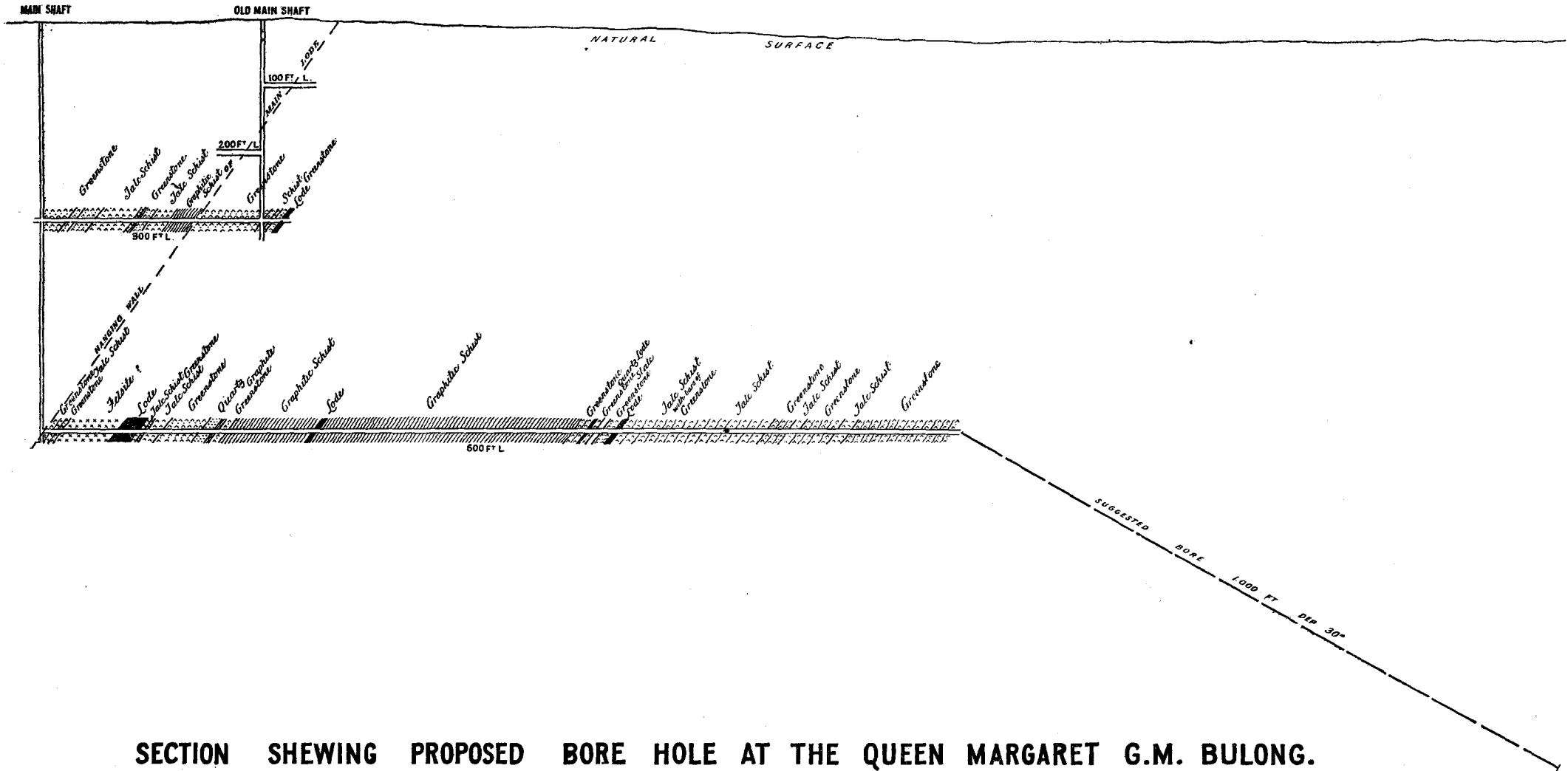
#### WATER SUPPLY.

During the year the advice of the Department was sought in the matter of the geological conditions affecting the water supply of different portions of the State.

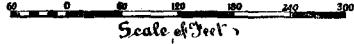
**Wyndham.**—In considering the question of the water supply of Wyndham, from the geological standpoint, it is merely necessary to ascertain whether the structure of the country renders it probable that an abundant supply of potable water will be found. The geology of the Wyndham district is simple, as the following section shows:—



A very large portion of the district consists of a plain of a considerable extent covered with deposits of estuarine origin. The staple formation, however, is made up of a great series of quartzites, sandstones, fine conglomerates, shales, and igneous rocks; these sedimentary beds are disposed in a series of broad anticlinal folds.



SECTION SHEWING PROPOSED BORE HOLE AT THE QUEEN MARGARET G.M. BULONG.



P.H. LEWIN del.



HYDRAULIC SLUICING PLANT, COOLGARDIE.

*(Coolgardie Goldfield.)*

The superficial deposits, owing to their mode of origin, contain more or less salt; hence there is no reasonable prospect of any fresh water being obtained by wells deriving their supply from them.

The quartzites and associated rocks, being practically incapable of absorbing and transmitting water through their component granules, hold out no chance of obtaining an artesian supply.

The Northern face of the Bastion Range, at the foot of which the town of Wyndham lies, exposes a section of the sedimentary beds, in which several wells have been sunk, the most important well being that at the Gaol, which attained a depth of 96 feet. From the bottom of the well, boring carried it down to a depth of 690 feet below the surface. After passing through 156 feet of clay shales (and their decomposition products) the drill entered a series of quartzites with thin shaley bands, which continue without interruption to the depth at which operations ceased. This well is reported to yield 1,600 gallons of water per diem in a dry season. There appears, however, to be no information available as to the depth from which this supply is drawn. The clay shales exposed in this well form the base of those outcropping in the Cattle Road in the Range. About 50 or 60 feet above this well another has been put down, and by means of above a fair supply of good water was obtained from a depth of about 40 feet below the surface. The water rose and remained stationary at 15 feet in the bore. This water evidently finds its origin in one of those numerous fissures by which the strata are traversed.

The prevailing dips of the strata being (as may be seen by the Geological Section) towards the South-East, the mass of the water absorbed would be conveyed in that direction towards the Three-Mile and the Southern face of the Bastion Range.

There is a mass of basalt penetrating the rocks of the Bastion Range, which extends without interruption from the Three-Mile as far as the Twenty-Mile; the result of this intrusion being that any water received on the Northern face of the Range, and percolating down the dips, would be checked by this wall of impervious rock, behind which it would tend to accumulate until the water is thrown out by springs.

The well at the Three-Mile is being carried down through the quartzites exposed in the escapement of the Bastion Range, and, if carried deep enough, should penetrate the underlying shales which are seen to be outcropping in the Cattle Road from the wharf of the Three Mile.

The shales are essentially non-water bearing, and any water which they are capable of absorbing and transmitting is that which percolates along the bedding planes, joints, etc. Such being the prevailing geological conditions the Three-Mile Well can hardly be expected to supply more than a limited quantity of water, and it is very doubtful whether such a supply would be independent of the seasons.

None of the wells of the Wyndham district, with one exception, supply really good water, nor is there sufficient prospect of making any material improvement in either quantity or quality to justify any heavy expenditure or sinking deep wells.

Under the circumstances Wyndham will have to depend (failing the success of the Three-Mile Well and that on the face of the range) upon surface conservation.

Owing to the jointed nature of the rocks of the neighbourhood, efficient steps will have to be taken to prevent the possibility of serious leakage from any reservoir or dam. The exact nature of these precautions is a matter for an engineer rather than a geologist.

**Metropolitan and Suburban Water Supply.**—In the month of September the Royal Commission on the Metropolitan and Suburban Water Supply and Sewerage approached the Department with the object of obtaining a geological report on the probability of obtaining a continuous supply of water from artesian sources within the Metropolitan Area. From the information supplied by the Chairman it appeared that the quantity of water desired to be provided for was five million gallons per diem, and information was especially desired as to whether the supply could be augmented by going deeper than the sources supplied by the bores now existing within the Metropolitan Area, and also as to whether water to be obtained from such greater depths would be likely to be chemically purer or not than that drawn from the present bores.

*Geological Conditions.*—The consideration of the probability or otherwise of obtaining a continuous supply of water from artesian sources within the Metropolitan Area is pretty much a matter of geological investigation and mapping. Something has been done in this direction, and though the work has been carried out in a restricted way over a comparatively small area, yet sufficient has been accomplished to determine the question at issue.

The map\* herewith shows the broader geological features of the neighbourhood, in so far as they have any bearing on the question. The area defined on the attached map by a bold red line marks the boundary of the crystalline rocks and the strata of the Coastal Plain.

It is from the strata of the Coastal Plain that the supply of artesian water has been obtained.

The strata of the Coastal Plain consist for the most part of shallow water deposits, very little consolidated, which were deposited during the various periods of elevation and depression to which this plain was subjected. These strata consist of sandstones, conglomerates and thin shales, with occasional incoherent sands and clays (? marls). These beds are overlain by æolian drifts, partially consolidated by the action of rainwater.

As will be seen by the transverse and longitudinal sections \* (upon which have been plotted the geological data obtained from the records of the bores put down during the last few years) the

\* It has not been deemed necessary to reproduce this map and sections.

structure of the Coastal Plain differs in some respects from the typical areas in which artesian water has been obtained in the Eastern portion of Australia. The strata of the Coastal Plain are horizontal or nearly so; being at the most inclined at a very slight angle seaward, which is, however, a little greater than the surface gradient. The effect of this disposition of the strata is shown by the fact that the water-carrying beds do not outcrop on the surface at the foot of the Darling Range, but impinge directly against that portion which is at present concealed from view. These layers, clays (? marls), sandstones with occasional limestones, do not maintain a uniform thickness throughout, but are disposed in the form of lenticular beds, some of which have a sponge-like capacity for absorbing water.

*Rainfall.*—The average rainfall of the Coastal Plain in the vicinity of the Swan and the Canning is over 30 inches per annum, a precipitation which is fairly considerable. The rainfall is disposed in three ways:—

- (a.) Evaporation.
- (b.) Surface "run off."
- (c.) Percolation.

It is the balance that is left after evaporation and "run off" which is available for absorption by the strata upon which the water falls, and is capable of being reached by wells. The data collected and tabulated by the Public Works Department with reference to the actual discharge of the Helena River shows that a good deal of water must disappear underground. These observations, made at two stations, one near Midland Junction and the other near Greenmount, and extend over the years 1899-1901. The westernmost locality is situated on the outcrop of the permeable strata of the Coastal Plain, and the other on the crystalline (or impermeable) rocks. The following table shows the rainfall and discharge at two stations on the Helena River:—

Station near Midland Junction (A).				Station near Greenmount (B).		
Year.	Mean rainfall.	Discharge of Helena River from catchment 10 sq. m.	Percentage of rainfall on catchment.	Mean rainfall.	Discharge of Helena River from catchment 40 sq. m.	Percentage of rainfall on catchment.
	inches.	gallons.	inches.	inches.	gallons.	inches.
1899 ...	29.49	338,933,885	7.915	33.50	1,653,501,850	8.498
1900 ...	36.99	1,210,242,300	22.533	41.29	5,408,127,410	22.552
1901 ...	31.37	596,500,000	13.096	33.57	2,615,000,000	13.412

From the figures recorded it can be shown that on the average about twenty-two thousand million gallons annually falling on the catchments of the two stations, does not reach these gauging weirs; in other words, allowing nothing for evaporation, there is a total possible absorption of a little over twenty-two thousand million gallons of water per annum.

The conditions which prevail over large areas of the Coastal Plain, as shown by the Geological Sketch Map of the Southern and Western Districts,† demonstrate that rivers of a much larger catchment discharge their drainage into the Plain. It is therefore only reasonable to assume that a large portion of the water from their catchments disappears beneath the surface and helps to feed the artesian reservoir below.

*Extent of boring operations.*—So far as the latest official statistics with reference to the extent of boring operations available show there are 19 artesian wells in the Metropolitan Area reaching an aggregate depth of 17,738 feet, yielding a total flow of 5,669,504 gallons per diem, which is equivalent to 2,069,368,960 gallons per annum. In addition to these there are three sub-artesian wells of an aggregate depth of 2,654 feet, from which 2,345,000 gallons of water can be pumped daily, or 855,925,000 gallons per annum. Two are in progress, viz., one at Garden Hill, Guildford, and the other at Claremont. The deepest well is at the Zoological Gardens, South Perth, which has attained a depth of 1,856 feet, and yields a daily flow of 372,384 gallons. The largest flow is that of the Guildford Municipal Bore, which is estimated at 1,120,000 gallons per day. Few observations seem to have been made as to the temperature of the water issuing from the bore holes, but up to the present the warmest is that of the Melville Park Estate, on the Canning, where the water issues with a temperature of 91° Fahrenheit.

*Variation in pressure and extent of supply.*—There does not appear to have been, as yet, any noticeable diminution in the supply of water from the bores in the Metropolitan Area. A lessening or even the cessation of flow would not of necessity indicate permanent exhaustion, for there is always a come-and-go, as it were, in the level of underground water. A diminished flow due to either: (a) lateral leakage, through superincumbent porous beds; or (b) the choking of the bore, due to "creep," which may affect such soft and plastic rocks as clays and clay shales, or such loose rocks as sand and half coherent sandstone; (c) the accumulation of sand and fine mud, or some mineral product; and (d) the wearing out of or defects in the piping, can be remedied by methods known to engineers. In the event of any constant draft upon the underground supply having any serious effect, there should be a distinct and marked diminution of the pressure, which constant observation alone could detect. So far as any of the official observations have at present been carried, it does not appear that any considerable diminution in static head has resulted. Obviously if the annual draft exceeds that which the water-bearing beds can absorb and transmit (for a good deal depends upon the rate at which the water can reach the well) a time will come when, after the water accumulated during long periods has been excessively drawn upon, the flow of water over the surface will diminish or possibly cease altogether. A

† Annual Progress Report of the Geological Survey for the year 1898. Plate III. Perth: By Authority, 1899.



decrease in the flow, due to the exhaustion of the head by a constant daily draft is irremediable; the possibility of such can be minimised by shutting off the water at such time as the supply is not required.

*Increasing the Supply.*—It is desired to provide a continuous daily supply of 5,000,000 gallons, to meet the public requirements. The present daily supply is 8,014,504 gallons drawn from 22 wells within the Metropolitan Area. To bring about an increase in the supply of water, it might be possible to enlarge the existing bores by reaming out to a larger diameter.

The records\* of the bores at present put down demonstrate that, with the possible exception of that at the Melville Park Estate, none have been carried deep enough to reach the crystalline rocks forming the floor upon which the strata of the Coastal Plain rest.

From all the available evidence it seems highly probable that other water-bearing horizons (perhaps of greater water-carrying capacity) than those at present known, exist beneath the Metropolitan Area; whether the water obtained from such deeper sources would be likely to be chemically purer than that drawn from the present bores is one of those questions to which a definite answer can hardly be given. The water which percolates beneath the surface dissolves the soluble constituents of the strata to an extent which appears to be in some measure dependent on the composition of the rock it traverses, the depth and the time it remains confined. As a rule artesian waters seem to be less chemically pure than surface waters, for the reason that the further they penetrate and the longer they remain embedded in the strata, the greater are the opportunities for solution. The first water that is drawn from an artesian well is naturally that which has been for a long time without any other means of escape, except the slow method of flow through the stratum in which it is confined. After the first draft upon the accumulated supply the amount which can be taken afterwards is governed by the rate at which the water can travel to the well from ever widening limits, and as such presumably would travel less slowly through the rock, it would be less likely to be so highly impregnated with impurities. Such conditions prevailing it would *primâ facie* appear that with a constant draft on the supply there would be a tendency to less mineralisation. Whether this possible reduction is of practical consequence is a matter of chemical investigation. Where water falls on and is absorbed by quartzose sandstone and allied rocks, and again reaches the surface without coming in contact with calcareous rocks, such would naturally be expected to be relatively free from mineral impurities.

In order to test the artesian possibility of the deeper ground, it would seem on purely geological grounds advisable to put down wells at relatively wide distances apart in order that a much larger area of water-bearing strata would be drawn upon. The distribution of the wells is a matter of considerable consequence, as the evidence adduced by the two bores at Hampton road, Fremantle, testifies. They were put down 142 feet apart.

In the event of experimental boring being undertaken, it would seem desirable to carry out the operations, subject to local modifications, along a line at right angles to the direction of the flow of underground water, or, in other words, parallel to the intake area, *i.e.*, the boundary between the strata of the Coastal Plain and the crystalline rocks.

**Winning Pool, Gascoyne River.**—The consideration of the question as to whether the rich pastoral lands lying between the Gascoyne and the Ashburton Rivers are capable of yielding artesian water is very much a matter of geological mapping. According to the information extant, it appears that the Lyndon River (on a branch of which Winning Pool is situated) practically drains the carboniferous mesozoic, and tertiary formations. These formations contain beds of such a nature as to readily absorb a large portion of the water which falls upon them, and the various members are so disposed that the lowest of the series crops out in the higher ground which forms the water-shed of the Minilya, the Lyndon, and the Henry Rivers. Owing, however, to the absence of more geological mapping than has at present been carried out to the north of the Lyons, it is impossible to pronounce any very definite opinion on the question of the possibility of the occurrence of artesian water at Winning Pool, beyond that it is within an area a portion of which may be considered favourable in so far as the possibility of the absorption of large quantities of water is considered. During my visit to the Gascoyne no opportunity of carrying my observations so far North presented itself, but from a knowledge of the structural relations of the various geological formations in the Valley of the Gascoyne, the Minilya, and the Lyndon, the impression left on my mind is that the position of Winning Pool is too near what may be called the catchment area to lead one to hope for any overflowing water.

The bore which is now being put down at Carnarvon, will, however, throw a flood of light upon the possibility of artesian water in the pastoral lands of the North-West, but until that is completed I am not of opinion that it would be wise at this stage to carry out any experimental boring so far North as Winning.

#### BORING.

The following details in connection with the various boring operations in the State were acquired during the year covered by this report.

**Carnarvon.**—In 1900\* reference was made to boring in the carboniferous rocks of the Gascoyne, with the object of definitely setting at rest the question of the occurrence of coal seams in the formation, as well as artesian water.

Boring operations were eventually started at Pelican Hill, near the coast, and work is at present in progress.

\* The Mineral Wealth of Western Australia, by A. Gibb Maitland. Geol. Surv. Bulletin No. 4, Chap. xi, pp. 129-143. Perth: By Authority, 1900.

The following is a section of the strata pierced:—

Formation.	Nature of Strata.	Thickness.		Depth.	
		ft.	in.	ft.	in.
Recent	Superficial deposits	38	0	0	0
	Soft limestone	2	0	38	0
	Soft ferruginous sandstone	29	0	40	0
	No record	7	0	69	0
	Compact limestone	49	0	76	0
	White clay	21	0	125	0
	Fossiliferous limestone	4	0	146	0
	No record	22	0	150	0
	Soft calcareous clay	28	0	172	0
	Soft calcareous sandstone	50	0	200	0
Tertiary ? Mesozoic ?	Soft calcareous clay	100	0	250	0
	Light blue calcareous clay	50	0	350	0
	Blue calcareous clay	150	0	400	0
	Light calcareous clay	50	0	550	0
	Blue calcareous clay	50	0	600	0
	White calcareous clay	50	0	650	0
	Soft calcareous clay	340	0	700	0
	Tough calcareous clay	10	0	1,040	0
	Soft grey calcareous clay	55	0	1,050	0
	Black pyritous shale	45	0	1,105	0
Carboniferous	Black shale	50	0	1,150	0
	Dark calcareous shale	38	0	1,200	0
	Hard calcareous clay	10	0	1,238	0
	Soft calcareous clay with veins of calcite	8	0	1,248	0
	No record	12	0	1,256	0
	Hard clay shale with small veins of calcite	2	0	1,268	0
	Hard clay shale	16	0	1,270	0
	Hard black shale	14	0	1,286	0
	Hard black shale and small nodules of calcite	30	0	1,300	0
	Hard black shale	27	0	1,330	0
Green sandstone	4	0	1,357	0	
Sand	45	0	1,361	0	
Shell limestone	32	0	1,406	0	
Dark clay shale	8	0	1,438	0	
Limestone and shell beds	50	0	1,446	0	
Black fossiliferous shale	50	0	1,496	0	
Dark calcareous shale with bands of hard limestone	100	0	1,546	0	
Shell beds	50	0	1,646	0	
Dark clay shales	50	0	1,696	0	
(Bore in progress.)					

The bore yielded an overflowing supply of water at the rate of 20,000 gallons per diem.

It is proposed to continue the bore until the base of the Carboniferous Formation has been reached if the tools employed will permit.†

**Fremantle Hampton Road Bore.**—During 1902 the cores obtained from the Hampton Road No. 2 bore were submitted to me for report. The following is a section of the strata pierced:—

Nature of Strata.	Thickness.		Depth.	
	ft.	in.	ft.	in.
Limestone	160	0	0	0
Hard sand (no sample)	1	0	160	0
Mudstone	196	0	161	0
Grey sand and gravel	41	0	357	0
Mudstone	32	0	398	0
Quartz gravel and sand (calcareous)	25	0	430	0
Very soft calcareous sandstone	38	0	455	0
Quartz gravel and boulders	55	0	493	0
Sandy mudstone	141	0	548	0
Hard calcareous grit	1	0	689	0
Sandy and calcareous mudstone	116	3	690	0
Hard grey limestone	0	9	806	3
Soft sandy mudstone	50	0	807	0
Hard mudstone and shell fragments	2	0	857	0
Soft sandy mudstone	20	0	959	0
Shaley mudstone	39	10	879	0
Hard mudstone cemented with carbonate of lime	1	8	918	10
Mudstone with shell fragments	50	11	920	6
Hard mudstone cemented with carbonate of lime	0	4	971	5
Mudstone with shell fragments	17	3	971	9
Granite boulder	0	3	989	0
Mudstone with shell fragments	77	9	989	3
Very hard fine-grained mudstone	1	0	1,067	0
Mudstone with shell fragments, also pyrites nodules, and boulders of granite and diorite	28	0	1,068	0
Coarse sand and mud (? soft sandy mudstone)	57	0	1,096	0
Quartz gravel and grey sand	12	0	1,155	0
Grey clay	7	0	1,165	0
Grey sandy clay	24	0	1,172	0
Grey clay shale	11	0	1,196	0
Yellow sand	115	0	1,207	0
Total	1,322	0	1,322	0

\* Annual Progress Report of the Geological Survey for the year 1900. Perth: By Authority, 1901, p. 27.

† On the 8th of June, 1903, the depth reached was 2,611 feet, and the water yielded about 300,000 gallons per diem.

The mouth of this bore is 68 feet above sea level; the principal water-bearing horizons are at 490 and 1,246 feet respectively. The static head of the water from the first horizon is 24.5 feet above sea level, and the second 110 feet. The supply of artesian water from 1,246 feet when allowed to flow uncontrolled is 120,000 gallons per day. A sub-artesian supply of 1,227,000 gallons per diem can be pumped from the 490 feet level.

**Northampton.**—In the year 1901 Messrs. Woodward and Lightly were commissioned to visit the Murchison district in connection with a proposal to erect State Smelting Works at Geraldton. As a result of their investigations it was recommended, *inter alia*, that a diamond drill be sent up to the district with a view of testing some of the lodes at a depth. Instructions were ultimately issued for the selection of sites for experimental boring to be continued on Crown Lands. A site was eventually selected at the Wheal Margaret Copper Mine. The lode is embraced within the limits of a number of abandoned leases, lying about one mile to the East of Northampton. The "Wheal Margaret" lode is said to have varied from seven inches to two feet in width of pretty rich ore. The lode was originally worked by five shafts, which were put down in close proximity in the central lease to a depth of 180ft. in the underlay, and the chute stoped out for a length of 200ft.

Boring operations commenced on the 12th of July, and were suspended on the 8th of October, after the drill had penetrated to a depth of 651ft. Operations commenced at a point about 257ft. from the outcrop, and boring was carried out at an inclination of about 59 degrees from the horizontal.

The bore proved unsuccessful; full details of the strata pierced are found in Pl. I. herewith. It is conceivable that what is shown in the bore record as fault rock (lode stuff?) occurring between 387 and 408 feet, may represent the Wheal Margaret lode, occurring along a line of fault; if so the drill pierced the deposit at a point where it happened to be poor. The total cost of the bore, including incidentals, etc., amounted to £807 16s. 5d.

The second bore was put down at the Old Cow Rock, at Narra Tarra, at an angle of 45 degrees. Operations were commenced on the 1st of November, 1902, and ceased on the 3rd February, 1903, having penetrated to a depth of 600ft. The drill passed through more or less decomposed granite at 83 and 90 feet, bands of decomposed rock, with a little copper sulphide, were passed through, and at 239ft. a small quartz leader, carrying a little galena and zinblendé, was met with. The bore-hole intersected no lode of any importance. Particulars of the strata pierced will be found on the plan attached, Pl. I. The total cost of this hole amounted to £635 18s. 11d.

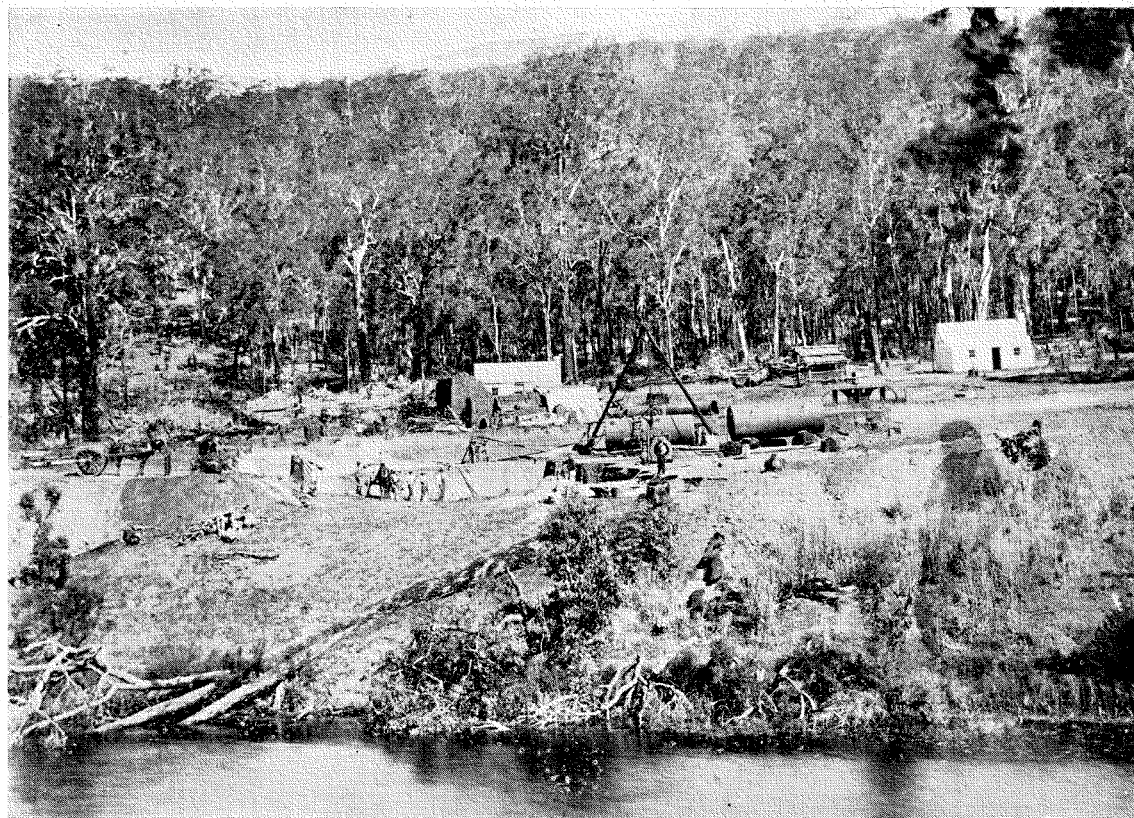
#### GENERAL.

The various members of the staff have, without exception, continued to discharge their respective duties with assiduity.

I have, etc.,

A. GIBB MAITLAND,

Government Geologist.



**THE PUMPING PLANT (IN COURSE OF CONSTRUCTION), GREENBUSHES TIN MINING  
AND WATER SUPPLY SYNDICATE.**

*(Blackwood River.)*

## DIVISION V.

Western



Australia.

## MINING STATISTICS TO 31ST DECEMBER, 1902.

## LETTER OF TRANSMITTAL.

Department of Mines,  
 Statist's Office,  
 Perth, 31st May, 1903.

*The Under Secretary for Mines.*

SIR,

I have the honour to transmit, for the information of the Honourable the Minister for Mines, statistics of the industry which came under his control and direction during the year ended 31st December, 1902.

## GOLD.

At the end of the year the nineteen goldfields of the State covered an area of 315,089 square miles, and the number of leases in force was 2,424, comprising 32,570 acres. The gold produced was 2,117,241 ounces, containing 1,819,308 ounces of fine gold, of a sterling value of £7,727,930, being an increase in value of £638,162 over that of the year 1901.

The average fineness of gold produced during the year was .8432, of a sterling value of £3 11s. 7 $\frac{3}{4}$ d. per ounce, or, taken to the nearest shilling for simplicity of calculation, £3 12s. 0d. per ounce—a falling off from the year 1901 of 1s. 3 $\frac{3}{4}$ d. an ounce.

The gross weight of gold bullion received at the Perth Branch of the Royal Mint, together with that exported, *upon which the gold output of the State is calculated*, was 2,177,441 ounces, equivalent to 1,871,037 ounces of fine gold, of a sterling value of £7,947,662.

## MINERALS OTHER THAN GOLD.

In addition to the nineteen goldfields there were four mining districts, having an area of 1,532 square miles, of which 34,739 acres, in 308 holdings, of various kinds, were leased. The produce was principally coal and tin, of a value of £125,971 sterling.

## MEN EMPLOYED.

The number of men employed above ground was 8,435, and underground 9,390. There were also 2,651 diggers, fossickers, and others engaged in *alluvial* pursuits.

## ACCIDENTS.

There were 151 accidents, in which 39 men were killed and 132 injured. The number of fatalities was six *less* than in the preceding year.

## MINING MACHINERY.

The estimated value of the mining machinery erected at the end of 1902 was £4,304,397, showing an increase of £280,622, over that of 1901.

## GENERAL.

A comparative return for the year of the value of the mineral production of the Commonwealth and New Zealand is appended.

Mineral Products.	Western Australia.	New South Wales.	Queensland.	Victoria.	Tasmania.	South Australia.	New Zealand.
	£	£	£	£	£	£	£
Gold ... ..	7,947,662	684,970	2,720,639	3,062,028	301,573	95,129	1,951,433
Other Minerals ...	146,955	4,557,372	589,961	221,980	1,196,710	481,245	1,270,189
Value, all Minerals	8,094,617	5,242,342	3,310,600	3,284,008	1,498,283	576,374	3,221,622

It will be seen that the first place is held by the State of Western Australia.

I have the honour to be,

Sir,

Your obedient servant,

JAMES WALLACE,

Statist.

# MINING STATISTICS

TO 31ST DECEMBER, 1902.

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<i>cy.</i>	Tailings.	<i>M.A.</i>	Machinery Area.
<i>con.</i>	Concentrates.	<i>T.A.</i>	Tailings Area.
<i>pl.</i>	Plates.	<i>W.R.</i>	Water Right.
¶	Extras (magnettings, skimmings, etc).	<i>Ftd.</i>	Forfeited.
<i>A.C.</i>	Alluvial Claim.	<i>Surr.</i>	Surrendered.
<i>Q.C.</i>	Quartz Claim.	<i>V.N.P.</i>	Void for non-payment of Rent.
<i>R.C.</i>	Reward Claim.	<i>Wdn.</i>	Withdrawn.
<i>M.L.</i>	Mineral Lease.	<i>Gf.</i>	Goldfield.
<i>P.P.L.</i>	Private Property Lease.	<i>D.</i>	District.
		<i>M.D.</i>	Mining District.





GENERAL VIEW, GREENBUSHES TIN SMELTING WORKS.

WESTERN AUSTRALIA.

SUMMARY OF MINERAL PRODUCTS.

GOLD and OTHER MINERALS produced during 1902, and the estimated Value thereof, together with a comparison for previous years, and the Total Production to date.

DESCRIPTION OF MINERAL.	1902.		1901.		1900.		1899.		PREVIOUS TO 1899.		TOTAL TO DATE.	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
		£		£		£		£		£		£
GOLD (Export and †Mint) ... ounces fine	1,871,037	7,947,662	1,708,417	7,235,653	1,414,311	6,007,611	1,470,605	6,246,732	2,408,970	10,232,654	8,868,340	37,670,312
BLACK TIN (Raised) ... statute tons	620	39,783	734	40,000	823	56,702	335	25,270	1,666	70,527	4,178	232,282
COPPER ORE (Raised) ... do	2,262	8,090	9,960	69,900	6,183	43,673	2,964	35,938	7,018	55,270	28,387	212,871
IRONSTONE (Raised) ... do	4,800	2,040	20,569	13,246	12,251	9,258	12,852	8,939	100	300	50,572	33,783
LEAD {	Ore (Export) ... do	...	...	...	27	242	16	96	33,601	364,418	33,644	364,756
	Silver Lead Ore (Raised) do	36	277	21	152	...	...	...	...	57	429	
	Pig (Export) ... do	...	...	...	...	...	77	1,077	607	12,229	684	13,306
SILVER (Export) ... ounces fine	83,293	9,190	60,869	7,609	28,749	3,594	...	...	...	...	172,911	20,393
ASBESTOS (Export) ... statute tons	...	...	...	...	...	...	‡	1	...	...	...	1
COAL (Raised) ... do	140,884	86,188	117,836	68,561	118,410	54,835	54,336	25,951	3,508	1,761	434,974	237,296
COBALT ORE (Export) ... do	2	41	...	...	...	...	...	...	...	...	2	41
LIMESTONE (Raised) ... do	5,080	1,340	18,210	4,348	15,927	3,594	17,593	2,838	...	...	56,810	12,120
MICA (Export) ... do	...	...	...	...	‡	3	‡	50	‡	241	...	294
PLUMBAGO ORE (Export) ... do	1	6	...	...	...	...	...	...	...	...	1	6
PRECIOUS STONES (Export) ... carats	...	...	‡	1,000	‡	24	...	...	...	...	...	1,024
TOTAL VALUES ...	...	£8,094,617	...	£7,440,469	...	£6,179,536	...	£6,346,892	...	£10,737,400	...	£38,798,914

† Since May, 1899.

‡ Weight not stated.

‡ 25 small diamonds raised, weight not stated.

## AUSTRALASIAN MINERAL PRODUCTION.

*COMPARATIVE TABLE showing the Output of all Mineral Products from the several States of Australia and the Colony of New Zealand during 1902.*

DESCRIPTION OF MINERAL.	WESTERN AUSTRALIA.		NEW SOUTH WALES.		QUEENSLAND.		VICTORIA.		TASMANIA.		*SOUTH AUSTRALIA.		NEW ZEALAND.	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
Gold ... .. ounces fine	1,871,037	£ 7,947,662	161,255	£ 684,970	640,492	£ 2,720,639	720,862	£ 3,062,028	70,996	£ 301,573	22,395	£ 95,129	459,406	£ 1,951,433
Copper ... .. statute tons			4,945	308,923	3,784	189,200			*†10,245	626,978	6,847	388,162		
Copper Ore ... .. do	2,262	8,090	3,850						5,994	65,270	2,720	44,363		
Lead ... .. do			4,611	47,658	267	2,706					2,175	22,303		
Manganese Ore ... .. do					4,600	16,989					18	62		
Platinum ... .. ounces fine			375	750										
Silver ... .. do	83,293	9,190	1,067,224	701,312	70,145								674,196	71,975
Silver Ore ... .. statute tons			365,646	1,440,179									1	1
Silver-Lead Ore ... .. do	36	277	15,413						46,480	218,864	2,680	19,740		
Tin ... .. do			445	53,706					1,958	237,828				
Black Tin ... .. do	620	39,783	23		2,085	116,171	10	500	181	5,162	127	6,078		
Wolfram ... .. do					55	1,167							*†39	1,200
Zinc Spelter ... .. do			1,261	10,625							19	286		
Antimony ... .. do			56	542										
Bismuth ... .. do			10	3,100	1	123								
Alunite ... .. do			3,644	10,932										
Coal ... .. do	140,884	86,188	5,942,011	2,206,598	501,531	172,286	225,164	155,850	48,863	41,533			*†1,322,702	741,759
Coke ... .. do			126,872	89,605										
Shale ... .. do			62,880	59,717									2,388	1,169
Cobalt Ore ... .. do	2	41	34	304										
Gypsum ... .. do							3,227	3,630						
Iron ... .. do			6,003	82,273									*†17	116
Iron Oxide ... .. do			188	395										
Ironstone ... .. do	4,800	2,040	13,555	10,690					2,386	1,075				
Lime ... .. do			20,054	16,018	4,743	3,672								
Limestone ... .. do	5,080	1,340	17,352	10,615										
Molybdenite ... .. do			15	1,841	*†41	5,502								
Plumbago Ore ... .. do	1	6												
Precious Stones ... .. carats				*†151,326		*†12,000								
Unenumerated ... ..				51,575				62,000			251			453,969
Total Values ...		8,094,617		5,242,342		3,310,600		3,284,008		1,498,283		576,374		3,221,622

\* Including Northern Territory. †† Diamonds, 11,995 cts., valued at £11,326, and opal valued at £140,000. ††† Includes some Bismuth and Wolfram. †††† Gems and opals. ††††† Blister Copper, 7,745 tons, valued at £576,866, and Copper Matte, 2,500 tons, valued at £50,112. †††††† Scheelite. ††††††† 805,046 tons bituminous coal, 25,245 tons pitch coal, 427,172 tons brown coal, 65,239 tons lignite. †††††††† Hematite ore.

PART I.—GOLD.

TABLE I.

MONTHLY GOLD PRODUCTION.

Return of Gold reported Monthly to the Mines Department from the respective Goldfields and Districts during 1902.

Goldfield.	District.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.
		ozs.	ozs.	ozs.	ozs.	ozs.	ozs.	ozs.	ozs.	ozs.	ozs.	ozs.	ozs.	ozs.
Kimberley ... ..	...	25'00	145'90	10'00	73'50	10'00	10'00	10'00	10'00	12'00	10'00	10'00	20'00	346'40
Pilbarra ... ..	Marble Bar	40'08	11'94	563'63	152'41	1,084'16	347'79	238'10	1,503'10	155'74	204'43	1,093'48	399'39	5,794'25
Do ... ..	Nullagine ...	398'33	375'49	612'34	240'78	325'45	706'85	507'14	708'90	352'44	420'24	954'31	773'94	6,376'21
West Pilbarra ...	...	6'70	3'58	35'43	6'56	324'68	58'60	593'12	152'32	389'13	176'37	459'02	17'58	2,223'09
Ashburton ... ..	...	73'00	60'00	65'00	...	120'00	260'00	110'00	80'00	80'00	...	130'00	...	978'00
Gascoyne ... ..	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Peak Hill ... ..	...	1,359'70	4,519'40	2,650'35	1,637'87	3,543'10	3,104'23	3,659'85	3,524'55	2,964'69	3,135'25	3,410'36	3,977'70	37,487'05
East Murchison ...	...	4,429'37	6,188'76	6,353'84	5,968'21	6,491'15	5,988'62	8,773'68	8,978'12	12,260'84	8,376'78	7,706'89	9,792'59	91,308'85
Murchison ... ..	Cue ...	1,531'30	1,423'83	2,074'39	2,200'42	1,844'70	1,800'42	1,922'76	1,534'75	1,970'81	2,399'77	2,255'20	2,080'14	23,038'49
Do ... ..	Nannine ...	1,152'35	1,297'00	1,320'20	1,620'75	1,522'35	2,555'50	1,864'30	2,323'55	2,215'20	2,153'76	1,680'90	2,518'55	22,724'41
Do ... ..	Day Dawn...	7,042'72	8,826'25	9,272'53	9,361'29	9,635'85	11,067'09	12,619'55	12,543'19	12,591'17	2,803'88	12,817'04	13,487'98	132,068'54
Do ... ..	Mt. Magnet	2,291'94	5,145'60	1,618'50	1,770'55	4,980'66	3,449'31	2,331'84	3,168'94	2,532'37	2,931'64	850'15	1,910'92	32,982'42
Yalgoo ... ..	...	347'92	433'40	219'23	455'20	506'85	496'00	577'05	564'55	748'30	519'90	904'42	80'55	5,853'37
Mt. Margaret ... ..	Mt. Morgans	3,828'60	4,239'00	3,846'55	4,207'90	4,261'08	4,299'75	4,487'05	4,301'95	4,153'05	4,139'80	5,722'95	11,603'87	59,091'55
Do ... ..	Mt. Malcolm	6,787'33	6,516'56	6,422'76	6,762'76	6,262'26	8,468'04	8,792'16	7,098'09	9,141'34	6,979'24	7,532'58	8,079'80	88,842'92
Do ... ..	Mt. Margaret	4,477'39	6,183'77	6,214'08	5,107'85	4,787'47	5,050'25	5,723'71	7,044'12	4,570'68	5,563'70	4,688'21	3,963'07	63,374'30
North Coolgardie	Menzies ...	4,213'85	5,360'51	4,175'61	5,532'90	5,274'55	5,098'65	5,447'10	5,971'69	5,657'48	5,942'91	4,871'58	7,005'27	64,551'60
Do ... ..	Ularring ...	453'95	885'03	3,212'52	2,264'99	5,308'35	3,300'51	1,026'34	2,560'32	1,155'40	2,473'43	2,295'05	4,132'29	29,068'18
Do ... ..	Niagara ...	4,302'92	6,191'15	8,379'36	7,334'22	8,161'90	7,715'22	6,427'55	7,512'00	6,994'45	6,167'97	5,583'39	6,408'08	81,178'21
Do ... ..	Yerilla ...	1,053'85	740'65	1,219'77	466'00	711'11	978'70	959'57	1,102'47	995'90	804'07	713'04	473'46	10,218'59
Broad Arrow ... ..	...	1,329'36	2,057'85	1,861'85	1,898'32	1,687'79	1,737'36	1,873'79	902'27	1,552'43	1,888'63	1,290'21	1,595'34	19,675'20
North-East Coolgardie	Kanowna ...	3,729'43	4,262'04	4,071'38	4,462'41	4,106'75	3,694'44	3,571'38	3,740'68	3,839'02	4,066'08	3,385'80	4,035'86	46,965'27
Do ... ..	Bulong ...	1,854'02	721'53	2,226'03	1,865'96	1,118'43	1,071'66	1,664'91	1,495'37	2,342'46	1,347'06	1,234'33	1,628'91	18,570'67
Do ... ..	Kurnalpi ...	103'00	115'50	160'75	49'15	150'60	145'06	94'90	256'25	228'90	56'40	67'55	144'60	1,572'66
East Coolgardie ...	...	86,504'63	83,670'69	84,845'36	87,698'13	88,981'34	91,267'93	88,452'47	94,969'61	98,235'49	103,755'29	105,602'75	104,632'02	1,118,615'71
Coolgardie ... ..	Coolgardie	4,468'71	6,381'69	6,465'09	4,807'39	7,501'65	6,126'64	7,068'19	6,026'71	7,671'81	7,632'68	5,451'88	6,314'07	75,916'51
Do ... ..	Kunanalling	527'15	752'69	1,230'54	804'40	1,071'71	834'60	1,022'82	731'66	1,214'65	1,234'55	969'97	1,548'44	11,943'18
Yilgarn ... ..	...	1,669'00	1,628'00	1,279'25	1,565'05	1,544'10	2,142'00	3,095'45	2,102'92	2,145'10	1,434'30	2,795'71	1,728'81	23,129'69
Dundas ... ..	...	1,450'46	1,717'46	2,235'49	3,276'57	2,256'85	2,895'63	3,138'54	3,526'65	3,510'67	4,043'81	4,059'10	2,639'37	34,750'60
Phillips River ...	...	...	100'10	692'16	642'68	757'25	988'24	816'57	974'02	897'00	898'25	1,025'57	702'52	8,494'36
Donnybrook ... ..	...	...	...	...	...	...	...	...	...	...	...	61'73	39'00	100'73
Goldfields generally	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Total ... ..		145,451'56	159,955'37	163,833'99	162,234'22	174,332'14	175,659'09	176,869'89	185,408'75	190,578'52	191,560'19	189,623'17	201,734'12	2,117,241'01

TABLE II.

## YEARLY GOLD PRODUCTION.

Return of Gold reported Annually to the Mines Department from the respective Goldfields and Districts to 31st December, 1902.

Goldfield.	District.	1902.	1901.	1900.	1899.	1898.	1897.	Previous to 1897.	Total to date.
		ozs.	ozs.	ozs.	ozs.	ozs.	ozs.	ozs.	ozs.
Kimberley ... ..	...	346.40	297.06	571.15	917.15	440.17	229.30	12,734.00	15,535.23
Pilbarra ... ..	Marble Bar ... ..	5,794.25	4,491.51	12,087.05	13,381.49	10,746.99	5,933.99	27,068.31	79,503.59
Do. ... ..	Nullagine ... ..	6,376.21	5,772.81	4,529.80	5,910.49	3,666.80	891.27	1,402.25	28,549.63
West Pilbarra ... ..	...	2,223.09	231.29	953.65	1,934.80	326.70	860.06	337.91	6,867.50
Ashburton ... ..	...	978.00	992.00	1,704.00	1,659.10	500.63	302.95	...	6,136.68
Gascoyne ... ..	...	...	90.00	74.00	333.77	13.50	13.55	...	524.82
Peak Hill ... ..	...	37,487.05	20,255.47	26,571.63	31,953.65	14,969.32	10,883.23	11,070.16	153,190.51
East Murchison ... ..	...	91,308.85	76,236.10	64,698.03	45,038.90	37,080.32	20,995.07	2,576.00	337,933.27
Murchison ... ..	Cue ... ..	23,038.49	20,769.60	20,148.81	24,480.33	24,278.32	22,443.77	23,012.18	158,171.50
Do. ... ..	Nannine ... ..	22,724.41	20,586.32	30,157.27	19,232.21	23,223.00	10,774.61	24,297.00	150,994.82
Do. ... ..	Day Dawn ... ..	132,068.54	71,767.53	14,646.86	12,999.41	13,906.17	16,827.67	57,968.05	320,184.23
Do. ... ..	Mt. Magnet ... ..	32,982.42	33,468.48	40,769.37	23,836.76	17,848.90	12,270.14	35,155.05	196,331.12
Yalgoo ... ..	...	5,853.37	9,238.25	10,101.86	12,135.94	3,298.95	3,455.79	7,227.00	51,311.16
Mt. Margaret ... ..	Mt. Morgans ... ..	59,091.55	46,933.84	36,595.18	16,775.01	9,940.42	3,779.42	330.00	173,445.42
Do. ... ..	Mt. Malcolm ... ..	88,842.92	95,061.27	88,702.20	52,841.97	35,586.16	18,049.81	4,362.10	383,446.43
Do. ... ..	Mt. Margaret ... ..	63,374.30	48,037.04	20,391.37	10,306.74	4,191.19	762.86	300.00	147,363.50
North Coolgardie ... ..	Menzies ... ..	64,551.60	66,107.60	56,655.56	69,779.71	54,348.45	57,855.34	21,883.88	391,132.14
Do. ... ..	Ularring ... ..	29,068.18	19,881.06	13,402.47	10,969.69	4,084.42	695.27	64.20	78,165.29
Do. ... ..	Niagara ... ..	81,178.21	50,205.64	28,064.69	26,041.40	9,581.91	595.87	206.00	195,873.72
Do. ... ..	Yerilla ... ..	10,218.59	12,110.70	8,651.25	10,227.34	4,864.10	2,216.34	4,808.77	53,097.09
Broad Arrow ... ..	...	19,675.20	34,675.44	52,433.32	48,194.38	27,726.43	14,464.54	9,129.25	206,298.56
North-East Coolgardie ... ..	Kanowna ... ..	46,965.27	40,870.27	47,382.66	78,074.01	152,645.47	30,823.97	8,327.95	405,089.60
Do. do. ... ..	Bulong ... ..	18,570.67	19,383.18	19,139.07	30,427.75	15,755.55	9,263.00	548.00	113,087.22
Do. do. ... ..	Kurnalpi ... ..	1,572.66	3,398.25	4,224.13	4,323.69	2,040.71	366.13	100.00	16,025.57
East Coolgardie ... ..	...	1,118,615.71	991,378.20	737,970.98	860,371.72	422,391.86	296,764.11	143,828.70	4,571,321.28
Coolgardie ... ..	Coolgardie ... ..	75,916.51	68,974.46	81,238.46	101,803.98	76,394.58	45,579.51	67,121.24	517,028.74
Do. ... ..	Kunanalling ... ..	11,943.18	15,769.97	21,174.55	24,486.06	23,278.26	19,211.97	7,060.52	122,924.51
Yilgarn ... ..	...	23,129.69	26,587.41	29,155.42	16,371.78	11,769.40	17,072.82	94,194.60	218,281.12
Dundas ... ..	...	34,750.60	37,084.09	41,083.63	44,213.30	36,798.48	19,283.52	3,979.90	217,193.52
Phillips River ... ..	...	8,494.36	712.84	39.00	...	...	...	...	9,246.20
Donnybrook... ..	...	100.73	3.86	453.10	511.49	14.65	...	...	1,083.83
Goldfields generally	...	...	126.78	146.56	1,278.90	...	...	...	1,552.24
	Total ...	2,117,241.01	1,841,498.32	1,513,917.08	1,600,762.92	1,041,711.81	642,665.88	569,093.02	9,326,890.04

**TABLE III.**  
**GENERAL RETURN.**

*Return showing, for the respective Goldfields and Districts, the Area in square miles, Leases in force, particulars of Plant, Men employed, Alluvial, Dollied and Specimen Gold, and Ore treated with Gold Yield, as reported to the Mines Department, to the 31st December, 1902.*

GEOGRAPHICAL DIVISION.	GOLDFIELD.	DISTRICT.	WARDEN'S HEAD OFFICE.	DATE OF PROCLAMATION OF GOLDFIELD.				AREA IN SQUARE MILES.		LEASES IN FORCE.		PARTICULARS OF PLANT.				AVERAGE NUMBER OF MEN EMPLOYED.	
				Proclamation gazetted.	To take effect from	Latest Amendment of Boundaries gazetted.	To take effect from	Goldfield.	District.	No.	Area in Acres.	Milling.		Cyaniding.		Above Ground.	Under Ground.
												Stamps.	Other Mills.	Leaching Vats.	Filter Presses.		
NORTHERN GOLDFIELDS	Kimberley ...	...	Hall's Creek ...	20-5-86	20-5-86	31-10-02	1-11-02	33,000	...	3	19	25	...	...	...	3	3
	Pilbarra ...	Marble Bar	Marble Bar ...	1-10-88	1-10-88	20-9-95	1-11-95	34,880	{ 25,205	28	256	60	2	6	...	35	52
	Do ...	Nullagine	...	...	...	...	...	...	{ 9,675	22	252	20	1	4	...	42	58
	West Pilbarra ...	...	Roebourne ...	20-9-95	1-11-95	...	...	9,480	...	7	96	10	2	...	...	26	2
	Ashburton ...	...	Mt. Mortimer ...	11-12-90	11-12-90	18-10-01	14-10-01	14,252	...	...	...	...	...	...	...	...	...
CENTRAL GOLDFIELDS	Gascoyne ...	...	Bangemall ...	25-6-97	15-4-97	...	...	5,061	...	2	36	...	...	...	...	...	...
	Peak Hill ...	...	Peak Hill ...	19-3-97	1-4-97	...	...	12,194	...	66	747	50	1	8	9	192	137
	East Murchison ...	...	Lawlers ...	28-6-95	28-6-95	28-3-02	2-4-02	28,144	...	190	2,960	215	8	40	...	568	540
	Murchison ...	Cue ...	...	...	...	...	...	...	{ 7,981	95	933	125	1	32	...	111	125
	Do ...	Nannine	...	...	...	...	...	...	{ 7,716	82	973	188	...	34	...	118	143
	Do ...	Day Dawn	Cue ...	24-9-91	24-9-91	8-2-95	23-1-95	20,513	728	117	1,281	110	...	17	1	444	447
	Do ...	Mt. Magnet	...	...	...	...	...	...	{ 4,088	116	1,044	115	1	31	...	291	330
	Yalgoo ...	...	Yalgoo ...	8-2-95	23-1-95	...	...	18,921	...	35	417	70	5	9	...	44	37
	Mt. Margaret ...	Mt. Morgans	...	...	...	...	...	...	{ 1,323	41	720	95	2	20	3	199	270
	Do ...	Mt. Malcolm	Mt. Morgans ...	12-3-97	1-4-97	28-3-02	2-4-02	42,252	{ 2,483	140	2,515	246	2	72	...	362	561
EASTERN GOLDFIELDS	Do ...	Mt. Margaret	...	...	...	...	...	...	{ 38,446	169	2,767	181	1	60	...	323	422
	North Coolgardie ...	Menzies	...	...	...	...	...	...	{ 10,342	100	1,364	163	2	53	4	302	374
	Do ...	Ularring	Menzies ...	28-6-95	28-6-95	12-3-97	1-4-97	30,609	{ 5,182	85	1,105	50	...	8	...	131	173
	Do ...	Niagara	...	...	...	...	...	...	{ 779	119	1,431	160	1	51	1	280	436
	Do ...	Yerilla	...	...	...	...	...	...	{ 14,306	49	838	25	1	10	...	108	148
	Broad Arrow ...	...	Broad Arrow ...	17-11-96	20-11-96	...	...	590	...	89	1,151	240	3	38	3	128	175
	North-East Coolgardie ...	Kanowna	...	...	...	...	...	...	{ 1,099	112	1,322	205	12	104	...	253	377
	Do ...	Bulong	Kanowna ...	20-3-96	15-4-96	18-11-96	20-11-96	21,542	{ 991	73	887	20	...	3	...	70	100
	Do ...	Kurnalpi	...	...	...	...	...	...	{ 19,452	4	54	5	1	...	...	6	9
	East Coolgardie ...	...	Kalgoorlie ...	21-9-94	1-10-94	20-3-96	15-4-96	632	...	254	3,936	560	91	188	105	3,230	3,024
Coolgardie ...	Coolgardie	Coolgardie ...	6-4-94	6-4-94	20-3-96	15-4-96	11,974	{ 9,221	188	2,274	371	5	107	4	522	712	
Do ...	Kunanalling	...	...	...	...	...	...	{ 2,753	86	1,097	135	1	31	...	206	241	
Yilgarn ...	...	Southern Cross ...	1-10-88	1-10-88	20-3-96	15-4-96	15,593	...	37	584	185	5	64	1	207	166	
Dundas ...	...	Norseman ...	31-8-93	31-8-93	22-8-02	1-9-02	11,500	...	68	733	120	4	41	1	151	230	
Phillips River ...	...	Ravensthorpe ...	21-9-00	14-9-00	22-8-02	1-9-02	3,850	...	21	419	40	1	...	...	60	64	
Donnybrook ...	...	Greenbushes ...	17-11-99	27-11-99	...	...	102	...	26	359	5	...	...	...	30	34	
Goldfields generally	...	...	...	...	...	...	...	...	...	...	60	5	5	...	...	...	...
			Total ...	...	...	...	...	315,089	...	2,424	32,570	3,854	158	1,036	132	8,435	9,390

TABLE III.—Return showing, for the respective Goldfields and Districts, etc.—continued.

GEOGRAPHICAL DIVISION.	GOLDFIELD.	DISTRICT.	TOTAL FOR 1902.					TOTAL PREVIOUS TO 1902.				
			Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.	Average per ton treated.	Ounces from unknown tons.	Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.
			Ozs.	Ozs.	Tons.	Ozs.	Ozs.	Ozs.	Ozs.	Ozs.	Tons.	Ozs.
NORTHERN GOLDFIELDS	Kimberley ... ..	...	151·00	...	440·00	195·40	·44	...	1,222·00	...	15,223·50	13,966·83
	Pilbarra ... ..	Marble Bar ... ..	288·38	40·00	4,649·30	5,465·87	1·17	2,082·00	4,598·57	1,222·17	31,122·36	65,806·60
	Do ... ..	Nullagine ... ..	390·67	1·37	2,514·08	5,984·17	2·38	...	2,587·81	77·99	11,012·56	19,507·62
	West Pilbarra ... ..	...	907·61	3·18	1,279·00	1,312·30	1·02	...	1,228·87	·45	2,580·15	3,415·09
	Ashburton ... ..	...	978·00	...	...	...	...	...	4,818·68	340·00	...	...
	Gascoyne ... ..	...	...	...	...	...	...	...	283·43	20·30	236·70	221·09
CENTRAL GOLDFIELDS	Peak Hill ... ..	...	...	...	57,494·25	37,487·05	·65	4,551·60	...	1,271·30	59,115·29	109,880·56
	East Murchison ... ..	...	385·21	1,978·95	138,137·75	88,944·69	·64	...	3,832·87	3,771·19	228,886·19	239,020·36
	Murchison ... ..	Cue ... ..	...	29·00	21,528·93	23,009·49	1·06	1,072·00	348·81	1,311·86	128,528·67	132,400·34
	Do ... ..	Nannine ... ..	729·70	17·25	20,073·08	21,977·46	1·09	...	1,301·90	3,921·66	122,769·78	123,046·85
	Do ... ..	Day Dawn ... ..	...	45·88	81,731·00	132,022·66	1·61	...	81·31	2,078·92	133,378·10	185,955·46
	Do ... ..	Mt. Magnet ... ..	291·30	62·52	29,809·50	32,628·60	1·09	...	392·03	4,523·00	167,089·38	158,433·67
	Yalgoo ... ..	...	13·00	...	3,992·50	5,840·37	1·46	...	12·08	310·40	57,226·48	45,135·31
	Mt. Margaret ... ..	Mt. Morgans ... ..	...	47·10	57,694·00	59,044·45	1·02	...	24·55	1,902·79	81,754·95	112,426·53
	Do ... ..	Mt. Malcolm ... ..	16·92	181·47	118,343·65	88,644·53	·75	...	1,589·68	2,992·18	311,242·31	290,021·65
	Do ... ..	Mt. Margaret ... ..	274·65	123·20	98,305·80	62,976·45	·64	...	604·17	899·15	112,924·75	82,485·88
EASTERN GOLDFIELDS	North Coolgardie ... ..	Menzies ... ..	91·43	131·10	46,704·32	64,329·07	1·38	...	778·77	502·00	201,952·39	325,299·77
	Do ... ..	Ularring ... ..	3·30	15·95	17,224·25	29,048·93	1·68	...	1·82	317·02	32,019·66	48,778·27
	Do ... ..	Niagara ... ..	46·92	212·44	85,957·50	80,918·85	·84	...	125·51	375·17	120,142·45	114,194·83
	Do ... ..	Yerilla ... ..	139·92	542·11	6,439·00	9,536·56	1·48	275·00	982·52	5,759·30	27,246·43	35,861·68
	Broad Arrow ... ..	...	984·43	162·25	23,684·85	18,528·52	·78	250·00	4,297·58	925·29	231,386·26	181,150·49
	North-East Coolgardie ... ..	Kanowna { quartz cement	...	1,217·31	40,192·10	40,964·36	1·02	...	...	3,291·16	156,665·20	132,875·09
	Do ... ..	...	3,410·02	...	3,464·50	1,373·58	·39	...	108,325·97	1·00	105,768·93	113,631·11
	Do ... ..	Bulong ... ..	1,933·72	1,009·72	12,943·25	15,627·23	1·21	...	22,437·50	7,038·62	54,260·30	65,040·43
	Do ... ..	Kurnalpi ... ..	579·35	64·20	581·25	929·11	1·60	...	10,350·54	1,669·14	3,037·55	2,433·23
	East Coolgardie ... ..	...	3,063·89	6,807·18	842,185·61	1,108,744·64	1·31	500·00	9,130·26	3,586·05	2,081,334·64	3,439,489·26
	Coolgardie ... ..	Coolgardie ... ..	654·55	336·46	89,098·90	74,925·50	·84	...	4,229·18	2,475·21	468,356·20	434,407·84
	Do ... ..	Kunanalling ... ..	11·00	214·15	7,217·25	11,718·03	1·62	...	270·89	2,693·96	136,497·60	108,016·48
	Yilgarn ... ..	...	8·30	6·00	41,218·50	23,115·39	·56	...	...	761·36	353,055·63	194,390·07
	Dundas ... ..	...	435·32	1,110·43	26,123·75	33,204·85	1·27	...	932·70	444·81	197,598·13	181,065·41
Phillips River ... ..	...	44·00	5·00	9,390·25	8,445·36	·90	...	...	526·11	192·00	225·73	
Donnybrook ... ..	...	...	...	532·00	100·73	·19	...	32·10	...	721·30	951·00	
Goldfields generally ... ..	...	...	...	...	...	...	...	142·33	176·01	...	1,233·90	
		Total ...	15,832·59	14,364·22	1,888,950·12	2,087,044·20	1·10	8,730·60	184,964·43	55,185·57	5,633,325·84	6,960,768·43

TABLE III.—Return showing, for the respective Goldfields and Districts, etc.—continued.

GEOGRAPHICAL DIVISION.	GOLDFIELD.	DISTRICT.	TOTAL GOLD PRODUCTION.						QUANTITY OF GOLD EXPORTED AND RECEIVED AT MINT.				
			Ounces from unknown tons.	Alluvial.	Dolled and Specimens.	Ore treated.	Gold therefrom.	Average per ton treated.	During 1902.	Previous to 1902.	Total.	§ Value.	
			Ozs.	Ozs.	Ozs.	Tons.	Ozs.	Ozs.	Ozs.	Ozs.	Ozs.	£ s. d.	
NORTHERN GOLDFIELDS	Kimberley ... ..	...	...	1,373·00	...	15,663·50	14,162·23	·90	441·65	26,678·10	27,119·75	108,021 19 6	
	Pilbarra ... ..	Marble Bar ... ..	2,082·00	4,886·95	1,262·17	35,771·66	71,272·47	1·99	10,706·03	183,884·16	194,590·19	738,402 16 8	
	Do ... ..	Nullagine ... ..	...	2,978·48	79·36	13,526·64	25,491·79	1·88					
	West Pilbarra ... ..	...	...	2,136·48	3·63	3,859·15	4,727·39	1·22	3,284·37	5,186·32	†48,470·69	31,720 1 0	
	Ashburton ... ..	...	...	5,796·68	340·00	...	...	...	...	5,400·00	5,400·00	20,978 17 11	
CENTRAL GOLDFIELDS	Gascoyne ... ..	...	...	283·43	20·30	236·70	221·09	·93	124·86	530·65	†655·51	2,017 15 3	
	Peak Hill ... ..	...	4,551·60	...	1,271·30	116,609·54	147,367·61	1·26	32,737·17	101,119·52	†133,856·69	504,825 4 4	
	East Murchison ... ..	...	...	4,218·08	5,750·14	367,023·94	327,965·05	·89	91,976·45	226,560·36	†318,536·81	1,200,523 13 9	
	Murchison ... ..	Cue ... ..	1,072·00	348·81	1,340·86	150,057·60	155,409·83	1·03	212,570·34	760,805·10	973,375·44	3,674,175 16 4	
	Do ... ..	Nannine ... ..	...	2,031·60	3,988·91	142,842·86	145,024·31	1·01					
	Do ... ..	Day Dawn ... ..	...	81·31	2,124·80	215,109·10	317,978·12	1·47					
	Do ... ..	Mt. Magnet ... ..	...	683·33	4,585·52	196,898·88	191,062·27	·97					
	EASTERN GOLDFIELDS	Yalgoo ... ..	...	...	25·08	310·40	61,218·98	50,975·68	·83	5,679·41	35,237·27	†40,916·68	155,091 7 11
		Mt. Margaret ... ..	Mt. Morgans ... ..	...	24·55	1,949·89	139,448·95	171,470·98	1·23	216,637·14	474,100·19	†690,737·33	2,602,246 13 5
		Do ... ..	Mt. Malcolm ... ..	...	1,606·60	3,173·65	429,585·96	378,666·18	·88				
Do ... ..		Mt. Margaret ... ..	...	878·82	1,022·35	211,230·55	145,462·33	·69	187,272·79	517,022·19	†704,294·98	2,655,369 18 11	
North Coolgardie ... ..		Menzies ... ..	...	870·20	633·10	248,656·71	389,628·84	1·56					
Do ... ..		Ularring ... ..	...	5·12	332·97	49,243·91	77,827·20	1·58					
Do ... ..		Niagara ... ..	...	172·43	587·61	206,099·95	195,113·68	·95					
EASTERN GOLDFIELDS		Do ... ..	Yerilla ... ..	275·00	1,122·44	6,301·41	33,685·43	45,398·24	1·35	18,380·47	150,280·37	†168,660·84	639,609 5 9
		Broad Arrow ... ..	...	250·00	5,282·01	1,087·54	255,071·11	199,679·01	·78				
		North-East Coolgardie	Kanowna { quartz cement	...	...	4,508·47	196,857·30	173,839·45	·88	54,540·57	346,116·32	†400,656·89	1,516,842 19 3
	...			111,735·99	1·00	109,233·43	115,004·69	1·05					
	Do ... ..	Bulong ... ..	...	24,371·22	8,048·34	67,203·55	80,667·66	1·20	1,172,404·84	3,603,830·69	†4,776,235·53	18,025,517 14 7	
	Do ... ..	Kurnalpi ... ..	...	10,929·89	1,733·34	3,618·80	3,362·34	·93					
	East Coolgardie ... ..	...	500·00	12,194·15	10,393·23	2,923,520·25	4,548,233·90	1·55	97,477·20	880,656·46	†978,133·66	3,706,716 7 1	
	Coolgardie ... ..	Coolgardie ... ..	...	4,883·73	2,811·67	557,455·10	509,333·34	·91					
	Do ... ..	Kunanalling ... ..	...	281·89	2,908·11	143,714·85	119,734·51	·83	25,877·53	287,136·09	313,013·62	1,187,044 9 10	
	Yilgarn ... ..	...	...	8·30	767·36	394,274·13	217,505·46	·55					
Dundas ... ..	...	...	1,368·02	1,555·24	223,721·88	214,270·26	·95	36,210·99	180,959·95	†217,170·94	821,757 14 8		
Phillips River ... ..	...	...	44·00	531·11	9,532·25	8,671·09	·90	8,575·86	...	†8,575·86	31,301 17 9		
Donnybrook ... ..	...	...	32·10	...	1,253·30	1,051·73	·84	72·83	776·30	†849·13	3,216 0 0		
Goldfields generally	...	...	...	142·33	176·01	...	1,233·90	...	2,471·02	10,741·25	13,212·27	49,931 5 6	
Total ... ..			8,730·60	200,797·02	69,549·79	7,522,275·96	9,047,812·63	1·20	2,177,441·52	7,797,021·29	9,974,462·81	37,670,311 19 5	

§ To 1900 at £3 16s. per oz.; 1901, at £3 17s. per oz.; 1902, at £3 13s. per oz. † Prior to 1st May, 1893, included with Pilbarra. ‡ Prior to 1st March, 1899, included with Ashburton. § From 1st August, 1897. ¶ Prior to 1st April, 1897, included with Murchison. †† Prior to 1st May, 1896, included with Coolgardie. ‡† From 1st September, 1897. ‡‡ Declared 5th April, 1894, to which date included with Yilgarn. §† Prior to 1893 included with Yilgarn. ¶† Prior to 1902 included in Goldfields generally. ††† From 1st March, 1899.



TABLE IV.

Production of GOLD FROM ALL SOURCES, as reported to the Mines Department, showing the Output from the mines yielding gold during 1902, and the Total Production to date.

**Kimberley Goldfield.**

MINING CENTRE.	NUMBER OF LEASE.	NAME OF LEASE.	REGISTERED NAME OF COMPANY.	Area in Acres.	TOTAL FOR 1902.					TOTAL GOLD PRODUCTION.					Estimated Value of Gold per oz., 1902.		
					Alluvial.	Dollied and Specimens	Ore treated.	Gold therefrom.	Average per ton treated.	Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.	Average per ton treated.			
Hall's Creek ...	...	Voided leases	...	...	ozs.	ozs.	tons.	ozs.	ozs.	ozs.	ozs.	ozs.	tons.	ozs.	ozs.	£ s. d.	
Do ...	...	Sundry claims	...	...	...	...	...	...	...	...	...	...	423-00	520-58	...	...	
Mt. Dockrell ...	...	Voided leases	...	...	...	...	...	...	...	...	...	...	94-55	68-30	...	...	
Ruby Creek ...	61	Ruby Queen	...	a. r. p. 6 2 0	...	...	408-00	182-60	45	...	...	...	7,744-00	5,468-11	70	...	
Do ...	46	St. Lawrence	...	5 3 36	...	...	32-00	12-80	40	...	...	...	1,486-00	1,673-58	1-12	...	
Do ...	...	Voided leases	...	...	...	...	...	...	...	...	...	...	1,469-50	1,836-58	...	...	
Do ...	...	Sundry claims	...	...	...	...	...	...	...	...	...	...	151-00	138-85	...	...	
The Brockman ...	...	Voided leases	...	...	...	...	...	...	...	...	...	...	1,352-75	1,530-47	...	...	
Do ...	...	Sundry claims	...	...	...	...	...	...	...	...	...	...	2,462-00	2,054-35	...	...	
The Mary ...	...	Voided leases	...	...	...	...	...	...	...	...	...	...	399-00	228-85	...	...	
The Panton ...	...	Voided leases	...	...	...	...	...	...	...	...	...	...	34-70	151-14	...	...	
Do ...	...	Sundry claims	...	...	...	...	...	...	...	...	...	...	3-00	16-42	...	...	
<i>From Goldfield generally—</i>					...	...	...	...	...	...	...	...	...	...	...	...	
Alluvial	...	...	...	...	151-00	...	...	...	...	...	...	1,373-00	...	...	...	...	
Total					151-00	...	440-00	195-40	44	...	...	1,373-00	...	15,663-50	14,162-23	90	3 14 0

**Pilbarra Goldfield.**

**MARBLE BAR DISTRICT.**

MINING CENTRE.	NUMBER OF LEASE.	NAME OF LEASE.	REGISTERED NAME OF COMPANY.	Area in Acres.	TOTAL FOR 1902.					TOTAL GOLD PRODUCTION.					Estimated Value of Gold per oz., 1902.	
					Alluvial.	Dollied and Specimens	Ore treated.	Gold therefrom.	Average per ton treated.	Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom	Average per ton treated.		
Bamboo Creek ...	161 (193)	...	(Bamboo Consolidated G.M. Co., Ltd.)	...	ozs.	ozs.	tons.	ozs.	ozs.	ozs.	ozs.	ozs.	tons.	ozs.	ozs.	£ s. d.
Do ...	161	Bulletin	...	6	...	...	300-00	637-40	2-12	...	...	...	1,570-00	2,906-00	1-85	4 0 0
Do ...	...	Voided leases	...	...	...	...	...	...	...	...	...	...	7,202-75	13,580-15	...	...
Do ...	...	Sundry claims	...	...	...	...	8-00	43-25	...	...	...	...	72-00	300-50	...	...
Boodalyerrie ...	601	Golden Granite...	...	6	...	25-00	18-00	134-05	7-44	...	99-00	...	32-25	310-05	9-61	2 15 0
Do ...	...	Voided leases	...	...	...	...	...	...	...	...	50-00	...	...	...	...	...

Lallarookh	606	Bergamina	15	88'00	53'00	'60	88'00	53'00	'60											
Do	569	Kitchener	6				88'50	37'10	'96											
Do	R.C. 112																			
Do		Sundry claims		3,649'00	3,116'35	'85	4,496'55	6,031'51	1'84	3	1	0								
Marble Bar	7	(Augusta)					30'45	50'30												
Do	3, 7, 21		28				72'00	30'96	'43											
Do	7 (280)						15'00	26'60	1'77											
Do																				
Do	613 (579)	Homeward Bound	6	7'00	22'90	3'27	7'00	22'90	3'27											
Do	3, 21 (157, 160)						4,059'90	10,128'20	2'49											
Do	3, 21	(Stray Shot and Excelsior)																		
Do		Voided leases																		
Do		Sundry claims																		
North Pole		Voided leases																		
North Shaw		Voided leases																		
Do		Sundry claims																		
Sharks		Sundry claims																		
Shaw River		Voided leases																		
Talga Talga		Voided leases																		
Do		Sundry claims																		
Tambourah		Voided leases																		
Do		Sundry claims					54'40	82'09												
Warrawoona	505	Bowbells	12																	
Do	483		12				141'50	185'70	1'31											
Do																				
Do	483	(Gauntlet)																		
Do	607	Golden Gate	V.N.P.																	
Do	564	Imperialist	6				13'00	29'10	2'24											
Do	473	Klondyke	6																	
Do	604 (476)	Klondyke Boulder	12				65'50	245'30	3'74											
Do	(522) R.C. 94	Kopcke's Reward Block					81'05	159'65	1'97											
Do	573	Tribble Event	3				49'70	147'26	2'96											
Do	611 (571)	Wheel of Fortune	6				3'25	4'00	1'23											
Do		Voided leases					67'75	131'60	1'94											
Do		Sundry claims																		
Do		Voided leases																		
Western Shaw		Sundry claims					22'50	35'02	50'00											
Wyman's Well		Voided leases																		
Yandicoogina	451	Eastern	6				28'50	76'40												
Do	545	Patrick	6																	
Do	494	Uncle Tom	6																	
Do		Voided leases																		
Do		Sundry claims																		
From District generally—																				
Sundry parcels treated at Lady Adelaide Battery																				
Do do Salgash Public Crushing Battery																				
Do do Pilbarra Cyanide Works																				
Alluvial from Marble Bar																				
Do Tambourah																				
Do Boodalyerrie																				
Notices of Purchase																				
				288'38	15'00															
Total				288'38	40'00	4,649'30	5,465'87	1'17	4,896'95	1,262'17	35,771'66	171,272'47	1'99	3	5	94				

‡ Also 2,082ozs. from unknown tons.

TABLE IV.—Production of Gold from all sources, etc.—continued.

Pilbarra Goldfield—continued.

NULLAGINE DISTRICT.

MINING CENTRE.	NUMBER OF LEASE.	NAME OF LEASE.	REGISTERED NAME OF COMPANY.	Area in Acres.	TOTAL FOR 1902.					TOTAL GOLD PRODUCTION.					Estimated Value of Gold per oz., 1902.	
					Alluvial.	Dollied and Specimens	Ore treated.	Gold therefrom.	Average per ton treated.	Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom	Average per ton treated.		
Elsie	86L	Elsie		6	ozs.	ozs.	tons.	ozs.	ozs.	ozs.	ozs.	tons.	ozs.	ozs.	£ s. d.	
Do		Sundry claims					136'00	421'60	3'10			408'25	1,413'82	3'46		
Mosquito Creek	129L	Belle Vue		5			34'40	116'50	3'38			20'00	17'90			
Do	109L	Federal		6			41'00	46'45	1'13			34'40	116'50	3'38		
Do	79L	Galtee More		6			104'00	386'95	3'72			48'00	59'20	1'23		
Do	127L (88L)	Latest Surprise		6			80'00	197'00	2'46			484'00	1,291'15	2'66	4 0 0	
Do	95L	Parnell		12								80'00	197'00	2'46		
Do	102L	Parnell North		6			60'00	54'90	'91			202'35	263'90	1'30		
Do	130L (93L)	Rattler		12			27'00	48'60	1'80			154'85	269'35	1'74		
Do		Voided leases										27'00	48'60	1'80		
Do		Sundry claims					266'83	327'90				170'25	351'55			
Nullagine	106L	Barton		18			622'00	876'60	1'40			1,028'39	1,555'83			
Do	122L	Grants' Hill		24			300'00	128'51	'42			1,079'65	1,382'75	1'28	4 0 0	
Do	113L	Hopetoun		3			100'00	51'40	'51			1,658'00	743'04	'44		
Do	103L	Mundalla		V.N.P.			30'00	266'80	8'89			100'00	51'40	'51		
Do	108L	Old All Nations		10			67'50	58'11	'86			213'30	1,175'05	5'50		
Do		Voided leases										170'50	273'91	1'60		
Do		Sundry claims					293'05	343'67		112'50	15'00	4,180'95	6,947'77			
20-Mile Sandy	126L	Central		V.N.P.			15'00	72'80	4'85			2,808'60	6,167'01			
Do	137L	Central		12			20'75	53'05	2'55			15'00	72'80	4'85		
Do	136L (Q.C. 173L)	Little Wonder		6			63'00	624'90	9'92			20'75	53'05	2'55		
Do		Voided leases										63'00	624'90	9'92	4 3 11	
Do		Sundry claims					253'55	643'55				21'00	64'20			
												499'90	1,049'88			
<i>From District generally—</i>																
		Sundry parcels treated at Barton Excelsior Battery										13'50	5'80			
		Do do Lady Ray Works										25'00	20'00			
		Do do Lambert's Treatment Works						cy. 1,259'05					1,259'05			
		Do do Royer's Public Crushing Battery						† 5'83					16'38			
		Alluvial									1,644'29					
		Notices of Purchase					390'67	1'37			1,221'69	13'11				
		Total					390'67	1'37	2,514'08	5,984'17	2'38	2,978'48	79'36	13,526'64	25,491'79	1'88 4 0 2½

## West Pilbarra Goldfield.

MINING CENTRE.	NUMBER OF LEASE.	NAME OF LEASE.	REGISTERED NAME OF COMPANY.	Area in Acres.	TOTAL FOR 1902.					TOTAL GOLD PRODUCTION.					Estimated Value of Gold per oz., 1902.			
					Alluvial.	Dollied and Specimens	Ore treated.	Gold therefrom.	Average per ton treated.	Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.	Average per ton treated.				
Croydon	...	Voided leases	...	...	ozs.	ozs.	tons.	ozs.	ozs.	ozs.	ozs.	tons.	ozs.	ozs.	...	£	s.	d.
Hong Kong	...	Voided leases	...	...	...	...	...	...	...	...	...	8-00	6-00	...	...	...	...	...
Do	...	Sundry claims	...	...	24-90	03	...	...	...	24-90	03	331-00	513-63	...	...	...	...	...
Lower Nicol	122	King's Gold Mine	...	24	...	...	23-00	25-25	1-09	...	...	23-00	25-25	1-09	3	13	7	
Do	106, 109, 124	Ninety-Nine leases	...	18	...	...	466-00	191-00	41	...	45	479-00	230-00	48	...	...	...	
Do	...	Voided leases	...	...	...	...	...	...	...	...	...	7-50	11-95	...	...	...	...	
Do	...	Sundry claims	...	...	12-15	3-15	10-00	13-40	...	12-15	3-15	10-00	13-40	...	...	...	...	
Mallina	...	Voided leases	...	...	...	...	...	...	...	...	...	103-60	121-22	...	...	...	...	
Pilbarra	...	Voided leases	...	...	...	...	...	...	...	...	...	148-00	330-00	...	...	...	...	
Station Peak	117/8	Pilgrim's Rest leases	...	48	...	...	780-00	1,082-65	1-38	...	...	780-00	1,082-65	1-38	3	13	0	
Towranna	...	Voided leases	...	...	...	...	...	...	...	...	...	1,934-80	2,122-14	...	...	...	...	
Weerianna	...	Voided leases	...	...	...	...	...	...	...	...	...	25-25	267-30	...	...	...	...	
<i>From Goldfield generally—</i>					...	...	...	...	...	735-07	...	...	...	...	...	...	...	
Alluvial Notices of Purchase					870-56	...	...	...	...	1,364-36	...	...	...	...	...	...	...	...
Total					907-61	3-18	1,279-00	1,312-30	1-02	2,136-48	3-63	3,859-15	4,727-39	1-22	3	14	4 1/2	

## Ashburton Goldfield.

MINING CENTRE.	NUMBER OF LEASE.	NAME OF LEASE.	REGISTERED NAME OF COMPANY.	Area in Acres.	TOTAL FOR 1902.					TOTAL GOLD PRODUCTION.					Estimated Value of Gold per oz., 1902.			
					Alluvial.	Dollied and Specimens	Ore treated.	Gold therefrom.	Average per ton treated.	Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.	Average per ton treated.				
Mt. Mortimer	...	Sundry claims	...	...	ozs.	ozs.	tons.	ozs.	ozs.	ozs.	ozs.	tons.	ozs.	ozs.	...	£	s.	d.
<i>From Goldfield generally—</i>					978-00	...	...	...	...	5,422-68	...	...	...	...	...	...	...	...
Total					978-00	...	...	...	...	5,796	340-00	...	...	...	...	4	0	6

TABLE IV.—Production of Gold from all sources, etc.—continued.

Gascoyne Goldfield.

MINING CENTRE.	NUMBER OF LEASE.	NAME OF LEASE.	REGISTERED NAME OF COMPANY.	Area in Acres.	TOTAL FOR 1902.					TOTAL GOLD PRODUCTION.					Estimated Value of Gold per oz., 1902.
					Alluvial.	Dollied and Specimens	Ore treated.	Gold therefrom.	Average per ton treated.	Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.	Average per ton treated.	
Bangemall	6	Elderado		12	ozs.	ozs.	tons.	ozs.	ozs.	ozs.	ozs.	tons.	ozs.	ozs.	
Do		Voided leases										41·00	41·95	1·02	
Do		Sundry claims									6·80	195·70	179·14		
											13·50				
<i>From Goldfield generally—</i>															
	Alluvial										265·00				
	Notices of Purchase										18·43				
											283·43	20·30	236·70	221·09	·93

Peak Hill Goldfield.

MINING CENTRE.	NUMBER OF LEASE.	NAME OF LEASE.	REGISTERED NAME OF COMPANY.	Area in Acres.	TOTAL FOR 1902.					TOTAL GOLD PRODUCTION.					Estimated Value of Gold per oz., 1902.
					Alluvial.	Dollied and Specimens	Ore treated.	Gold therefrom.	Average per ton treated.	Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.	Average per ton treated.	
Horseshoe	44P	(Brilliant)		12	ozs.	ozs.	tons.	ozs.	ozs.	ozs.	ozs.	tons.	ozs.	ozs.	£ s. d.
Do	45P	Brilliant Central		18			254·50	944·87	3·71		297·00	254·58	1,025·87	4·02	
Do	49P	Brilliant Central Extd.		12							343·75		20·70		
Do		Voided leases									87·25	·01	33·10		
Peak Hill	268P (108P)	Blue Bell		Surr.			9·50	4·89	·51			9·50	48·9	·51	
Do	34P	Mt. Fraser		9			65·00	70·50	1·08			117·00	119·75	1·02	
Do	150P	Mt. Pleasant		24			1,172·00	737·12	·62			1,494·50	1,231·64	·82	4 0 0
Do	151P	Mt. Pleasant Extended		12								66·00	41·49	·62	
Do	216P	Mt. Pleasant North		12								13·50	1·50	·11	
Do	1P	(North Star)									169·60				
Do	1/6P, 8P, 9P, 13P, 15/6P, 26/9P, 35/6P, 43P, 53/4P, 63P, 146P, 190P, 222P, R.C. 1P, Q. Cs. 13/4P, T.A. 1P		Peak Hill Goldfields, Ltd.	a. r. p. 174 1 5			55,426·00	35,056·26	·63		200·00	110,889·35	140,586·72	1·26	4 0 0
												1,064·00	1903·20	·84	

Peak Hill	...	...	Voided leases	...	...	...	...	...	...	...	38.75	596.00	1,075.70	...			
Do	...	...	Sundry claims	...	...	...	...	...	...	...	104.65	21.00	18.87	...			
						a. r. p.											
Ravelstone	264P	...	Emerald Extended	...	...	5 3 0	...	...	...	...	7.00	11.20	1.60	...			
Do	55P	...	Golden Treasure	...	...	18	...	...	...	...	40.00	20.93	.52	...			
Do	259P (193P)	...	Golden Treasure Consols	...	...	12	...	...	...	...	146.00	280.02	1.91	...			
Do	56P	...	Golden Treasure East...	...	...	6	...	...	...	...	...	119.75	65.15	.54			
Do	59P	...	Jubilee	...	...	12	...	...	...	...	314.25	300.76	.95	...			
Do	253P (67P)	...	Jubilee North	...	...	12	...	...	...	...	5.00	9.40	1.88	...			
Do	...	...	Voided leases	...	...	...	...	...	...	...	...	55.00	74.88	...			
Wilgeena	250P (24P)	...	Hit or Miss	...	...	18	...	...	...	...	40.00	46.05	1.15	...			
Wilson's Find	233P	...	Wilson's Find	...	...	18	...	...	...	...	...	24.85	14.00	35.65	2.55		
<i>From Goldfield generally—</i>																	
Sundry parcels treated at Peak Hill Consols Battery																	
Total																	
										57,494.25	37,487.05	.65	1,271.30	116,609.54	† 147,367.61	1.26	3 19 3‡

† Also 4,551.60 ozs. from unknown tons.

### East Murchison.

MINING CENTRE.	NUMBER OF LEASE.	NAME OF LEASE.	REGISTERED NAME OF COMPANY.	Area in Acres.	TOTAL FOR 1902.					TOTAL GOLD PRODUCTION.					Estimated Value of Gold per oz., 1902.	
					Alluvial.	Dollied and Specimens	Ore treated.	Gold therefrom.	Average per ton treated.	Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.	Average per ton treated.		
Black Range	640	Geraldtonia	...	24	ozs.	ozs.	tons.	ozs.	ozs.	ozs.	ozs.	ozs.	tons.	ozs.	ozs.	£ s. d.
Do	639	Groper	...	10	...	...	1.50	23.40	...	...	...	...	1.50	23.40	...	
Do	...	Sundry claims	...	...	...	83.45	27.00	18.00	...	...	83.45	256.65	225.49	...		
Cork Tree	557	Enterprise	...	24	...	...	284.00	593.00	2.08	...	...	284.00	593.00	2.08	3 19 6	
Do	535	Kingston	...	24	...	...	351.00	200.60	.57	...	...	461.00	261.60	.56		
Do	581	Revenue	...	V.N.P.	...	...	10.00	6.75	.67	...	...	10.00	6.75	.67		
Do	559	Stanley	...	V.N.P.	...	...	35.00	8.85	.25	...	...	35.00	8.85	.25		
Do	...	Sundry claims	...	...	...	...	13.00	11.15	...	...	...	13.00	11.15	...		
Kathleen Valley	396	Carysfort	...	12	...	...	117.00	105.50	.90	...	5.15	286.00	375.92	1.31		
Do	607	County of Dublin	...	12	...	...	26.00	24.72	.95	...	...	26.00	24.72	.95		
Do	113	Nil Desperandum	...	24	...	...	3,973.00	2,040.90	.51	...	...	4,570.00	2,675.48	.58	3 15 0	
Do	575, 596/7	Pascoe leases	...	18	...	...	235.00	126.14	.53	...	...	235.00	126.14	.53		
Do	360	Pascoe Pride	...	6	...	...	...	...	...	...	15.00	32.00	67.70	2.11		
Do	382	Yellow Aster	...	18	...	...	9,624.00	7,692.46	.79	...	...	20,600.00	21,749.17	1.05	3 15 0	
Do	...	Voided leases	...	...	...	...	...	...	...	...	...	232.00	214.08	...		
Do	...	Sundry claims	...	...	...	...	...	...	...	...	17.60	275.75	228.79	...		
Lake Darlét	182	Amazon	...	12	...	...	185.00	635.90	3.43	...	9.00	1,271.50	2,595.49	2.04	3 12 6	
Do	93	Ballangarry	...	18	...	...	1,240.00	663.55	.53	...	...	1,959.00	1,394.98	.71	3 9 0	
Do	628	Balmoral	...	6	...	...	16.00	15.65	.98	...	...	16.00	15.65	.98		
Do	2	British King No. 1 West	...	12	...	...	...	...	...	...	...	470.50	689.24	1.46		
Do	619	East End	...	6	...	...	40.00	122.40	3.06	...	...	40.00	122.40	3.06		
Do	1	...	Fingall Reefs Extended, Ltd.	12	...	...	6,076.00	3,392.00	.55	...	...	12,248.00	8,825.33	.72	3 0 0	
Do	626	Filbandint	...	10	...	...	107.00	272.70	2.55	...	...	107.00	272.70	2.55	3 17 9	
Do	375	King of the Hills	...	12	...	...	33.00	58.00	1.76	...	90.64	99.00	162.55	1.64		
Carried forward				...	...	...	101.05	22,646.25	16,324.99	...	...	220.84	43,543.90	40,778.58	...	

TABLE IV.—Production of Gold from all sources, etc.—continued.

East Murchison—continued.

MINING CENTRE.	NUMBER OF LEASE.	NAME OF LEASE.	REGISTERED NAME OF COMPANY.	Area in Acres.	TOTAL FOR 1902.					TOTAL GOLD PRODUCTION.					Estimated Value of Gold per oz., 1902.
					Alluvial.	Dollied and Specimens	Ore treated.	Gold therefrom.	Average per ton treated.	Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom	Average per ton treated.	
			Brought forward	...	...	101·05	22,646·25	16,324·99	...	...	220·84	43,543·90	40,778·58	...	£
Lake Darlôt	648	Monte Cristo	...	12	...	...	17·00	29·50	1·73	...	...	17·00	29·50	1·73	
Do	544	Morning Light	...	6	...	...	33·00	39·15	1·18	...	...	63·00	79·58	1·26	
Do	329	Rise and Shine	...	12	...	15·25	...	...	...	...	641·12	42·00	61·65	5·47	
Do	273	St. George	...	12	...	1,847·90	171·00	1,525·90	8·92	...	3,237·45	300·50	1,701·81	1·66	3 18 0
Do	363	Waikato	...	6	...	10·90	79·00	151·50	1·91	...	10·90	799·50	1,167·14	·46	3 12 0
Do	...	Voided leases	...	...	...	...	...	...	...	...	175·27	1,352·70	1,864·09	...	
Do	...	Sundry claims	...	...	...	...	22·00	20·35	...	1·35	267·11	505·94	365·07	2·...	
Lake Way	170	Black Swan	...	24	...	...	...	...	...	...	...	77·00	225·54	·92	
Do	332	Black Swan North	...	12	...	...	...	...	...	...	...	14·50	24·60	1·69	
Do	143	Brothers	...	18	...	...	159·00	107·00	·67	...	...	827·00	847·50	1·02	
Do	161	Caledonia	...	12	...	...	...	...	...	...	...	294·00	318·42	1·08	
Do	536	Cygnat	...	V.N.P.	...	...	79·00	37·50	·47	...	...	79·00	37·50	·47	
Do	169	Dark Horse	...	18	...	...	...	...	...	...	...	274·15	635·92	2·31	
Do	149	(Derwent)	...	...	...	...	...	...	...	...	...	164·30	404·61	2·46	
Do	316	(Essex)	...	...	...	...	...	...	...	...	...	337·00	473·40	1·40	
Do	312	Ethelstone	...	...	...	...	...	...	...	...	...	18·00	9·25	·51	
Do	469	Gem	...	V.N.P.	...	...	67·00	62·75	·93	...	...	218·00	241·05	1·10	
Do	140	...	(Golden Age, Lake Way, Ltd.)	...	...	...	...	...	...	...	...	12,899·00	8,895·39	·69	
Do	140, 144, 162/4, 241/3, 313, 380, 422, 441, 477, 494/9, 501, W.R. 33	...	Golden Age Consolidated, Ltd.	a. r. p. 325 1 38	...	...	13,479·00	6,828·20	·50	...	...	14,401·00	11,458·13	·79	3 6 0
Do	380	(Golden Age South)	...	...	...	...	...	...	...	...	...	133·00	308·00	2·31	
Do	316, 516/7, 524, 540/2, 545/9, 550/1, 569	...	Gwalia Consolidated, Ltd	324	...	...	11,074·00	4,997·85	·45	...	...	11,074·00	4,997·85	·45	4 0 1
Do	589 (444)	Lake Way Extended	...	0	...	...	100·00	125·00	1·25	...	...	100·00	125·00	1·25	
Do	149, 161, 169, 170, 184, 312, 332/3, 358, 378/9, 472/3	...	Lake Way Goldfields, 1899, Ltd.	180	...	...	3,422·00	1,765·25	·51	...	...	5,962·00	5,335·98	·89	
Do	314	Lawless	...	12	...	...	...	...	...	...	553·90	38·00	18·00	·47	
Do	413	Little Wonder	...	12	...	...	...	...	...	...	...	30·00	17·75	·59	
Do	333	Monarch and Derwent United	...	24	...	...	...	...	...	...	...	10·00	3·35	·33	
Do	137, 442	...	Monarch of the East G.M. Co., N.L.	a. r. p. 40 3 23	...	...	2,268·00	2,590·20	1·14	...	...	9,878·00	9,560·79	·96	3 3 3
Do	326	Weelona	...	24	...	...	...	...	...	...	17·17	261·00	567·86	2·17	
Do	162	...	(W.A. Goldfields, Ltd.)	...	...	...	...	...	...	...	...	2,786·00	1,573·94	·56	
Do	...	Voided leases	...	...	...	...	...	...	...	...	46·50	899·30	805·15	...	
Do	...	Sundry claims...	...	...	...	...	...	...	...	...	...	744·65	632·22	...	
Lawlers	564	Birthday	...	Surr.	...	...	65·00	36·00	·55	...	...	341·00	173·60	·50	
Do	19, 414	Bounty leases	...	12	...	...	26·00	56·90	2·18	...	...	716·35	1,024·55	1·43	
Do	532	Brilliant	...	24	...	...	450·00	722·10	1·60	...	...	450·00	722·10	1·60	3 17 6
Do	578 (214)	Caroline	...	Ftd.	...	...	153·00	121·85	·79	...	...	153·00	121·85	·79	

Do	627 (578)	Caroline	12	123-00	57-90	47	123-00	57-90	47
Do	453	Cinderella	Surr.		pl. 30-00		1,118-00	918-45	82
Do	645 (M.A. 16)	Cinderella	5	198-00	105-55	53	198-00	105-55	53
Do	376	(Donegal)					38-00	79-80	2-10
		(London & W.A. Exploration Co., Ltd.)							
Do	377	(Eastern United Extended)					106-00	79-46	74
Do	37, 70, 155/8, 377, 385, 426/7, 459	East Murchison United, Ltd.	195	40,076-00	18,763-83	46	145,354-00	128,406-05	88
Do	599	Esmeralda	6	180-00	66-25	37	180-00	66-25	37
Do	115	Glasgow Lass	112	163-00	93-50	57	1,851-00	1,885-18	1-02
Do	22	Gorrie's May Be	6				282-00	307-71	1-09
Do	251	International	V.N.P.		cy. 150-00		705-50	1,370-20	1-94
Do	460	Kanmuntoo	6	10-00	3-00	30	66-50	122-57	1-84
Do	641	King Edward	3	35-00	36-70	1-05	35-00	36-70	1-05
Do	15	Leinster	18	2,710-00	7,384-71	2-72	3,645-50	10,356-11	2-84
Do	487	Leinster North	6				14-00	35-50	2-53
Do	1, 58	(London & W.A. Exploration Co., Ltd.)					2,438-50	3,064-58	1-25
Do	381	Never Can Tell	24				610-00	954-70	1-56
Do	373	New Holland	12	709-00	813-17	1-14	2,086-25	1,425-95	68
Do	78, 320	New Woman leases	24	30-00	20-50	68	800-30	1,079-42	1-34
Do	650	Puzzler	5	25-00	13-35	53	25-00	13-35	53
Do	459	(Quartzite King)					119-50	104-00	87
Do	385	(Queen)					1,252-00	723-35	58
Do	397	Right Bower	12	79-50	77-20	91	184-25	172-95	93
Do	415	Right Bower Extended	12	293-00	134-40	46	542-00	529-42	97
Do	519	Surprise	24	517-00	195-45	37	615-00	279-54	45
Do	521	Vivien	24				45-50	25-30	55
Do	603 (482)	Waroonga North	5	96-00	93-40	97	96-00	93-40	97
Do	62, 562/3	Woronga South leases	62	20,231-00	7,179-84	35	24,771-00	11,108-21	44
Do		Voided leases					7,993-90	7,922-12	...
Do		Sundry claims		276-00	136-20		1,968-85	1,746-90	...
Mt. Clifford	463	Emancipator	12	64-00	322-36	5-03	97-00	433-26	4-46
Do	522	Emancipator South	12						
Do		Voided leases					10-00	6-00	38-60
		(London & W.A. Exploration Co., Ltd.)							
Mt. Sir Samuel	24, 35, 308, 439	Bellevue Proprietary, Ltd. (late Bellevue Consolidated, Ltd.)	a. r. p. 55 3 9	15,950-00	16,054-00	1-00	49,122-00	50,681-34	1-03
Do	489	Isidore	24	110-00	110-70	1-00	738-00	807-64	1-09
Do	339	Vanguard	12	1,557-00	608-40	39	3,421-00	1,579-88	46
Do		Voided leases					1,934-00	1,376-30	...
Do		Sundry claims		106-00	96-64		1,065-50	1,191-30	...
New England	117	Glennis	18				803-00	777-35	96
Do		Voided leases					66-35	...	...
Do		Sundry claims					3-00	554-50	532-38
Wilson's Creek		Voided leases					113-00	1,775-60	1,073-37
Do		Sundry claims					4-85	5-00	21-75
Wilson's Patch	520	Sons of Lawlers	12	177-00	115-75	65	285-00	188-85	66
Do		Sundry claims		112-00	64-00		112-00	64-00	...

From Goldfield generally—  
 Sundry parcels treated at Christensen's Works  
 Do do Darlot Public Battery  
 Do do Tazewell's Works  
 Alluvial  
 Notices of Purchase

					cy. 15-25				47-25				
					3-00				16-79				
					cy. 657-65				657-65				
			385-21				3,979-46						
							220-05						
Total			385-21	1-978-95	138,137-75	88,944-69	64	4,218-08	5,750-14	367,023-94	327,965-05	89	3 10 10 1/2



TABLE IV.—Production of Gold from all sources, etc.—continued.

Murchison Goldfield.

CUE DISTRICT.

MINING CENTRE.	NUMBER OF LEASE.	NAME OF LEASE.	REGISTERED NAME OF COMPANY.	Area in Acres.	TOTAL FOR 1902.					TOTAL GOLD PRODUCTION.					Estimated Value of Gold per oz., 1902.	
					Alluvial.	Dollied and Specimens	Ore treated.	Gold therefrom.	Average per ton treated.	Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.	Average per ton treated.		
					ozs.	ozs.	ons.	ozs.	ozs.	ozs.	ozs.	tons.	ozs.	ozs.	s.	d.
Cuddingwarra	634, 736, 1042	...	Fingall Proprietary, Ltd. (late Cuddingwarra G.Ms., Ltd.)	33	...	...	85'00	36'12	42	...	...	4,518'50	4,662'99	1'03		
Do	595 (671, 1104), 1122	...	Victory United G.M. Co., N.L.	27	...	...	143'00	448'60	3'13	...	...	7,888'00	19,361'23	2'45	3	13 0
Do	...	Voided leases	...	...	...	...	...	...	...	...	15'85	5,254'75	5,345'48			
Do	...	Sundry claims	...	...	...	...	...	...	...	...	...	199'00	157'45			
Cue	(483) 1046/7	...	(Agamemnon, Ltd.)	...	...	...	...	...	...	...	...	7,053'50	5,108'01	72		
Do	1047	Agamemnon	...	21	...	...	1,044'33	867'50	83	...	...	2,001'33	1,466'45	73	4	0 0
Do	1328	Argus	...	12	...	...	142'00	111'00	78	...	...	142'00	111'00	78	3	18 1
Do	1115	...	Brilliant G.Ms. (Cue), N.L.	9	...	...	31'00	6'15	19	...	...	31'00	6'15	19		
Do	1068 (1100/1)	Caledonian Hill	...	18	...	...	...	...	...	...	40'00	100'00	71'50	71		
Do	1234	Comforter	...	a. r. p. 3 1 16	...	...	64'00	32'00	50	...	...	93'00	45'15	48		
Do	1271	Catalpa	...	12	...	...	357'50	144'10	40	...	...	519'50	207'85	40		
Do	1212	(Countess)	...	...	...	...	...	...	...	...	...	10'00	8'50	85		
Do	1212, 1230	...	Countess G.M. Co., N.L.	32	...	...	103'00	33'45	32	...	...	164'00	87'90	53		
Do	1312	Cue Fingal	...	6	...	...	26'00	9'15	35	...	...	26'00	9'15	35		
Do	(60, 170), 203 (674), 1148	...	(Cue Consolidated G.Ms., Ltd.)	...	...	...	...	...	...	...	...	23,427'50	20,035'79	85		
Do	203	Cue No. 1	...	12	...	...	4,203'00	5,387'20	1'28	...	...	4,486'00	5,517'25	1'23	3	15 0
Do	1174	...	(Cue Victory G.Ms., Ltd.)	...	...	...	...	...	...	...	...	6,523'00	4,093'93	62		
Do	1115	(Deceiver)	...	...	...	...	24'00	18'00	75	...	...	854'00	1,606'27	1'88		
Do	1213	Deceiver North	...	6	...	...	...	...	...	...	...	168'00	372'15	2'21		
Do	1281	Duchess	...	12	...	...	...	...	...	...	...	30'00	10'70	36		
Do	1275	Duke of York	...	5	...	...	440'00	323'32	73	...	...	551'00	434'77	78	3	18 10
Do	523, 1020, 1044, 1127, 1152	...	(Gem of Cue, Ltd.)	...	...	...	...	...	...	...	...	11,724'00	7,587'70	64		
Do	711	Golden Stream Extended	...	Ftd.	...	...	105'00	51'10	48	...	...	2,447'00	2,501'33	1'02		
Do	1306 (672)	Kangaroo	...	12	...	...	160'00	118'88	74	...	...	160'00	118'88	74	3	10 0
Do	183	Leviathan	...	6	...	...	162'50	105'25	64	...	...	1,148'50	936'53	81		
Do	1148 (964)	Light of Asia	...	12	...	...	1,129'00	695'83	61	...	...	3,547'00	2,415'13	68	4	0 0
Do	1339 (1175)	Mafeking	...	24	...	...	71'00	22'05	31	...	...	71'00	22'05	31		
Do	1311	New Arcadia	...	11	...	...	197'00	74'05	37	...	...	197'00	74'05	37	3	15 0
Do	1314 (1220)	New Gem of Murchison	...	Wdn.	...	...	39'00	23'40	60	...	...	39'00	23'40	60		
Do	1135	New Volunteer	...	9	...	...	1,434'00	1,383'00	96	...	...	3,371'00	3,270'10	97	4	0 0
Do	1143	Normanby	...	6	...	...	78'50	114'60	14	...	...	527'50	611'74	1'16	4	0 0
Do	1329	Perseverance	...	12	...	...	24'00	29'90	1'24	...	...	24'00	29'90	1'24		
Do	1150, 1178	Princess leases	...	15	...	...	10'00	4'65	46	...	...	1,252'00	1,242'50	99		
Do	222, 653 (784), 1016, 1048, 1114	...	Princess (Murchison) Consolidated, Ltd.	a. r. p. 35 3 7	...	...	...	cy. 309'50	...	...	...	6,276'50	6,170'80	98		

Do	1151	Queen of the May	12	741-50	571-15	'77	2,212-50	1,937-13	'87	3 19 0	
Do	1333	Research	10	24-00	16-35	'68	24-00	16-35	'68		
Do	1338	Retreat	12	19-50	13-45	'69	19-50	13-45	'69		
Do	1248	Rising Sun	12	247-00	143-70	'58	1,198-00	890-45	'74	4 0 0	
Do	1295	Royal Secret	5	419-50	364-05	'86	419-50	364-05	'86	4 0 0	
Do	1046	Salisbury	24	1,403-00	1,019-68	'72	2,073-00	1,450-98	'70	3 18 0	
Do	1044	South Volunteer	6	415-00	217-50	'52	476-00	254-50	'53		
			a. r. p.								
Do	1325	Starlight	10 1 28	105-00	90-05	'85	105-00	90-05	'85	4 0 0	
Do	774	Twilight	6	45-00	17-50	'39	1,673-00	1,649-24	'98		
Do	1323	Volunteer Deeps	8	20-00	2-20	'11	20-00	2-20	'11		
			a. r. p.								
Do	1145, 1214, 1231	Volunteer South Ex- tended Leases	15 3 3	3,135-50	2,323-60	'74	6,135-50	5,302-43	'86	4 0 0	
Do	1308	Welcome	Surr.	130-00	51-01	'39	130-00	51-01	'39		
Do	1172	West Australian	6				100-00	10-40	'10		
Do	1297 (1144)	Young Colonial...	Surr.	43-00	20-60	'48	43-00	20-60	'48		
Do		Voided leases					152-40	17,527-50	13,854-68		
Do		Sundry claims		191-00	84-57		289-80	3,835-35	3,107-01		
Reedy's Find		Voided leases					35-00	29-00	16-05		
Do		Sundry claims						50-05	47-05		
Tukanarra	1182, 1190, 1197, 1203/5	Anchor Consolidated G.Ms., W.A., Ltd.	66	2,201-00	1,934-40	'88	6,748-00	5,775-27	'85	3 17 6	
Do	1192	Bachelor	V.N.P.	18-00	15-25	'85	24-65	90-00	234-15	2-60	
Do	1190	(Blue Anchor)						43-00	21-50	'50	
Do	1199	Cable	6	405-10	321-29	'79		581-60	502-92	'86 3 17 6	
Do	1280	Douglas Boulder	V.N.P.	62-50	22-10	'35		87-50	50-30	'57	
Do	1285	General Gordon	V.N.P.				2-00	10-00	32-00	3-20	
Do	1337	Nemesis	5	40-00	55-50	1-38		40-00	55-50	1-38 3 17 6	
Do	1182	(Trilby)						240-50	302-05	1-25	
Do	1196	Trilby No. 1	12	21-00	1-50	'07		28-50	2-90	'10	
Do		Voided leases					710-12	618-50	395-48		
Do		Sundry claims		65-50	405-94		34-65	1,023-00	4,633-30		
Weld Range		Voided leases						5,191-50	3,305-03		
Do.		Sundry claims						18-00	17-40		
<i>From District generally—</i>											
Sundry parcels treated at Cue Gold Recovery Works											
Do	do	Cue No. 1 Works		707-50	cy. 247-25			707-50	4,369-45		
Do	do	Cue Public Battery		477-00	227-39			2,576-00	1,287-73		
Do	do	Cue Victory Works		320-50	361-17			702-52	3,568-43		
Do	do	Eureka No. 5 Battery			1,523-25			15-00	4-80		
Do	do	Gem of Cue Works		18-00	5-80			18-00	3,960-11		
Do	do	Lady Mary Cyanide Works			cy. 2,355-23				3,180-40		
Do	do	State Battery, Tukanarra		181-00	102-40			401-50	255-51		
Do	do	Victory United Works						16-50	93-15		
Do	do	Weld Range Cyanide Works							333-75		
Notices of Purchase							214-34	8-44			
Total				29-00	21,523-93	23,009-49	1-06	348-81	1,340-86	150,057-60	1155,409-83 1-03 3 17 0

‡ Also ounces from unknown tons, Black Swan ... 128-00  
Do. do. Kallarra ... 38-00  
Do. do. Maori Chief ... 59-00  
Do. do. Victoria ... 277-00  
Do. do. Sundry claims ... 572-00

Total ... 1,072-00

TABLE IV.—Production of Gold from all sources, etc.—continued.

Murchison Goldfield—continued.

NANNINE DISTRICT.

MINING CENTRE.	NUMBER OF LEASE.	NAME OF LEASE.	REGISTERED NAME OF COMPANY.	Area in Acres.	TOTAL FOR 1902.					TOTAL GOLD PRODUCTION.					Estimated Value of Gold per oz., 1902
					Alluvial.	Dollied and Specimens	Ore treated.	Gold therefrom.	Average per ton treated.	Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom	Average per ton treated.	
Abbotts	382N	Cashman's Reward		12	ozs.	ozs.	tons.	ozs.	ozs.	ozs.	ozs.	tons.	ozs.	ozs.	£ s. d.
Do	171N	Mt. Vranizan		12	...	...	122-00	172-35	1-41	...	...	128-50	184-60	1-43	4 0 0
Do	172N, 247/8N	...	New Murchison King G.Ms.	42	...	...	1,934-00	1,769-60	.91	...	...	10,078-00	11,432-70	1-13	3 16 6½
Do	...	Voided leases	...	...	...	...	2,690-50	2,938-45	1-09	...	...	13,456-50	19,902-30	1-47	3 10 0
Do	...	Sundry claims	...	...	...	...	...	7-50	9-95	...	...	58-50	65-00	...	...
Burnakura	238N	Alliance		12	...	...	480-00	325-00	.67	...	...	1,598-00	1,995-40	1-24	3 6 4½
Do	408N (250N)	New Alliance		18	...	...	942-00	2,779-50	2-95	...	...	942-00	2,779-50	2-95	3 9 9
Do	...	Voided leases	...	...	...	...	...	...	...	...	3,507-45	588-50	1,474-37	...	...
Do	...	Sundry claims	...	...	...	...	...	...	...	...	...	25-00	22-30	...	...
Chesterfield	368N	Adelaide Ethel		12	...	...	80-00	35-70	.44	...	4-00	85-00	47-05	.55	...
Do	435N	Billybong		12	...	...	35-00	20-50	.58	...	...	35-00	20-50	.58	...
Do	423N (375N)	Christmas Gift		6	...	...	59-00	43-50	.74	...	...	59-00	43-50	.74	...
Do	357N	Dorothy		12	...	...	1,171-00	1,121-00	.95	...	...	1,191-75	1,516-75	1-27	3 16 6
Do	365N	Dorothy North		12	...	...	166-00	229-70	1-38	...	...	210-50	321-98	1-53	...
Do	434N	Last Chance		Wdn.	...	...	23-00	24-50	1-06	...	...	23-00	24-50	1-06	...
Do	361N	Margueritta		12	...	...	509-00	784-15	1-54	...	120-40	530-50	946-30	1-78	3 15 3
Do	369N	...	New Murchison King G.M. Co.	18	...	...	50-00	70-00	1-40	...	...	50-00	70-00	1-40	...
Do	...	Voided leases	...	...	...	...	...	...	...	...	17-60	13-50	15-05	...	...
Do	...	Sundry claims	...	...	...	...	64-00	34-36	...	...	...	65-50	48-06	...	...
Gabanintha	370N	Band of Hope		Ftd.	...	...	23-00	23-00	1-00	...	...	124-00	184-95	1-49	...
Do	409N (268N)	Freetrade		6	...	...	25-00	27-50	1-10	...	...	25-00	27-50	1-10	...
Do	379N	Mountain View		6	...	...	54-00	52-20	.96	...	...	97-00	85-40	.88	...
Do	32N, 46N	...	Nannine Goldfields, Ltd.	12	...	...	...	...	...	...	...	2,858-00	1,170-45	.41	...
Do	32N	(Tumbulgum)	...	...	...	...	...	...	...	...	...	670-50	307-12	.45	...
Do	46N	(Tumbulgum Extended)	...	...	...	...	...	...	...	...	...	63-00	97-95	1-53	...
Do	...	Voided leases	...	...	...	...	...	...	...	...	...	2,961-50	8,301-97	...	...
Do	...	Sundry claims	...	...	...	...	21-00	42-00	...	...	...	191-00	179-83	...	...
Garden Gulley	27N	Crown		9	...	...	...	...	...	...	...	260-00	646-80	2-48	...
Do	...	Sundry claims	...	...	...	...	...	...	...	...	...	12-00	48-10	...	...
Jillawarra	311N	Jillawarra		24	...	...	10-00	32-00	3-20	...	...	50-00	128-15	2-56	...
Meekatharra	283/4N	Commodore leases		32	...	...	227-25	493-45	2-17	...	...	642-50	1,989-25	3-09	3 19 6½
Do	425N (337N)	Democrat		12	...	...	142-00	127-80	.90	...	...	142-00	127-80	.90	...
Do	313N	Haleyon		12	...	...	181-50	220-75	1-21	...	2-45	508-75	508-55	1-00	3 16 6
Do	279N	Havelock South		12	...	...	394-00	254-45	.64	...	...	582-00	445-50	.76	3 18 9½
Do	236N	Haveluck		12	...	...	193-00	233-30	1-21	...	...	963-75	835-80	.86	3 16 11½
Do	363N	Ingliston		12	...	...	182-50	211-85	1-16	...	...	296-50	457-45	1-54	3 17 10
Do	398N	Ingliston Extended		12	...	...	307-00	367-10	1-19	...	...	307-00	367-10	1-19	3 18 9
Do	422N (257N)	Lone Hand		12	...	...	300-50	149-45	.49	...	...	300-50	149-45	.49	3 19 6
Do	93N	N 93		12	...	...	580-00	344-50	.59	...	...	1,568-00	1,346-75	.85	3 16 7½
Do	402N	Phoenix No. 1		12	...	...	62-33	83-23	1-41	...	...	84-33	103-73	1-23	...
Do	372N	Pioneer		12	...	...	888-75	996-05	1-12	...	...	1,171-75	1,247-75	1-06	3 12 6
Do	246N	Sirdar		12	...	...	...	...	...	...	64-01	118-25	111-95	.94	...
Do	323N	St. George		12	...	...	82-00	62-50	.76	...	...	224-00	137-70	.61	...

Do	411N	Tidal Wave	...	Wdn.	...	20-75	7-10	34	...	20-75	7-10	34									
Do	...	Voided leases	...	...	...	...	...	...	...	605-25	541-02	...									
Do	...	Sundry claims	...	...	...	...	...	...	...	171-50	217-05	...									
Munara Gully	230/1N (265/6N, 314N, 322N)	After Many Years leases	...	30	...	168-00	175-80	1-04	...	11,489-00	5,991-53	52	3	10	0						
Do	...	Voided leases	...	...	...	...	...	...	...	1,236-75	1,637-85	...									
Nannine	273N	Caledonian	...	6	...	144-00	243-00	1-68	...	468-00	1,163-65	2-48									
Do	8N	Caledonian Extended	...	6	...	45-00	282-15	6-27	...	352-00	2,059-27	5-85									
Do	10N, 11N, 13N, 17N (37N, 43N)	...	Champion Reef (Nannine, W.A.) G.M. Co. Ltd.	24	...	4,972-00	3,043-05	61	...	22,572-00	11,562-88	51	3	17	10						
Do	429N (267N)	Dunaustral	...	20	40-00	...	...	...	40-00	...	...	...									
Do	7N, 15N (42N, 44/5N, 47N, 67N)	...	Mt. Yagahong Exploration Co., Ltd.	24	...	30-00	20-30	...	...	13,944-00	11,541-91	82	3	0	0						
Do	16N, 25N, 166N	Nannine leases	...	33	...	809-00	881-82	1-09	...	5,523-00	11,159-95	2-02	3	7	4						
Do	264N	New Caledonian	...	6	...	31-00	87-65	2-82	...	136-00	223-55	1-64									
Do	249N	...	Mt. Yagahong G.M. and Ex- ploration Co., Ltd.	24	...	189-50	166-65	88	...	2,597-50	1,484-35	57									
Do	25N	Royalist Consolidated	...	9	...	...	...	...	...	762-53	4,098-45	5-37									
Do	415N	(Wanganui)	...	...	...	265-00	100-40	37	...	265-00	100-40	37									
Do	415N	...	Wanganui G.M. Co., Ltd.	24	...	520-00	237-70	45	...	520-00	237-70	45									
Do	...	Voided leases	...	...	...	...	...	...	...	62-85	9,787-50	7,670-32	...								
Do	...	Sundry claims	...	...	...	56-00	57-00	...	...	654-50	1,083-05	...									
Nowthanna	420N	Nowthanna	...	5	17-25	43-00	48-65	1-13	...	43-00	48-65	1-13									
Do	...	Voided leases	...	...	...	...	...	...	...	524-00	451-65	...									
Quinn's	...	Voided leases	...	...	...	...	...	...	...	17-37	...	...									
Do	...	Sundry claims	...	...	...	...	...	...	...	103-03	...	...									
Stake Well	342N	Commonwealth	...	12	...	170-00	152-35	89	...	547-00	601-25	1-09	4	1	6						
Do	...	Voided leases	...	...	...	...	...	...	...	92-00	35-62	...									
Star of the East	174N	...	Star of the East, Ltd.	25	...	498-00	230-65	46	...	26,929-00	27,729-30	1-02	3	5	0						
Do	...	Voided leases	...	...	...	...	...	...	...	225-00	222-24	...									
<i>From District generally—</i>																					
Sundry parcels treated at Nannine Cyanide Works				...	...	...	...	...	...	...	...	202-76	...								
Do do Queen of the Lake Battery				...	...	...	...	...	...	...	10-00	26-00	...								
Alluvial				...	...	689-70	...	...	...	1,989-70	...	...	...								
Notices of Purchase				...	...	...	...	...	...	1-90	...	...	...								
Total				...	...	729-70	17-25	20,073-08	21,977-46	1-09	2,031-60	3,938-91	142,842-86	145,024-31	1-01	3	10	8			

### DAY DAWN DISTRICT.

Day Dawn					ozs.	ozs.	tons.	ozs.	ozs.	ozs.	ozs.	tons.	ozs.	ozs.	£	s.	d.
Do	278D	Ada Mary	...	12	...	...	66-00	44-12	67	...	...	66-00	44-12	67			
Do	253D	Aurifer	...	Surr.	...	...	11-00	3-55	32	...	...	11-00	3-55	32			
Do	14D (71D)	Croesus	...	6	...	...	...	...	...	...	...	1,138-00	1,788-81	1-57			
Do	214D	Edward VII.	...	6	...	...	30-00	44-00	1-46	10-00	45-00	30-00	44-00	1-46			
Do	15D, 176D	...	Emperor G.M.s Ltd.	18	...	...	...	...	...	...	...	1,766-70	2,908-08	1-64			
Do	26D	Eureka No. 5	...	12	...	...	...	...	...	...	...	1,280-25	1,413-62	1-10			
Do	1D, 2D, 86D, 129D, 170D, 185/7D, 210D, 224D	...	Great Fingall Consolidated, Ltd.	a. r. p. 112 1 26	...	...	75,939-00	124,680-01	1-64	...	...	160,252-00	231,638-13	1-44	3	5	0
Do	179D	Kinsella	...	6	...	...	...	...	...	...	3-50	106-50	186-38	70			
Do	312D	Klondyke	...	6	...	...	65-00	28-40	43	...	...	65-00	28-40	43			
Carried forward				...	...	...	76,111-00	124,800-08	...	10-00	48-50	164,715-45	238,055-04	...			

TABLE IV.—Production of Gold from all sources, etc.—continued.

Murchison Goldfield—continued.

DAY DAWN DISTRICT—continued.

MINING CENTRE.	NUMBER OF LEASE.	NAME OF LEASE.	REGISTERED NAME OF COMPANY.	Area in Acres.	TOTAL FOR 1902.					TOTAL GOLD PRODUCTION.					Estimated Value of Gold per oz., 1902
					Alluvial.	Dollied and Specimens	Ore treated.	Gold therefrom.	Average per ton treated.	Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.	Average per ton treated.	
			Brought forward ...	...	ozs.	ozs.	tons.	ozs.	ozs.	ozs.	ozs.	tons.	ozs.	ozs.	s. d.
Day Dawn	293D	Klondyke	...	Ftd.	...	...	76,111'00	124,800'08	...	10'00	48'50	164,715'45	238,055'04	...	
Do	273D	Mount Fingall	...	12	...	...	98'00	54'69	'55	...	...	98'00	54'69	'55	
Do	188D, 166/7D	...	Murchison Associated G.Ms., Ltd.	18	...	...	360'00	211'82	'58	...	...	1,902'50	1,274'54	'66	
Do	181D	Royal Charter	...	12	...	...	...	...	...	...	36'80	115'00	192'88	1'68	
Do	119D	(St. Albans)	...	12	...	...	...	...	...	...	...	43'00	16'80	'39	
Do	267D	Try Again	...	12	...	...	...	...	...	...	...	6'00	7'50	1'25	
Do	268D	White Horse Extended	...	6	...	...	5'00	6'65	1'33	...	...	5'00	6'65	1'33	
Do	...	Voided leases	...	...	...	...	...	...	...	1'70	222'33	17,906'75	13,425'70	...	
Do	...	Sundry claims	...	...	...	...	5'00	'60	...	...	29'19	369'50	599'49	...	
Island	9D	(Eureka)	...	...	...	...	...	...	...	...	...	143'20	529'00	3'69	
Do	35D	(Evening Star)	...	...	...	...	...	...	...	...	...	1,253'00	429'00	'34	
Do	{ 35D, 42D, 68/9D, 70D, 74D, 79D, 143D }	{ ... }	Golconda Mines, Ltd. (late Golconda G.Ms., Ltd.)	a. r. p. 89 3 22	...	...	330'00	311'75	'94	...	...	9,852'00	19,673'04	1'99	3 17 6
Do	5D, 9D, 142D	...	Island Eureka G.M. Co., N.L.	16 2 25	...	...	4,700'00	6,154'57	1'31	...	...	8,775'20	14,420'21	1'64	3 17 10½
Do	155D	New Orient	...	6	...	...	...	...	...	...	...	731'50	3,433'03	4'69	
Do	11D	Von Moltke	...	4	...	22'00	...	...	...	33'00	61'91	...	...	...	
Do	...	Voided leases	...	...	...	...	...	...	...	...	63'68	1,960'10	1,429'66	...	
Do	...	Sundry claims	...	...	...	...	...	...	...	9'00	...	...	...	...	
Mainland	313D (204D)	Comet	...	6	...	2'38	...	...	...	...	2'38	...	...	...	
Do	204D	Ingot	...	V.N.P.	...	...	30'00	67'15	2'24	...	34'50	30'00	67'15	2'24	
Do	6D, 60/1D	...	Mainland Consols, Ltd.	48	...	...	...	...	...	...	...	5,848'15	20,781'67	3'55	
Do	...	Voided leases	...	...	...	...	...	...	...	...	1,517'39	388'25	1,530'08	...	
Webb's Patch	...	Sundry claims	...	...	...	...	4'00	272'60	...	...	84'05	4'00	272'60	...	
<i>From District generally—</i>															
		Sundry parcels treated at Cue Victory Battery	...	...	...	21'50	...	...	...	...	21'50	...	...	...	
Do	do	Day Dawn Public Battery	...	...	...	...	...	cy. 93'90	...	...	...	125'00	1,049'22	...	
Do	do	Day Dawn South No. 1 Battery	...	...	...	...	...	...	...	...	...	380'00	505'50	...	
Do	do	Eureka No. 5 Battery	...	...	...	14'00	...	5'85	...	...	...	264'50	128'67	...	
Do	do	Island Lake Austin Battery	...	...	...	...	...	...	...	...	...	119'00	53'00	...	
		Notices of Purchase	...	...	...	...	...	...	...	27'61	2'57	...	...	...	
Total					...	45'88	81,731'00	132,022'66	1'61	81'31	2,124'80	215,109'10	317,978'12	1'47	3 5 7½

MOUNT MAGNET DISTRICT.

						ozs.	ozs.	tons.	ozs.	ozs.	ozs.	ozs.	tons.	ozs.	ozs.	£	s.	d.	
Boogardie	361M	...	Australian Gold Recovery Co., Ltd.	10	...	...	...	29.00	467.50	...	...	...	1,597.00	2,134.57	1.33				
Do	594M	Bobs	...	5	...	9.90	...	65.00	56.15	.86	...	9.90	65.00	56.15	.86				
Do	522M	Boomer	...	5	...	...	...	42.00	4.60	.11	...	...	209.00	39.87	.19				
Do	507M	Bronzewing	...	6	...	...	...	...	...	...	...	47.75	...	...	...				
Do	489M	Comet	...	6	...	3.00	...	47.00	36.97	.78	...	4.00	65.00	51.47	.79				
Do	490M	Cushie Doo	...	6	...	...	...	59.00	28.40	.48	...	87.80	104.00	285.15	2.74				
Do	A.C. 1M	Deep Alluvial Claim	...	...	...	...	...	...	...	...	...	...	2,392.00	959.84	.40				
Do	264M	Eclipse Extended	...	12	...	...	...	...	...	...	...	...	914.75	1,830.59	2.00				
Do	502M	Havelock	...	10	...	...	...	356.50	164.15	.46	...	55.00	538.00	337.78	.62				
Do	463M	Hesperus Dawn	...	10	...	...	...	...	...	...	...	...	521.98	1,860.95	3.56				
Do	635M	Iron Dyke	...	5	...	2.00	...	6.50	3.63	.55	...	2.00	6.50	3.63	.55				
Do	190M	Jupiter, No. 1	...	18	...	...	...	176.00	99.86	.56	18.03	.80	1,630.15	1,252.08	.77				
Do	657M (220M)	Marsite	...	6	...	...	...	8.00	3.65	.45	...	...	8.00	3.65	.45				
Do	445M	Neptune	...	12	...	...	...	...	...	...	...	557.80	452.00	1,161.15	2.57				
Do	538M	Saturn	...	6	...	...	...	68.00	27.45	.40	...	...	98.00	37.85	.38				
Do	571M (504M)	Sirdar	...	12	...	...	...	529.00	244.30	.46	...	...	529.00	244.30	.46	3	13	6	
Do	...	Voided leases	...	...	...	...	...	...	...	...	...	281.22	5,236.95	6,546.13	...				
Do	...	Sundry claims	...	...	...	...	...	87.50	34.97	...	...	5.86	1,450.50	682.86	...				
Lennonville	613M	Ardpatrick	...	12	...	...	...	322.00	265.50	.82	...	...	322.00	265.50	.82	3	19	5	
Do	604M (395M)	Baxter's Reward	...	12	...	...	...	139.00	26.55	.19	...	...	139.00	26.55	.19				
Do	48M	Brilliant	...	9	...	...	...	...	...	...	...	...	527.00	564.15	1.07				
Do	602M	Briton	...	6	...	...	...	28.00	6.63	.23	...	...	28.00	6.63	.23				
Do	327M (346M), 368M, 466M	Burra Burra leases	...	a. r. p. 25 3 6	...	...	...	70.00	68.70	.98	...	...	1,133.50	3,468.95	3.06				
Do	587M (458M)	Canterbury	...	6	...	...	...	118.00	90.81	.77	...	...	118.00	90.81	.77				
Do	593M (480M)	Day Spring	...	6	...	...	...	41.50	45.35	1.09	...	...	41.50	45.35	1.09				
Do	333M	Fair Play	...	6	...	...	...	121.00	314.70	2.60	...	...	411.00	773.02	1.88	3	18	4	
Do	535M	Gambier	...	6	...	...	...	23.00	12.15	.53	...	...	125.50	124.20	.99				
Do	567M (425M)	Golden Giant West	...	3	...	...	...	40.00	58.50	1.46	...	...	40.00	58.50	1.46				
Do	619M (511M)	Golden Hill	...	12	...	...	...	60.00	13.36	.22	...	...	60.00	13.36	.22				
Do	41M, 52M, 508M	Golden Treasure leases	...	a. r. p. 17 3 20	...	...	...	110.00	94.87	.86	...	...	1,433.00	985.36	.68				
Do	549M	Grand Gorge	...	Ftd.	...	...	...	8.00	4.25	.53	...	...	117.00	78.10	.66				
Do	628M	Haeremai	...	24	...	...	...	54.00	90.25	1.67	...	...	54.00	90.25	1.67				
Do	494M	Helm	...	5	...	...	...	...	...	...	...	...	20.00	16.85	.84				
Do	512M	Lennonville	...	12	...	...	...	198.00	653.10	3.30	...	...	395.00	824.80	2.08	3	17	10	
Do	617M (458M)	Lennonville Giant	...	12	...	...	...	65.00	18.53	.28	...	...	65.00	18.53	.28				
Do	30/1M, 39M, 247M, 433M	Long Reef G.M. Co., Ltd.	...	51	...	...	...	12,957.00	7,392.70	.57	...	...	54,766.25	37,911.19	.69	3	18	10 1/2	
Do	542M	Long Reef Central	...	Surr.	...	...	...	32.00	11.94	.37	...	...	176.00	78.14	.44				
Do	621M (542M)	Long Reef Central	...	a. r. p. 5 3 37	...	...	...	14.00	5.15	.37	...	...	14.00	5.15	.37				
Do	578M	Mabel	...	Ftd.	...	...	...	118.00	28.35	.24	...	...	118.00	28.35	.24				
Do	632M (556M)	Matterhorn	...	15	...	...	...	12.00	3.80	.31	...	...	12.00	3.80	.31				
Do	566M (80M)	Piedmont	...	Ftd.	...	...	...	45.00	285.20	6.34	...	...	45.00	285.20	6.34				
Do	586M	Simmer and Jack	...	12	...	...	...	150.00	64.89	.43	...	...	150.00	64.89	.43				
Do	436M	Speedwell	...	6	...	...	...	5.00	12.25	2.45	...	9.66	21.00	35.65	1.69				
Do	421M	Splendour	...	6	...	...	...	62.00	46.80	.75	...	...	518.25	499.32	.96				
Do	405M	Sullivan's Dunlop	...	12	...	...	...	167.00	192.62	1.15	...	...	609.00	586.65	.96	3	19	0	
Do	590M (453M)	Tarcoola	...	12	...	...	...	54.00	38.15	.70	...	...	54.00	38.15	.70				
Do	57M	Welcome	...	12	...	...	...	169.00	217.10	1.28	...	2,550.20	1,860.00	3,708.99	2.00	3	15	0	
Do	606M	Werrawe	...	6	...	...	...	22.00	37.37	1.69	...	...	22.00	37.37	1.69				
			Carried forward	...	...	...	...	14.90	16,678.00	11,271.20	...	18.03	3,611.99	80,212.83	68,221.78	...			

TABLE IV.—Production of Gold from all sources, etc.—continued.

Murchison Goldfield—continued.

MOUNT MAGNET DISTRICT—continued.

MINING CENTRE.	NUMBER OF LEASE.	NAME OF LEASE.	REGISTERED NAME OF COMPANY.	Area in Acres.	TOTAL FOR 1902.					TOTAL GOLD PRODUCTION.					Estimated Value of Gold per oz., 1902.
					Alluvial.	Dolled and Specimens	Ore treated.	Gold therefrom.	Average per ton treated.	Alluvial.	Dolled and Specimens.	Ore treated.	Gold therefrom.	Average per ton treated.	
			Brought forward	...	ozs.	ozs.	tons.	ozs.	ozs.	ozs.	ozs.	tons.	ozs.	ozs.	s.
Lennonville	103M, 373M, 574M	Wheel of Fortune leases	...	24	...	...	1,962'00	6,598'02	3'36	...	...	3,123'00	9,296'17	2'97	3 18 3
Do	585M	Wheel of Fortune North Extended	...	6	...	...	83'00	51'02	'61	...	...	83'00	51'02	'61	
Do	151M	Wheel of Fortune South Block	...	6	...	...	329'00	948'25	2'88	...	...	926'65	3,401'28	3'64	3 18 1
Do	...	Voided leases	...	...	...	...	...	...	...	...	62	9,343'95	7,367'69	...	
Do	...	Sundry claims	...	...	...	...	25'00	9'17	...	...	...	489'25	319'16	...	
Mt. Magnet	317M	(Birthday)	...	...	...	...	...	...	...	...	...	184'50	30'92	'16	
Do	545M	Britannia	...	12	...	...	30'00	37'20	1'24	...	...	176'00	168'77	'96	
Do	607M	Caledonia	...	9	...	...	15'00	2'35	'15	...	...	15'00	2'35	'15	
Do	7M, 206M, 257M, 301M, 313M, 315/6M, 324M, 355/6M	...	Chuans Consolidated, Ltd.	V.N.P.	...	...	...	cy. 224'65	...	...	...	11,984'00	28,503'15	2'37	
Do	301M	(Golden Age)	...	...	...	...	...	...	...	...	...	77'00	109'65	1'42	
Do	457M	Iguana	...	12	...	...	28'00	21'05	'75	...	...	348'00	427'20	1'22	
Do	562M	Kapai	...	10	...	...	43'00	31'49	'73	...	...	61'00	32'99	'54	
Do	665M (448M)	Mayflower	...	9	...	...	12'00	45'07	3'75	...	...	12'00	45'07	3'75	
Do	314M, 317M, 320M	(Morning Star leases)	...	...	...	...	1,123'00	1,294'49	1'15	...	...	63,938'00	39,001'51	'61	
Do	314M, 317M, 320M	...	Morning Star Quartz Co., N.L.	a. r. p. 23 3 37	...	...	6,030'00	5,766'45	'95	...	...	6,030'00	5,766'45	'95	3 18 6
Do	656M (476M)	Paris	...	6	...	...	40'00	10'30	'25	...	...	40'00	10'30	'25	
Do	623M	Pearl North	...	Wdn.	...	...	13'00	20'00	1'54	...	...	13'00	20'00	1'54	
Do	572M (565M)	Revenue	...	12	...	...	182'00	65'00	'36	...	...	182'00	65'00	'36	
Do	120M, 339M	...	Western Syndicate, Ltd.	24	...	...	15'00	63'12	4'21	...	6'04	876'00	1,430'88	1'63	
Do	...	Voided leases	...	...	...	...	...	...	...	...	...	6,059'60	4,469'65	...	
Do	...	Sundry claims	...	...	...	...	111'00	78'25	...	...	23'07	1,944'60	2,525'95	...	
Mt. Magnet East	415M	Havela	...	12	...	13'32	60'50	173'10	2'86	...	261'06	303'50	294'30	'97	
Do	658M (460M)	Killarney	...	12	...	...	73'00	32'10	'44	...	...	73'00	32'10	'44	
Do	460M	Killarney	...	Ptd.	...	...	100'00	40'65	'40	...	...	549'00	346'90	'63	
Do	416M	Lady Maud	...	12	...	...	18'50	22'15	1'19	...	5'00	165'50	197'83	1'19	
Do	558M	Maori Chief	...	12	...	...	22'00	7'55	'34	...	...	79'00	81'55	1'03	
Do	381M	Mount Ford	...	V.N.P.	...	...	20'00	7'08	'35	...	4'80	96'00	213'53	2'22	
Do	599M (382M)	South Australian	...	6	...	...	7'50	2'50	'33	...	...	7'50	2'50	'33	
Do	413M	Surprise	...	V.N.P.	...	...	15'00	6'00	'40	69'50	155'00	162'00	482'17	2'97	
Do	340M	(Windsor Castle)	...	...	...	...	...	...	...	...	...	2'05	4'70	13'85	2'94
Do	340M, 352M (451M, 468M)	...	Windsor Consolidated (W.A.) G.Ms., Ltd.	33	...	...	770'00	422'85	'55	...	...	3,666'00	1,077'50	'29	3 16 6.
Do	...	Voided leases	...	...	...	...	...	...	...	...	...	393'59	395'05	...	
Do	...	Sundry claims	...	...	...	...	...	34'00	7'00	...	...	40'30	209'50	155'14	...

Moyagee	...	...	Voided leases	...	...	...	...	...	...	...	...	...	...	...	317.50	328.56	...	...	...	
Do	...	...	Sundry claims	...	...	...	...	...	...	...	...	...	...	...	5.00	.50	...	...	...	
Warrangee	...	573M (559M)	Brooklyn	...	...	...	...	6	...	69.00	111.45	1.61	...	...	69.00	111.45	1.61	...	...	
Do	...	644M	Bushman	...	...	...	...	6	...	19.00	13.00	.68	...	...	19.00	13.00	.68	...	...	
Do	...	543M	Easter Gem	...	...	...	...	Ftd.	...	14.00	7.65	.54	...	...	47.00	28.38	.60	...	...	
								a. r. p.												
								19 0 32												
Do	...	465M, 503M, 544M	Empress leases	...	...	...	...	12	...	859.00	1,397.55	1.62	...	...	1,335.00	2,724.61	2.04	4 0 9	...	
Do	...	343M	Galtee Moore	...	...	...	...	6	...	831.00	486.60	.58	...	...	3,087.00	1,847.75	.59	4 0 0	...	
Do	...	201M	Golden Gem	...	...	...	...	Ftd.	...	155.00	764.95	4.93	...	35.20	550.50	1,371.80	2.49	4 1 6	...	
Do	...	341M	Waringee	...	...	...	...	...	...	50.00	165.50	3.31	...	3.35	127.00	238.33	1.87	...	...	
Do	...	...	Voided leases	...	...	...	...	...	...	...	...	...	...	29.65	382.75	519.71	...	...	...	
Do	...	...	Sundry claims	...	...	...	...	...	...	...	...	...	...	13.50	154.00	141.56	...	...	...	
<i>From District generally--</i>																				
Sundry parcels treated at Australian Gold Recovery Works										...	...	...	...	...	...	...	...	...	...	
Do do Murchison New Chum Works										...	...	...	...	...	...	...	...	...	...	
Do do State Battery, Lennonville										...	...	...	...	...	...	...	...	...	...	
Alluvial										291.30	...	...	...	...	...	...	...	...	...	
Total										291.30	62.52	29,809.50	32,628.60	1.09	683.33	4,585.52	196,898.88	191,062.27	.97	3 18 7½

### Yalgoo Goldfield.

MINING CENTRE.	NUMBER OF LEASE.	NAME OF LEASE.	REGISTERED NAME OF COMPANY.	Area in Acres.	TOTAL FOR 1902.					TOTAL GOLD PRODUCTION.					Estimated Value of Gold per oz., 1902.					
					Alluvial.	Dollied and Specimens	Ore treated.	Gold therefrom.	Average per ton treated.	Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.	Average per ton treated.						
Bilberatha	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Carlaminda	478/9	Voided leases	Murchison Reliance	18	...	...	11.50	14.35	1.24	...	...	...	554.00	221.52	...	...	...	...	...	...
Do	...	Voided leases	...	...	...	...	...	...	...	...	...	...	625.32	402.58	...	...	...	...	...	...
Do	...	Sundry claims	...	...	...	...	...	...	...	...	...	...	114.00	82.62	...	...	...	...	...	...
Field's Find	441/3	...	Field's Find G.Ms., Ltd.	60	...	...	2,059.00	3,838.92	1.86	...	...	...	30,336.00	23,247.47	.76	3 15 0	...	...	...	...
Do	392	Golden Eagle	...	12	...	...	33.50	66.85	1.99	...	1.50	...	217.50	138.85	.64	...	...	...	...	...
Do	...	Sundry claims	...	...	...	...	43.00	33.70	...	...	42.00	...	118.25	102.72	...	...	...	...	...	...
Gullewa	170/1, 174	...	Monarch G.M. Syndicate	18	...	...	...	...	...	...	...	...	12.00	9.60	.80	...	...	...	...	...
Do	34, 53/4, 445	...	Phoenix G.Ms., Ltd.	48	...	...	...	...	...	...	...	...	6,626.50	6,388.21	.96	...	...	...	...	...
Do	...	Voided leases	...	...	...	...	...	...	...	...	...	...	474.00	351.25	...	...	...	...	...	...
Do	...	Sundry claims	...	...	...	...	...	...	...	...	...	...	30.00	8.70	...	...	...	...	...	...
Kirkalucka	...	Sundry claims	...	...	...	...	...	...	...	...	...	...	8.80	4.60	...	...	...	...	...	...
Noongal	(439), 440, Q.C. 30	Victoria United	...	6	...	...	...	cy. 22.00	...	...	...	...	519.00	277.92	.53	...	...	...	...	...
Do	...	Voided leases	...	...	...	...	...	...	...	...	...	...	2,197.50	1,324.95	...	...	...	...	...	...
Do	...	Sundry claims	...	...	...	...	...	...	...	13.00	...	...	13.00	...	...	...	...	...	...	...
Nyngan	482	Gladstone	...	a. r. p. 6 2 25	...	...	52.00	35.05	.67	...	...	...	52.00	35.05	.67	3 16 10	...	...	...	...
Carried forward					...	...	13.00	...	2,199.00	4,010.87	...	...	13.00	60.00	42,109.37	32,779.10	...	...	...	...



TABLE IV.—Production of Gold from all sources, etc.—continued.

Yalgoo Goldfield—continued.

MINING CENTRE.	NUMBER OF LEASE.	NAME OF LEASE.	REGISTERED NAME OF COMPANY.	Area in Acres.	TOTAL FOR 1902.					TOTAL GOLD PRODUCTION.					Estimated Value of Gold per oz., 1902.
					Alluvial.	Dolled and Specimens	Ore treated.	Gold therefrom.	Average per ton treated.	Alluvial.	Dolled and Specimens.	Ore treated.	Gold therefrom.	Average per ton treated.	
			Brought forward ...	...	ozs. 13'00	ozs. ...	tons. 2,199'00	ozs. 4,010'87	ozs. ...	ozs. 13'00	ozs. 60'00	tons. 42,109'37	ozs. 32,779'10	ozs. ...	£ s. d.
Nynghan	446/7 (448)	...	Pinyalling Discovery G.Ms., Ltd.	48	...	...	178'00	13'00	'07	...	250'00	344'00	190'38	'55	
Do	...	Voided leases	...	...	...	...	...	...	...	...	...	1'00	7'00	...	
Do	...	Sundry claims	...	...	...	...	...	...	...	...	...	18'00	26'30	...	
Rothsay	(14, 147/9), 192 (193, 209, 210, 213, 220, 244, 254, 400), R.C. 4	...	Woodley's G.Ms., Ltd.	24	...	...	...	cy. 1,004'00	...	...	...	8,966'00	3,822'01	'42	
Wadgingarra	462	Commonwealth...	...	12	...	...	13'55	62'95	4'64	...	...	75'10	368'63	4'91	4 0 0
Do	485	Morning Star	...	6	...	...	26'95	16'15	'59	...	...	26'95	16'15	'59	
Do	...	Voided leases	...	...	...	...	...	...	...	...	...	325'06	236'55	...	
Yalgoo	129	Emerald Reward Consolidated	...	25	...	...	205'00	65'75	'32	...	...	606'00	399'95	'66	3 15 0
Do	468	May Be	...	6	...	...	221'00	55'60	'25	...	...	270'00	88'70	'32	
Do	...	Voided leases	...	...	...	...	...	...	...	...	40	3,639'50	10,074'32	...	
Do	...	Sundry claims	...	...	...	...	24'00	9'75	...	...	...	87'00	47'59	...	
Yuin	409, 427, 430, 469, 470	Royal Standard leases	...	25	...	...	1,125'00	602'30	'53	...	...	4,087'00	2,180'30	'53	3 17 10½
<i>From Goldfield generally—</i>															
		Sundry parcels treated at State Battery, Carlaminda	...	...	...	...	...	...	...	...	...	609'00	719'00	...	
		Do do Victoria United Battery	...	...	...	...	...	...	...	...	...	55'00	19'70	...	
		Notices of Purchase	...	...	...	...	...	...	...	12'08	...	...	...	...	
			Total	...	13'00	...	3,992'50	5,840'37	1'46	25'08	310'40	61,218'98	50,975'68	'83	3 15 5½

# Mount Margaret Goldfield.

## MOUNT MORGANS DISTRICT.

MINING CENTRE.	NUMBER OF LEASE.	NAME OF LEASE.	REGISTERED NAME OF COMPANY.	Area in Acres.	TOTAL FOR 1902.					TOTAL GOLD PRODUCTION.					Estimated Value of Gold per oz., 1902.	
					Alluvial.	Dollied and Specimens	Ore treated.	Gold therefrom.	Average per ton treated.	Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.	Average per ton treated.		
Korong	75F (1341T)	Horse Shoe	...	12	...	9.10	148.50	159.30	1.07	...	9.10	148.50	159.30	1.07		
Do	9F 461T	Korong, No. 461	...	24	...	...	30.00	98.10	3.27	20.55	...	115.00	376.21	3.27		
Do	81F	Pot Boiler	...	6	...	...	27.00	216.00	8.00	...	...	27.00	216.00	8.00		
Do	...	Voided leases	...	...	...	...	...	...	...	...	...	96.50	169.18	...		
Do	...	Sundry claims	...	...	...	34.35	8.00	3.55	...	...	34.35	8.00	3.55	...		
Mt. Flora	1F (716c)	Princess Iris	...	12	...	3.65	82.00	297.15	3.62	...	3.65	197.00	420.00	2.13	3 17 6	
Do	...	Voided leases	...	...	...	...	...	...	...	...	1,822.79	10,166.50	18,950.21	...		
Do	...	Sundry claims	...	...	...	...	84.50	332.62	...	...	80.00	150.50	371.58	...		
Mt. Margaret	66F (1273T)	Mt. Morven	...	a. r. p. 19 1 15	...	...	90.50	124.15	1.37	...	...	106.50	148.90	1.40		
Do	...	Voided leases	...	...	...	...	...	...	...	...	...	1,424.00	1,006.63	...		
Do	...	Sundry claims	...	...	...	...	10.00	18.25	...	...	...	10.00	18.25	...		
Mt. Morgans	7F, 20/1F (326T, 917/8T)	...	Westralia Mt. Morgans G.Ms. Co., Ltd. (late Guests G.M., Ltd.)	a. r. p. 69 0 29	...	...	...	...	...	...	...	18,261.00	9,227.65	.50		
Do	93F (1113T)	Pretoria	...	24	...	...	12.50	10.00	.80	...	...	12.50	10.00	.80		
Do	31F (997T)	Sons of Gowrie	...	24	...	...	203.00	228.80	1.12	...	...	442.00	938.80	2.12	3 16 0	
Do	8F, 50F (69F), (338T, 1205T, 1294T)	...	The Millionaire, Ltd.	48	...	...	...	...	...	...	...	229.00	183.75	.80		
Do	29F, 30F (979T, 980T)	Transvaal leases	...	48	...	...	72.00	170.00	2.36	...	...	731.00	1,438.57	1.96		
Do	5F, 10F, 19F, 22F, 32F, 72F, 73F (321T, 759T, 903T, 926T, 1002T, 965T, 967T)	...	Westralia Mt. Morgans G.Ms. Co., Ltd.	137	...	...	56,022.00	55,982.75	.99	...	...	104,735.00	134,930.23	1.28	3 13 8	
Do	...	Voided leases	...	...	...	...	...	...	...	...	...	258.00	281.48	...		
Do	...	Sundry claims	...	...	...	...	58.00	40.95	...	...	...	76.00	55.95	...		
Redcastle	77F (383T)	Coronation	...	12	...	...	26.00	13.00	.50	...	...	26.00	13.00	.50		
Do	39F (1125T)	Major	...	12	...	...	25.00	18.00	.72	...	...	44.00	44.75	1.01		
Do	83F	Queen Alexandra	...	12	...	...	61.00	38.75	.63	...	...	61.00	38.75	.63		
Do	15/8F (868/9T, 870/1T)	Redcastle leases	...	a. r. p. 43 2 31	...	...	734.00	1,005.75	1.37	4.00	...	1,861.00	2,019.75	1.08	3 0 0	
Do	...	Voided leases	...	...	...	...	...	...	...	...	...	252.95	156.16	...		
Do	...	Sundry claims	...	...	...	...	...	...	...	...	...	10.00	5.00	...		
<i>From District generally—</i>																
Sundry parcels treated at Mt. Morgans Public Battery									cy. 287.33				287.33			
<b>Total</b>								<b>47.10</b>	<b>57,694.00</b>	<b>59,044.45</b>	<b>1.02</b>	<b>24.55</b>	<b>1,949.89</b>	<b>139,448.95</b>	<b>171,470.98</b>	<b>1.23 3 13 5 1/2</b>

TABLE IV.—Production of Gold from all sources, etc.—continued.

Mount Margaret Goldfield—continued.

MOUNT MALCOLM DISTRICT.

MINING CENTRE.	NUMBER OF LEASE.	NAME OF LEASE.	REGISTERED NAME OF COMPANY.	Area in Acres.	TOTAL FOR 1902.					TOTAL GOLD PRODUCTION.					Estimated Value of Gold per oz., 1902.
					Alluvial.	Dollied and Specimens	Ore treated.	Gold therefrom.	Average per ton treated.	Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.	Average per ton treated.	
					ozs.	ozs.	tons.	ozs.	ozs.	ozs.	ozs.	tons.	ozs.	ozs.	£ s. d.
Diorite King	905c	Blue Jacket		V.N.P.			13·00	19·00	1·46			23·00	24·30	1·06	
Do	934c	Bluemantle		12			71·50	53·95	·75			71·50	53·95	·75	
Do	335c, 528c, 574c, 583c		King of the Hills G.M. Co., Ltd.	78			5,104·00	3,113·55	·61		355·00	12,514·75	8,082·55	·64	3 8 7
Do	960c	Lady Mac		12			22·00	31·00	1·41			22·00	31·00	1·41	
Do	958c (777c)	Meteor		12			23·00	10·41	·45			23·00	10·41	·45	
Do	441/2c, 865/6c, 881/2c	Mt. Stirling leases		96			1,034·00	2,087·05	2·01			2,508·00	4,065·33	1·62	3 2 0
Do		Voided leases									332·88	3,090·73	8,897·75		
Do		Sundry claims					220·50	257·45				563·00	952·76		
Dodger's Well		Voided leases									60·00	167·50	243·51		
Leonora	886c	All Nations		24			50·00	15·70	·31			60·00	33·50	·56	
Do	679c	Ashley's United		6			112·00	94·83	·84			332·00	387·71	1·17	
Do	908c	Clarence		12			154·00	304·45	1·97			181·00	375·65	2·07	3 10 0
Do	954c (711c)	Commonwealth		24			83·00	34·84	·42			83·00	34·84	·42	
Do	198c	Eastern		15			35·00	123·40	3·52			35·00	123·40	3·52	
Do	210c, 253c	Forest leases		42							66·25	843·00	1,231·33	1·46	
Do	195/6c	Leonora Gold Blocks		36			645·00	979·80	1·52			4,554·00	7,980·06	1·75	3 5 9
Do	218/9c		Octagon Explorers, Ltd.	48								2,774·00	911·85	·33	
Do	618c	Pride of Leonora		12			139·00	112·50	·81			1,003·00	986·55	·98	
Do	649c	Pride of Leonora North		12								18·00	6·45	·35	
Do	931c	Royal Flush		12		78·44	12·00	38·20	3·18		78·44	12·00	38·20	3·18	
Do	914c (526)	Sons of Australia		V.N.P.			28·00	58·90	2·10			28·00	58·90	2·10	
Do	190c, 207c, 353c		Sons of Gwalia, Ltd.	72			94,663·00	64,210·55	·67			294,325·00	229,026·37	·78	3 16 1
Do	952c	St. Helliers		6			15·00	7·65	·51			15·00	7·65	·51	
Do	263c (482c)	Trump		18			4,538·00	2,218·29	·49			8,774·35	9,994·56	1·14	3 8 0
Do	835c	Victor		6		32·03	39·50	35·34	·89		225·34	82·14	1·27		
Do		Voided leases									152·19	4,977·65	4,329·19		
Do		Sundry claims					435·50	459·66				943·50	1,085·05		
Malcolm	722c	Dumbarton		24			30·00	18·15	·60			218·00	230·02	1·05	
Do	756c	(Golden Crown)										299·00	352·15	1·17	
Do	637c, 756c		Golden Crown and Midas United G.M. Co., N.L.	42			561·00	394·08	·70			864·00	670·80	·77	3 17 0
Do	946c	Knark		6			27·00	10·18	·37			27·00	10·18	·37	
Do	781c	Malcolm King		12				cy. 223·00					223·00		
Do	637c	(Midas)										803·80	1,202·31	1·49	
Do	2c, 3c, 26c		North Star G.Ms., Ltd.	36			1,233·00	2,227·07	1·80			13,878·75	14,657·03	1·06	3 12 6
Do	12c (634c)		Richmond Gem G.M. Co., N.L.	24			688·00	527·95	·76			2,583·00	3,276·59	1·27	3 12 0
Do	596c	South Star		24								133·00	146·10	1·09	
Do		Voided leases										2,038·12	2,801·07		
Do		Sundry claims					478·00	509·90				671·50	686·25		
Mertondale	929c	Gift		5			64·00	153·85	2·40			64·00	153·85	2·40	
Do	645c	(Merton's Consols)										23·00	77·75	3·38	3 14 0

Mertondale	638c, 644/5c, 653c, R.C. 1c	...	Merton's Reward G.M. Co., Ltd.	66	...	2,678-00	3,315-70	1-24	...	2,678-00	3,315-70	1-24		
Do	635c, R.C. 1c	(Merton's Reward North	...	...	...	...	pl. 251-05	...	...	11,396-50	22,093-90	1-94		
Do	648c	Merton's Reward No. 1 North	...	24	...	...	...	...	...	122-00	102-63	'84		
Do	955c	Triumvirate	...	5	...	22-50	32-46	1-44	...	22-50	32-46	1-44		
Do	...	Voided leases	...	...	...	...	...	...	...	232-50	182-40	...		
Do	...	Sundry claims	...	...	...	32-50	33-67	...	...	32-50	33-67	...		
Murrin Murrin	845c	Elbe	...	5	...	38-00	93-00	2-44	...	60-00	132-00	2-20		
Do	947c	Folly	...	5	...	65	295-90	...	...	65	295-90	...		
Do	933c	Hard Case	...	6	...	71-00	10-00	3-21	71-00	10-00	32-10	3-21		
Do	951c	Lady Helen	...	Wdn.	...	12-00	18-00	1-50	...	12-00	18-00	1-50		
Do	11c, 36c, 38/9c (42c, 90c), 99c	...	Mount Malcolm Mines, Ltd.	108	...	2,506-00	1,084-50	'43	...	39,256-50	27,752-51	'71	3 12 3½	
Do	699c	Murrin Murrin Proprietary	...	24	...	724-00	776-50	1-07	...	734-00	784-50	1-07	3 17 0	
Do	851c	Perseverance	...	5	...	354-50	376-35	1-06	...	354-50	376-35	1-06	3 17 4	
Do	15c, 361c	...	(Princess Alix G.Ms., Ltd.)	...	...	75-00	176-00	2-34	...	1,140-00	1,974-00	1-73		
Do	15c, 361c	Princess Alix leases	...	Surr.	...	153-00	304-55	1-99	...	153-00	304-55	1-99	3 15 0	
Do	532c	Proprietary Extended	...	12	...	79-00	70-00	'88	...	604-50	482-65	'80		
Do	...	Voided leases	...	...	...	...	...	...	104-50	1,822-42	2,587-06	...		
Do	...	Sundry claims	...	...	...	38-00	27-10	...	...	120-25	165-11	...		
Randwick	227c	East Lynne	...	24	...	70-00	255-08	3-64	...	59-60	462-04	1,301-48	2-81	
Do	788c	Nevertire	...	6	...	...	...	...	1,271-00	4-00	145-60	...		
Do	...	Voided leases	...	...	...	...	...	...	325-00	2,917-90	4,961-90	...		
Do	...	Sundry claims	...	...	...	39-00	42-50	...	...	156-00	112-55	...		
Webster's	935c	Prince of Wales	...	6	...	7-00	1,324-00	...	...	7-00	1,324-00	...	3 10 0	
Do	65/6c, 115c	...	Webster's G.M. Co., Ltd.	44	...	848-00	814-67	'96	...	6,949-00	4,835-84	'69	3 15 0	
Do	...	Voided leases	...	...	...	...	...	...	...	207-55	203-41	...		
Do	...	Sundry claims	...	...	...	138-50	87-50	...	...	369-00	281-20	...		
<i>From District generally—</i>														
Sundry parcels treated at Diorite King Consols Works														
Do do Midas Battery							cy. 903-20				120-00	1,198-25		
Do do Rata Battery											32-00	48-40		
Alluvial									1,264-09					
Notices of Purchase					16-92				342-51	72-45				
Total					16-92	181-47	118,343-65	88,644-53	'75	606-60	3,173-65	429,585-96	378,666-18	'88 3 14 9

**MOUNT MARGARET DISTRICT.**

					ozs.	ozs.	tons.	ozs.	ozs.	ozs.	ozs.	tons.	ozs.	ozs.	£ s. d.
British Flag	1180T	Alma Mater	...	12	...	79-25	161-00	214-43	1-33	...	93-25	188-00	299-83	1-60	
Do	1396T	British Empire	...	Wdn.	...	...	100-00	39-15	'39	...	...	100-00	39-15	'39	
Do	1431T (1396T)	British Empire	...	24	...	...	21-00	57-07	2-71	...	...	21-00	57-07	2-71	
Do	1302T	British Flag	...	V.N.P.	...	...	15-00	14-20	'95	...	...	15-00	14-20	'95	
Do	592T	...	Craiggiemore Proprietary, Ltd.	24	...	...	14,000-00	5,099-85	'36	...	...	38,695-00	16,000-53	'41	3 17 6
Do	1042T	Cock of the North	...	24	...	...	37-00	100-30	2-71	...	...	37-00	100-30	2-71	
Do	825T	Dream	...	12	...	6-05	118-00	109-45	'92	...	272-90	187-00	371-53	1-99	
Do	1192T	Flintlock	...	V.N.P.	...	...	123-00	76-95	'62	...	...	123-00	76-95	'62	
Do	838T	(General Wabash	...	...	...	...	...	...	...	...	...	100-00	330-75	3-30	
Carried forward							85-30	14,575-00	5,711-40	...	366-15	39,466-00	17,290-31	...	

TABLE IV.—Production of Gold from all Sources, etc.—continued.

Mount Margaret Goldfield—continued.

MOUNT MARGARET DISTRICT—continued.

MINING CENTRE.	NUMBER OF LEASE.	NAME OF LEASE.	REGISTERED NAME OF COMPANY.	Area in Acres.	TOTAL FOR 1902.					TOTAL GOLD PRODUCTION.					Estimated Value of Gold per oz., 1902.
					Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.	Average per ton treated.	Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.	Average per ton treated.	
			Brought forward ...	...	...	85·30	14,575·00	5,711·40	...	...	366·15	39,466·00	17,290·31	...	£ s. d.
British Flag	371T, 764T, 777T, 1249T	...	Golden Rhine G.Ms. (W.A.), Ltd.	86	...	...	3,711·00	1,944·39	·52	...	...	14,847·50	12,217·16	·83	4 0 4
Do	1372	Golden Pinnacle	...	24	...	...	15·00	7·00	·47	...	...	15·00	7·00	·47	
Do	829T	(Ida H.)	...	...	...	...	...	...	...	...	...	111·00	320·62	2·88	
Do	829T, 838T, 846T, 1219T, 1310T	...	Ida H. G.M. Co., Ltd.	102	...	...	11,319·00	13,112·41	1·15	...	...	13,177·00	15,330·21	1·16	4 0 0
Do	1289T	Ida H. North Extended	...	12	...	...	111·00	181·48	1·63	...	...	111·00	181·48	1·63	
Do	1394T	Ida H. West	...	10	...	...	118·00	122·35	1·04	...	...	118·00	122·35	1·04	
Do	1159T	Just in Time	...	V.N.P.	...	...	50·00	68·65	1·37	...	...	50·00	68·65	1·37	
Do	902T	Kiora	...	5	...	...	162·00	165·55	1·02	...	...	280·00	283·55	1·01	
Do	1308T	Kuranui Reefs	...	V.N.P.	...	...	20·00	18·85	·94	...	25·00	20·00	18·85	·94	
Do	1098T	Lady Hopetoun	...	V.N.P.	...	...	7·00	2·95	·42	...	...	7·00	2·95	·42	
Do	806T	...	Lancefield G.M. Co., Ltd.	24	...	...	20,781·00	8,813·55	·42	...	...	55,097·00	25,400·72	·46	3 15 0
Do	1339T	Lights of Home	...	12	...	...	145·50	187·32	1·29	...	...	145·50	187·32	1·29	
Do	1095T	Lord Hopetoun	...	24	...	...	25·00	3·15	·12	...	...	25·00	3·15	·12	
Do	1161T	Maryboro'	...	5	...	...	20·50	19·20	·93	...	...	20·50	19·20	·93	
Do	1067T	Mystery	...	6	...	...	145·00	160·52	1·10	...	...	145·00	160·52	1·10	
Do	1214T	Nous Verrons	...	24	...	...	139·50	147·97	1·06	...	...	139·50	147·97	1·06	
Do	1373T	Rose	...	12	...	...	187·50	241·10	1·29	...	...	187·50	241·10	1·29	
Do	1253T	Scotland Yet	...	24	...	...	115·00	52·55	·45	...	...	115·00	52·55	·45	
Do	1309T	Sons of Toil	...	18	...	...	91·00	81·35	·89	...	...	101·00	89·35	·88	
Do	1082T	Sunny Hill	...	Ftd.	...	...	52·00	24·15	·46	...	...	87·00	85·90	·99	
Do	1424T (1159T)	Warrior	...	6	...	...	30·00	37·80	1·26	...	...	30·00	37·80	1·26	
Do	854T	White Horse	...	12	...	...	67·00	40·71	·61	...	...	67·00	40·71	·61	
Do	1368T	Woolloomooloo	...	12	...	...	17·00	76·05	4·47	...	...	17·00	76·05	4·47	
Do	...	Voided leases	...	...	...	...	...	...	...	...	300·00	714·00	764·66	...	
Do	...	Sundry claims	...	...	...	...	364·25	411·75	...	...	...	392·25	439·05	...	
Burtville (late Mt. Weld)	1041T	Away from Home	...	14	...	...	31·00	65·09	2·10	...	80·45	355·50	1,812·76	5·10	
Do	1397T	Banker	...	11	...	...	22·00	40·00	1·82	...	...	22·00	40·00	1·82	
Do	940T	(Black Swan)	...	...	...	...	100·00	122·50	1·22	...	...	364·00	643·35	1·76	
Do	940T	...	Black Swan Proprietary G.M. Co., N.L.	24	...	...	439·50	497·85	1·13	...	...	439·50	497·85	1·13	3 16 0
Do	1019T	Bond's Find	...	18	...	...	129·00	551·30	4·27	...	...	311·00	1,155·32	3·71	
Do	1054T	Brothers	...	20	...	...	260·50	377·41	1·45	...	...	370·50	818·91	2·21	
Do	944T	Carib	...	12	...	...	155·00	109·80	·71	...	...	322·00	331·30	1·03	
Do	1350T (1108T)	Double Handed	...	6	...	5·00	35·50	251·60	7·08	...	5·00	35·50	251·60	7·08	
Do	809T	Edinboro' Castle South	...	24	...	...	...	...	...	...	...	31·00	200·25	6·46	
Do	841T	Edith Hope	...	12	...	...	325·00	166·77	·51	...	...	565·00	348·52	·61	
Do	1112T	Eldorado	...	a. r. p. 11 3 10	...	...	29·00	30·50	1·05	...	...	29·00	30·50	1·05	
Do	1423T	Eureka	...	12	...	...	14·25	5·70	·40	...	...	14·25	5·70	·40	

Do	1345T	Exchequer	24	157'00	78'75	50	157'00	78'75	50			
Do	1104T	Golden Flat	12	18'65	40'00	2'14	43'65	223'95	5'13			
Do	801T	Golden Ring	12	100'00	160'00	1'60	796'00	2,154'07	2'71			
Do	1010T	Karridale	12	166'00	426'50	2'57	368'00	1,188'80	3'23			
Do	1400T	Karridale South	12	13'00	13'00	1'00	13'00	13'00	1'00			
Do	1287T (1062T)	Killarney	Surr.	26'00	13'25	'51	26'00	13'25	'51			
Do	1261T	Lady Kate	V.N.P.	12'00	13'00	1'08	12'00	13'00	1'08			
Do	1048T	Maori Chief	12	...	...	...	74'00	472'60	6'39			
Do	1114T	Maori Chief Extended...	7	100'50	476'90	4'74	113'00	529'60	4'69			
Do	1384T (1287T)	Maxim	12	54'00	47'00	'87	54'00	47'00	'87			
Do	1404T (1287T)	Maxim North	5	5'00	6'00	1'20	5'00	6'00	1'20			
Do	1314T	Merry Pilgrim	V.N.P.	81'00	95'22	1'17	81'00	95'22	1'17			
Do	943T	Mikado	24	145'00	99'60	'68	207'00	144'20	'69			
Do	1434T	Mon Ami	12	46'00	116'00	2'52	46'00	116'00	2'52			
Do	1265T	Mount Brown	5	31'50	28'30	'89	31'50	28'30	'89			
Do	1105T	Mount Weld Consols	12	103'50	57'50	'55	161'50	110'70	'68			
Do	1286T	Nil Desperandum North	12	90'30	321'75	3'56	90'30	321'75	3'56			
Do	1044T	Nil Desperandum	24	70'00	417'85	5'97	123'00	636'67	5'18			
Do	1292T	Oldfield	12	22'40	32'48	1'45	22'40	32'48	1'45			
Do	1389T (1100T)	Ophir No. 2	12	29'35	14'75	'50	29'35	14'75	'50			
Do	1307T	Pluck Up	15	13'50	22'45	1'66	13'50	22'45	1'66			
Do	1317T	Queen of Hearts	Surr.	15'00	28'72	1'91	15'00	28'72	1'91			
Do	1331T	Red Rover	12	30'50	12'80	'42	30'50	12'80	'42			
Do	1057T	Riddle	12	142'75	486'55	3'41	172'75	550'55	3'19			
Do	1337T (1034T)	Rise Again	12	8'40	12'00	1'43	8'40	12'00	1'43			
Do	1338T	Rock of Ages	24	49'00	166'60	3'40	49'00	166'60	3'40			
Do	1417T (1164T)	Roscommon	12	68'00	73'70	1'08	68'00	73'70	1'08			
Do	781T	Sailor Prince	12	492'00	601'80	1'22	2,623'00	3,944'28	1'50 3 13 0			
Do	1089T	Savage Captain	16	134'00	485'05	3'62	218'00	829'55	3'80			
Do	934T	Sons of Westralia	24	748'00	2,041'57	2'73	1,116'00	3,784'57	3'89 3 16 0			
Do	1068T	Tempus	12	132'50	545'97	4'12	312'50	1,479'42	4'73			
Do	1024T	Tired Feeling	12	70'00	99'25	1'42	100'00	113'25	1'13			
Do	1412T	Try Again South	5	28'00	149'05	5'32	28'00	149'05	5'32			
Do	1011T	Wanderer	15	207'75	461'75	2'22	387'75	963'25	2'48			
Do	...	Voided leases	...	...	...	...	21'20	1,679'75	3,395'60			
Do	...	Sundry claims	...	117'80	75'47	...	215'80	222'62	...			
Eagle's Nest	...	Voided leases	...	...	...	...	166'50	331'00	1,350'52			
Do	...	Sundry claims	...	...	...	...	55'00	47'27	...			
Erlistoun	720T, 725T, 1313T	Baneygo leases	60	1,329'00	1,927'65	1'45	2,283'00	3,502'97	1'53 3 18 0			
Do	1409T	Battlers	5	20'00	57'00	2'85	20'00	57'00	2'85			
Do	1300T	Caledonia	24	60'00	60'35	1'00	60'00	60'35	1'00			
Do	1322T	Caledonia North	12	262'00	337'85	1'29	262'00	337'85	1'29 3 17 0			
Do	795T (796T, 1185T)	...	24	578'00	309'35	'53	1,138'00	749'25	'66			
Do	1046T	Golden Spinnifex	24	...	...	...	110'00	227'00	2'06			
Do	1355T	Lady Ethel	5	23'00	39'55	1'72	23'00	39'55	1'72			
Do	1049T	Lauriston	12	...	...	...	75'00	75'00	1'00			
Do	771T	Little Doris	24	16'00	31'60	1'97	304'00	578'57	1'90			
Do	795T	(Mistake North)	...	...	...	...	593'00	420'28	'70			
Do	...	Voided leases	...	...	...	...	50'15	1,525'25	1,772'71			
Do	...	Sundry claims	...	274'65	67'90	81'85	147'90	195'62	...			
Euro	1335T	Alberton	5	31'00	43'82	1'41	31'00	43'82	1'41			
Do	761T	(Childe Harold)	...	...	...	...	4'25	2'20	'51			
Do	761T, 1069T, 1070T	...	72	17,820'00	7,260'47	'41	29,629'00	10,862'85	'37 3 15 0			
Do	1262T	Euro Big Lode	V.N.P.	42'50	12'03	'28	42'50	12'03	'28			
Do	785T, 807T, 822T	...	24	20,507'00	10,103'50	'49	35,945'00	21,342'87	'59 3 16 6			
Carried forward				274'65	123'20	98,093'80	61,836'32	861'85	1,022'35	210,215'55	143,421'45	...

TABLE IV.—Production of Gold from all sources, etc.—continued.

Mount Margaret Goldfield—continued.

MOUNT MARGARET DISTRICT—continued.

MINING CENTRE.	NUMBER OF LEASE.	NAME OF LEASE.	REGISTERED NAME OF COMPANY.	Area in Acres.	TOTAL FOR 1902.					TOTAL GOLD PRODUCTION.					Estimated Value of Gold per oz., 1902.
					Alluvial.	Dollied and Specimens	Ore treated.	Gold therefrom.	Average per ton treated.	Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.	Average per ton treated.	
					ozs.	ozs.	tons.	oz.	ozs.	ozs.	ozs.	tons.	ozs.	ozs.	£ s. d.
Brought forward					274·65	123·20	98,093·80	61,836·32	...	861·85	1,022·35	210,215·55	143,421·45	...	
Euro	779r	Euro South Central			...	...	...	...	...	...	...	118·00	171·15	1·45	
Do	1363r	Lights of London		20	...	...	125·00	53·05	·42	...	...	125·00	53·05	·42	
Do	1403r	Sons of Wales		24	...	...	30·00	11·41	·38	...	...	30·00	11·41	·38	
Do		Sundry claims			...	...	32·00	11·42	...	...	...	32·00	11·42	...	
Mt. Barnicoat		Voided leases			...	...	...	...	...	...	...	652·00	399·78	...	
Do		Sundry claims			...	...	...	...	...	...	...	23·00	25·50	...	
Quartz Hill		Voided leases			...	...	...	...	...	...	...	10·00	4·32	...	
<i>From District generally—</i>															
		Sundry parcels treated at Burtville Ore Reduction Works			...	...	...	cy. 236·30	...	...	...	...	266·50	...	
Do	do	State Battery, Laverton			...	...	25·00	22·85	...	...	...	25·00	22·85	...	
Do	do	Trig Hill Cyanide Works			...	...	...	cy. 659·20	...	...	...	...	1,074·90	...	
		Notices of Purchase			...	...	...	con. 115·70	...	...	...	16·97	...	...	
Total					274·65	123·20	98,305·80	62,976·45	·64	878·82	1,022·35	211,230·55	145,462·33	·69	3 17 1

North Coolgardie Goldfield.

MENZIES DISTRICT.

MINING CENTRE.	NUMBER OF LEASE.	NAME OF LEASE.	REGISTERED NAME OF COMPANY.	Area in Acres.	TOTAL FOR 1902.					TOTAL GOLD PRODUCTION.					Estimated Value of Gold per oz., 1902.
					Alluvial.	Dollied and Specimens	Ore treated.	Gold therefrom.	Average per ton treated.	Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.	Average per ton treated.	
					ozs.	ozs.	tons.	ozs.	ozs.	ozs.	ozs.	tons.	ozs.	£ s. d.	
Comet Vale	4988z	Coonega		3	...	...	...	cy. 526·90	...	...	...	...	612·95	...	
Do		Voided leases			...	...	...	...	...	...	...	6,993·45	3,518·84	...	
Goongarrie	2728z, 3480z	Boddington leases		24	...	...	539·00	164·00	·30	...	...	539·00	164·00	·30	
Do	2728z, 3480z (3481z)		(Goongarrie Goldfields, Ltd.)		...	...	...	...	...	...	...	3,595·00	2,057·37	·57	
Do	4999z	Hicks United		V.N.P.	...	...	55·00	256·30	4·66	...	...	115·00	302·30	2·63	

Do	5048z (4999z) ...	Hicks United	15	2:00	65:00	29:15	45	2:00	65:00	29:15	45		
Do	5047z ...	Independence	3	15:00				15:00					
Do	2736z, 3185z, 3382/3z, 3951z, 4869z	Lady Montefiore United G.Ms., Ltd.	62						224:00	719:88	3:21		
Do		Voided leases						297:50	5,766:64	4,104:31			
Do		Sundry claims							19:00	9:80			
Menzies	4984z ...	Africander	12		42:00	52:27	1:24		42:00	52:27	1:24		
Do	5025z ...	Blaas Reward	Wdn.		23:00	22:70	99		23:00	22:70	99		
Do	4879z, 4900z ...	Black Jack leases	10		120:00	82:03	69		779:00	1,162:49	1:49		
Do	4978z ...	Black and White	V.N.P.		20:00	11:58	58		82:00	45:63	55		
Do	5022z ...	Broken Seal	Surr.		35:00	33:01	94		35:00	33:01	94		
Do	4992z ...	Butterfly	6		33:00	92:73	2:81		58:00	163:19	2:81		
Do	5016z ...	Christmas Gift	3		93:00	107:90	1:16		93:00	107:90	1:16		
Do	5059z ...	Cock Robin	12		13:00	162:87			13:00	162:87		4	0 9 1/2
Do	5041z ...	Coronation	5		10:00	10:80	1:08		10:00	10:80	1:08		
Do	5064z (4871z) ...	Coronation Gift	5		29:00	28:63	99		29:00	28:63	99		
Do	4912z ...	Crown Cross	12		11:00	10:85	99	4:05	364:00	1,195:31	3:28		
Do	2823z, 3009z ...	Crusoe Gold Claims, Ltd. (late Menzies-Crusoe Gold Claims, Ltd.)	44		675:00	941:45	1:36		19,154:00	29,475:61	1:54	3	5 0
Do	5017/8z ...	Crusoe Gold Claims, Ltd. (late Menzies-Crusoe Gold Claims, Ltd.)	48			cy. 121:60				121:60			
Do	5050z ...	Danae	5		10:00	5:00	50		10:00	5:00	50		
Do	4952z ...	Dublin Castle	12		13:00	48:25	3:71		184:00	507:32	2:76		
Do	4965/6z ...	(Etrenna and Aurelia)							655:25	429:31	65		
Do	2821z ...	Florence...	a. r. p. 18 1 9		415:00	483:02	1:16		5,092:00	5,602:50	1:10	3	10 6
Do	4982z, 4991z ...	Flying Fish leases	11		107:50	555:30	5:16		163:50	681:18	4:16	3	12 4
Do	5072z (5012z) ...	Four o'clock	5		18:00	26:03	1:45		18:00	26:03	1:45		
Do	5012z ...	Four o'clock	V.N.P.		45:00	26:26	58		55:00	40:23	73		
Do	5039z ...	Freeman	Wdn.		30:00	26:70	89		30:00	26:70	89		
Do	5015z (4957z) ...	Gem Extended	Wdn.		15:00	8:90	59		15:00	8:90	59		
Do	5005z ...	Golden Age	Surr.		45:00	17:17	38		76:00	52:75	69		
Do	4855z ...	Goodenough	24		694:00	2,272:39	3:27		2,551:95	5,909:76	2:31	3	2 6
Do	4951z ...	Guiding Star	V.N.P.		23:00	17:50	76		271:35	299:23	1:10		
Do	5000z ...	Hayle and Tavistock United	Surr.		40:00	65:20	1:63		84:00	137:60	1:64		
Do	5044z ...	Isobel	Surr.		13:00	32:20	2:48		13:00	32:20	2:48		
Do	3277z ...	Kensington	12						33:00	98:42	2:98		
Do	4972z, 5003z ...	Lady Harriet leases	15	41:80	295:00	512:16	1:73	41:80	615:00	822:36	1:34	3	12 6
Do	5009z ...	Lady Sarah	5		60:00	95:65	1:59		100:00	157:40	1:57		
Do	2820z, 3006z ...	Lady Shenton G.M., Ltd.	a. r. p. 36 0 12		15,900:00	22,538:85	1:42		74,918:00	137,734:70	1:84	3	6 0
Do	5083z ...	Little Tom	3		7:00	16:10	2:30		7:00	16:10	2:30		
Do	5013z (3116z, 3118z)	London and Coolgardie Ex- plorers, Ltd.	24		16:00	16:25	1:01		340:50	449:58	1:32		
Do	5021z ...	Lord Nelson	Wdn.		12:00	5:85	49		12:00	5:85	49		
Do	5007z ...	Lord Roberts	5		30:00	13:75	46		69:00	48:87	71		
Do	4983z ...	Maori	V.N.P.			cy. 65:97			64:00	103:72	1:62		
Do	4987z ...	Maori Chief	12	7:00	74:00	106:89	1:44	7:00	164:00	159:50	97		
Do	4895z, 4944z ...	Maranora leases	12		215:00	284:51	1:32		1,023:30	1,341:39	1:31	3	7 6
Do	(2826z), 2828/9z (3050/1z, 3055/6z)	Menzies, Ltd.	a. r. p. 15 1 36						308:00	536:78	1:74		
o	3011z, 3031z ...	Menzies Alpha Leases, Ltd.	43 1 21		3,853:00	4,891:43	1:27		5,672:00	10,288:69	1:81	3	9 10
		Carried forward			65:80	23,693:50	34,786:10		424:61	130,543:94	209,622:68		



TABLE IV.—Production of Gold from all sources, etc.—continued.

North Coolgardie Goldfield—continued.

MENZIES DISTRICT—continued.

MINING CENTRE.	NUMBER OF LEASE.	NAME OF LEASE.	REGISTERED NAME OF COMPANY.	Area in Acres.	TOTAL FOR 1902.					TOTAL GOLD PRODUCTION.					Estimated Value of Gold per oz., 1902.
					Alluvial.	Dollied and Specimens	Ore treated.	Gold therefrom.	Average per ton treated.	Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.	Average per ton treated.	
			Brought forward ...	...	...	65·80	23,693·50	34,786·10	...	...	424·61	130,543·94	209,622·68	...	
Menzies	4931/6z	...	Menzies Consolidated G.Ms., Ltd.	144	...	...	12,795·00	9,277·71	·72	...	...	50,984·00	45,781·77	·90	3 9 0
Do	5017/8z (4938/9z, 4970z)	...	(Menzies Gold Reefs Proprietary, Ltd.)	...	...	...	...	cy. 598·65	...	...	...	6,024·00	14,228·92	2·36	
Do	5045z	Menzies Horseshoe	...	12	...	...	43·00	17·68	·41	...	...	43·00	17·68	·41	
Do	2835z (3806z), 3914z (4064z)	...	Menzies Lady Sherry G.M. Co., N.L.	36	14·00	...	414·00	298·77	·72	14·00	...	2,208·00	2,839·12	1·28	
Do	5043z (4819z)	Menzies Luxenberg	...	5	a. r. p.	...	6·00	6·46	1·07	...	...	6·00	6·46	1·07	
Do	2832z, 2843/4z, 3089z, 3098z, 3100z, 3138z, 3151z, 4930z, 4948z, 4965/6z, 4976z, 5011z	...	Menzies Mining and Exploration Corporation, Ltd.	185 0 13	...	...	1,548·50	3,440·07	2·22	...	...	7,915·45	12,258·42	1·55	3 10 0
Do	4953z	Menzies Proprietary	...	12	...	...	39·00	92·40	2·37	...	...	129·25	205·93	1·59	
Do	(3149z, 3150z), 3151z	...	(Menzies United Mines, Ltd.)	...	...	...	...	...	...	...	...	121·85	137·16	1·12	
Do	4960z	Meriyulah	...	12	...	3·13	23·00	35·70	1·55	...	11·13	69·00	121·30	1·76	
Do	4969z	(Oceanic)	...	...	...	...	...	...	...	...	...	50·00	34·00	·68	
Do	4985z	Picton	...	12	...	...	...	...	...	...	...	50·00	23·05	·46	
Do	2836z, 4969z	...	Queensland Menzies G.M. Co., Ltd.	34 3 32	a. r. p.	...	5,155·00	11,699·79	2·27	...	...	21,261·00	62,674·90	2·95	2 19 0
Do	5065z (4980z)	Rescue	...	5	...	...	15·00	28·80	1·92	...	...	15·00	28·80	1·92	
Do	5076z	Resurgam	...	10	...	...	10·00	11·60	1·16	...	...	10·00	11·60	1·16	
Do	5040z	Rising Sun	...	6	...	...	10·00	12·91	1·29	...	...	10·00	12·91	1·29	
Do	4950z	Springfield	...	24	...	...	209·00	235·65	1·13	...	...	243·00	265·85	1·07	
Do	4883z	St. Albans	...	V.N.P.	...	...	61·00	36·52	5·99	...	...	403·75	801·40	1·98	
Do	4980z	Success	...	Surr.	...	...	10·00	45·45	4·54	...	...	120·00	146·43	1·22	
Do	5010z	Sunday Gift	...	6	...	...	72·00	223·82	3·11	...	...	88·00	288·74	3·28	3 15 0
Do	5002z	Surprise	...	V.N.P.	...	...	58·00	58·84	1·01	...	...	123·00	149·23	1·21	
Do	5066z (5002z)	Victory	...	12	...	...	20·00	41·85	2·09	...	...	12·00	16·00	1·33	
Do	5068z	Victory North	...	12	...	...	12·00	16·00	1·33	...	...	12·00	16·00	1·33	
Do	5038z	Viking	...	5	...	12·38	30·00	148·30	4·94	...	12·38	30·00	148·30	4·94	3 12 9
Do	3048z, 3235z, 3398z	...	Warrior Menzies G.M. Co., N.L.	40	...	...	80·00	50·35	·63	...	...	1,142·00	859·72	·75	
Do	5034z	Westralian Menzies	...	12	...	7·40	...	...	...	...	7·40	...	...	...	
Do	...	Voided leases	...	...	...	...	...	...	...	9·85	23·35	8,003·35	9,822·24	...	
Do	...	Sundry claims	...	...	...	...	...	...	...	...	3·00	610·00	717·84	...	
Mt. Ida	5030z (560v)	Barton	...	Surr.	...	...	5·00	3·10	·62	...	...	60·00	67·40	1·12	



TABLE IV.—Production of Gold from all sources, etc.—continued.

North Coolgardie Goldfield—continued.

ULARRING DISTRICT—continued.

MINING CENTRE.	NUMBER OF LEASE.	NAME OF LEASE.	REGISTERED NAME OF COMPANY.	Area in Acres.	TOTAL FOR 1902.					TOTAL GOLD PRODUCTION.					Estimated Value of Gold per oz., 1902
					Alluvial.	Dollied and Specimens	Ore treated.	Gold therefrom.	Average per ton treated.	Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.	Average per ton treated.	
			Brought forward	...	...	...	2,515·00	4,496·95	...	...	9·00	3,620·25	5,986·62	...	£ s. d.
Davyhurst	564u	Hanover	...	12	...	...	47·00	40·40	·86	...	...	47·00	40·40	·86	3 13 0
Do	440u	Homeward	...	12	...	...	157·00	288·80	1·84	...	...	157·00	288·80	1·84	3 9 6
Do	441u	Homeward Bound	...	11	...	...	151·00	102·15	·67	...	...	151·00	102·15	·67	
Do	563u	Hypatia	...	Ftd.	...	...	50·00	23·20	·46	...	...	50·00	23·20	·46	
Do	559u	...	Ivanhoe and Boulder Junction Proprietary, N.L.	12	...	...	116·00	69·90	·60	...	...	116·00	69·90	·60	
Do	680u (620u)	Jubilee	...	6	...	...	39·00	33·00	·84	...	...	39·00	33·00	·84	
Do	697u (455u)	Lady Kate	...	5	...	...	23·00	32·05	1·39	...	...	23·00	32·05	1·39	
Do	659u	Macedon	...	V.N.P.	...	...	24·00	16·35	·68	...	...	24·00	16·35	·68	
Do	689u	Madame Berry	...	5	...	1·00	55·50	94·55	1·70	...	1·00	55·50	94·55	1·70	
Do	686u (439u)	Melrose	...	24	...	...	35·00	95·35	2·72	...	...	35·00	95·35	2·72	3 15 0
Do	604u	Metalline	...	Ftd.	...	2·35	54·00	39·50	·73	...	2·35	54·00	39·50	·73	
Do	606u	Mt. Banjo	...	Ftd.	...	...	7·00	9·50	1·36	...	...	7·00	9·50	1·36	
Do	11u, 12u	...	Speakman's Mt. Callion, Ltd.	30	...	...	1,471·00	1,532·25	1·04	...	...	3,816·25	3,413·96	·89	3 5 0
Do	572u	Three Hills	...	V.N.P.	...	...	40·00	2·20	·05	...	...	40·00	2·20	·05	
Do	620u	Two Bills	...	Ftd.	...	...	45·00	46·90	1·04	...	...	45·00	46·90	1·04	
Do	438u	(Waihi)	...	...	...	...	103·00	117·00	1·13	...	5·00	243·50	945·22	3·88	
Do	496u	Waihi Consol	...	a. r. p. 2 3 18	...	...	19·00	24·45	1·28	...	...	73·00	168·30	2·30	
Do	586u	Walhalla North	...	V.N.P.	...	...	8·00	24·85	3·10	...	...	8·00	24·85	3·10	
Do	491u	Warne's United	...	V.N.P.	3·30	...	...	...	...	3·30	...	...	...	...	
Do	438u	...	Westralia Waihi G.Ms., N.L.	24	...	...	670·00	941·55	1·40	...	...	772·00	1,221·25	1·58	3 15 1
Do	570u	Westralian Walhalla	...	Ftd.	...	...	41·00	139·10	3·39	...	...	56·00	203·30	3·63	
Do	...	Voided leases	...	...	...	...	...	...	...	...	85·37	851·60	1,068·54	...	
Do	...	Sundry claims	...	...	...	...	13·00	4·15	...	...	1·40	305·05	261·67	...	
Mulline	501u	Ajax	...	V.N.P.	...	...	60·00	73·40	1·22	...	...	257·75	296·85	1·15	
Do	179u	Bella Maie	...	18	...	...	319·50	798·32	2·49	...	...	925·00	1,143·57	1·23	4 1 6
Do	601u	Comet	...	V.N.P.	...	...	33·00	22·70	·69	...	...	72·00	63·80	·89	
Do	330u, 408u	Cooladdie leases	...	24	...	...	811·50	1,138·66	1·40	...	...	2,073·50	3,197·36	1·54	3 12 6
Do	553u	Cora	...	V.N.P.	...	...	7·00	13·84	1·90	...	1·25	36·25	136·54	3·77	
Do	688u	Dismissal	...	Wdn.	...	...	22·00	13·64	·62	...	...	22·00	13·64	·62	
Do	603u	Duchess of York	...	5	...	...	72·00	40·77	·56	...	...	134·00	79·07	·59	
Do	403u	Lady Florence	...	18	...	...	228·75	136·13	·60	...	...	631·25	463·98	·73	
Do	139u, 235u, 555u	Lady Gladys leases	...	36	...	...	3,068·00	8,127·90	2·65	...	186·73	5,915·00	14,160·98	2·39	3 17 7
Do	670u (290u)	Lady Gladys Junction	...	3	...	...	...	cy. 59·54	...	...	...	...	59·54	...	
Do	2u	Mulline	...	15	...	...	379·00	635·25	1·67	...	...	899·25	1,384·85	1·54	3 13 6
Do	704u (206u)	Mulline Commonwealth	...	12	...	...	51·00	27·61	·54	...	...	51·00	27·61	·54	
Do	595u	Mulline Rose	...	V.N.P.	...	...	11·50	10·33	·90	...	...	31·50	18·08	·57	
Do	710u	Mulline Surprise	...	12	...	...	17·50	22·23	1·27	...	...	17·50	22·23	1·27	
Do	434u	Nil Desperandum	...	5	...	...	20·50	87·62	·43	...	...	646·75	889·76	1·37	
Do	422u, 462u	Reprieve leases	...	V.N.P.	...	...	29·50	188·15	6·38	...	...	727·50	1,718·25	2·36	
Do	123u (162u)	...	Riverina G.M. Co., N.L.	24	...	...	1,183·00	624·90	·53	...	...	5,954·00	4,068·59	·68	3 12 6

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Do	...	545v	...	Riverina Perseverance	...	8	...	12-00	15-17	1-26	...	69-00	61-87	'89	3 13 4			
Do	...	324v, 600v	...	Riverina South leases	...	24	...	821-00	866-57	1-05	...	2,523-00	2,204-88	'87				
Do	...	705v (390v)	...	Three Gins	...	6	...	12-50	33-78	2-70	...	12-50	33-78	2-70				
Do	...	571v	...	Victoria	...	V.N.P.	...	31-50	35-14	1-11	...	62-00	97-14	1-56				
Do	...	708v (345v)	...	Yankee Doodle	...	6	...	29-00	13-65	'47	...	29-00	13-65	'47				
Do	...	332v	...	Young Australian	...	V.N.P.	...	8-00	7-75	'97	...	150-00	367-30	2-45				
Do	...	699v (332v)	...	Young Australian	...	12	...	20-00	5-87	'29	...	20-00	5-87	'29				
Do	...	703v (332v)	...	Young Australian East	...	10	...	7-50	3-04	'40	...	7-50	3-04	'40				
Do	...	...	...	Voided leases	...	...	...	...	...	...	...	14-29	3,780-22	3,939-31	...			
Do	...	...	...	Sundry claims	...	...	...	155-25	435-24	...	...	25	570-00	840-92	...			
Mulwarrie	...	610v	...	Break-o'-Day	...	V.N.P.	...	57-00	13-00	'28	...	57-00	13-00	'28				
Do	...	557v	...	Buninyong	...	12	...	96-25	176-30	1-88	...	11-00	148-75	296-35	1-99 3 10 0			
Do	...	580v	...	Discovery	...	12	...	136-00	63-05	'46	...	136-00	63-05	'46	3 18 0			
Do	...	561v	...	Enterprise	...	V.N.P.	...	85-00	44-85	'53	...	109-00	68-20	'62				
Do	...	401v, 500v	...	Killaloe leases	...	18	...	97-50	177-10	1-81	...	359-50	580-15	1-61	4 0 0			
Do	...	6v	...	Mt. Higgins Property	...	18	...	268-00	328-30	1-22	...	493-00	807-70	1-64	3 4 6			
Do	...	395v	...	Mulwarrie North	...	24	...	652-00	646-00	'99	...	1,168-00	1,977-35	1-69	3 17 10			
Do	...	9v	...	Mulwarrie	...	24	...	464-00	1,581-22	3-41	...	1,963-49	5,870-25	2-99	3 11 8			
Do	...	494v	...	Mulwarrie Main Reef	...	12	...	170-00	376-30	2-21	...	242-00	678-50	2-80	3 11 0			
Do	...	522v	...	Mulwarrie Moonstone	...	10	...	68-00	272-38	4-00	...	135-00	758-73	5-62	3 17 10			
Do	...	554v	...	Mulwarrie West No. 1	...	V.N.P.	...	11-00	4-10	'37	...	11-00	4-10	'37				
Do	...	308v, 391v, 442v	...	Oakley leases	...	24	...	737-00	1,426-43	1-93	...	1,548-00	3,430-46	2-21				
Do	...	627v	...	Pride of the Hills	...	Ftd.	...	20-00	32-05	1-60	...	1-60	111-00	356-60	3-21			
Do	...	657v	...	Pride of Wales	...	V.N.P.	...	14-00	6-00	'43	...	14-00	6-00	'43				
Do	...	695v	...	Q.E.D.	...	Wdn.	...	8-00	12-60	1-57	...	8-00	12-60	1-57				
Do	...	567v	...	Star	...	V.N.P.	...	13-00	18-75	1-44	...	19-50	25-65	1-31				
Do	...	664v	...	Stella May	...	V.N.P.	...	9-00	5-45	'60	...	9-00	5-45	'60				
Do	...	607v	...	Sunnyside	...	V.N.P.	...	13-00	9-95	'76	...	13-00	9-95	'76				
Do	...	644v	...	Toleado	...	18	...	81-00	100-00	1-23	...	81-00	100-00	1-23	3 8 9 1/2			
Do	...	6v	...	(Ularring Westralia G.M. Co., N.L.)	...	...	...	...	...	...	...	497-25	971-60	1-95				
Do	...	(499v	...	(Victorian)	...	V.N.P.	...	17-00	6-95	'41	...	33-00	12-70	'38				
Do	...	...	...	Voided leases	...	...	...	...	...	...	...	10-90	1,652-15	2,597-85	...			
Do	...	...	...	Sundry claims	...	...	...	39-00	24-45	...	...	112-50	113-65	...				
Ularring	...	692v	...	Block 45	...	Wdn.	...	6-00	2-45	'41	...	6-00	2-45	'41				
Do	...	666v	...	Derby	...	3	...	81-25	172-13	2-12	...	101-25	193-28	1-91				
Do	...	89v, 92v	...	London and Coolgardie Explorers, Ltd.	...	36	...	339-50	1,023-90	3-01	...	1,191-15	2,751-78	2-31	3 14 6			
Do	...	338v	...	Off Chance	...	24	...	194-00	150-98	'78	...	1,224-50	2,481-13	2-03				
Do	...	1v	...	Shamrock	...	20	...	402-25	723-97	1-80	...	1,009-25	1,623-08	1-61				
Do	...	...	...	Voided leases	...	...	...	...	...	...	...	2-00	487-50	485-47	...			
Do	...	...	...	Sundry claims	...	...	...	...	...	...	...	6-00	2-70	...				
<i>From District generally—</i>																		
Sundry parcels treated at State Battery, Mulline								...	...	...	...	...	47-00	1,987-75	...			
Do do State Battery, Mulwarrie								...	...	...	...	...	43-50	40-15	...			
Notices of Purchase								...	...	...	...	...	1-82	'83	...			
Total								3-30	15-95	17,224-25	29,048-93	1-68	5-12	332-97	49,243-91	77,827-20	1-58	3 15 0 1/2

TABLE IV.—Production of Gold from all sources, etc.—continued.

North Coolgardie Goldfield—continued.

NIAGARA DISTRICT.

MINING CENTRE.	NUMBER OF LEASE.	NAME OF LEASE.	REGISTERED NAME OF COMPANY.	Area in Acres.	TOTAL FOR 1902.					TOTAL GOLD PRODUCTION.					Estimated Value of Gold per oz., 1902.	
					Alluvial.	Dollied and Specimens	Ore treated.	Gold therefrom.	Average per ton treated.	Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.	Average per ton treated.		
					ozs.	ozs.	tons.	ozs.	ozs.		ozs.	ozs.	tons.	ozs.	ozs.	£ s. d.
Kookynie	556g (261g)	Aberdour	...	5	...	...	34.00	38.10	1.12	...	...	...	34.00	38.10	1.12	
Do	27g, 28g	Altona leases	Cosmopolitan Proprietary, Ltd.	24	...	...	...	...	...	...	...	...	422.00	333.05	.79	
Do	460g	Altona No. 3 South	Cumberland Niagara G.Ms., Ltd.	17	...	...	50.00	51.70	1.03	...	...	...	50.00	51.70	1.03	
Do	468g	April Gift	...	12	...	...	38.00	50.45	1.33	...	...	...	69.00	115.55	1.67	
Do	308g	Ballarat	...	12	...	...	40.00	45.65	1.14	...	...	...	332.00	489.60	1.47	
Do	279g	Batavia	Britannia G.M. Co., Ltd.	12	...	...	2,792.00	2,407.86	.86	...	...	...	7,756.00	8,079.63	1.04	3 11 10
Do	41g (268g)	...	Britannia G.M. Co., Ltd.	24	...	...	1,584.00	2,583.60	1.63	...	...	...	15,951.00	17,219.70	1.08	3 11 5
Do	467g	Britannic	...	Surr.	...	...	24.00	37.05	1.54	...	...	...	103.00	111.43	1.08	
Do	494g	B.S.	...	V.N.P.	...	...	15.00	10.25	.68	...	7.15	...	15.00	10.25	.68	
Do	320g, 335g, 347g	(Champion leases)	...	...	...	...	...	...	...	...	...	...	2,157.50	2,898.51	1.34	
Do	320g, 335g, 347g, 409g	...	Champion Proprietary, Ltd.	41	...	...	6,754.00	5,277.90	.77	...	...	...	7,096.00	5,453.05	.77	3 15 4
Do	20g, 87g, 94g, 338g	...	Cumberland Niagara G.Ms., Ltd.	84	...	...	11,151.00	10,564.00	.95	...	...	...	39,309.00	25,790.35	.65	3 9 8
Do	424g	Day Dawn	...	6	...	...	6.00	4.25	.71	...	...	...	39.00	46.60	1.19	
Do	194g	Diamantina	...	24	...	...	...	...	...	...	...	...	117.05	139.56	1.19	
Do	26g	Englishman	Cosmopolitan Proprietary, Ltd.	12	...	...	57,171.00	50,179.15	.88	...	...	...	98,000.00	97,128.99	.99	3 13 8
Do	542g	Excelsior	...	18	...	...	54.00	104.35	1.93	...	...	...	54.00	104.35	1.93	
Do	272g, 392g, 451g	Golden Hope leases	...	29	...	...	90.00	282.10	3.13	...	...	...	448.00	824.34	1.84	
Do	573g (403g)	Home Rule	...	5	...	...	16.00	25.25	1.58	...	...	...	16.00	25.25	1.58	
Do	550g	Julia	...	12	...	...	35.00	10.00	.28	...	...	...	35.00	10.00	.28	
Do	405g	North Batavia	...	5	...	...	...	...	...	...	...	...	30.00	28.50	.95	
Do	481g	O.D.	...	12	...	...	...	...	...	...	...	...	22.00	5.30	.24	
Do	547g (397g)	Pride of Kookynie	...	5	...	...	18.00	14.10	.78	...	...	...	18.00	14.10	.78	
Do	562g	Protection	...	5	...	...	7.00	29.85	4.26	...	...	...	7.00	29.85	4.26	
Do	523g	Rise and Shine	...	5	...	...	104.00	170.09	1.63	...	...	...	104.00	170.09	1.63	
Do	519g	Ruby	...	12	...	...	90.00	57.95	.64	...	...	...	90.00	57.95	.64	
Do	25g	Scotchman	Cosmopolitan Proprietary, Ltd.	12	...	...	...	...	...	...	...	...	150.00	90.30	.60	
Do	394g	Sovereign	...	18	...	...	51.00	43.95	.86	...	...	...	249.00	200.30	.80	
Do	504g	Standard	...	12	...	...	390.00	239.45	.61	...	...	...	390.00	239.45	.61	
Do	420g	Treasure South...	...	5	...	...	66.00	95.75	1.45	...	26.60	...	186.00	254.95	1.37	
Do	558g (297g)	Trio	...	12	...	...	19.50	10.40	.53	...	...	...	19.50	10.40	.53	
Do	253g (422g)	Victoria	...	6	...	...	50.50	102.40	2.03	...	...	...	222.50	399.30	1.79	
Do	253g (273g, 300g)	...	(Victoria and Day Dawn G.M. Co., W.A., N.L.)	...	...	...	...	...	...	...	...	...	85.75	181.20	2.11	
Do	469g	Whale	...	12	...	...	541.00	1,522.57	2.81	...	205.32	...	632.00	1,924.97	3.04	3 13 4
Do	473g	Woodpecker	...	Surr.	...	...	13.00	6.85	.53	...	...	...	64.00	47.95	.75	
Do	...	Voided leases	...	...	...	...	...	...	...	...	31.85	...	2,302.85	3,042.71	...	
Do	...	Sundry claims	...	...	...	...	48.00	41.60	...	...	...	...	121.00	119.75	...	
Niagara	487g	Albion Consols	...	V.N.P.	...	...	28.00	13.20	.47	...	...	...	28.00	13.20	.47	

Do	485g	B.L.	6	17.00	15.90	.93	17.00	15.90	.93		
Do	480g	Brooklet	6	12.00	19.95	1.66	12.00	19.95	1.66		
Do	308g	Ballarat	12	48.00	38.95	.81	48.00	38.95	.81		
Do	569g	Big Tom	5	27.00	42.70	1.58	27.00	42.70	1.58		
Do	541g	Bonnie Scotland	7	20.00	10.95	.55	20.00	10.95	.55		
Do	316g	Canadian	12	...	...	...	41.20	73.30	1.78		
Do	522g	Coronation	12	15.00	14.60	.97	15.00	14.60	.97		
Do	500g	Emu	V.N.P.	73.00	54.45	.74	73.00	54.45	.74		
Do	497g	Eureka	V.N.P.	40.00	46.40	1.16	40.00	46.40	1.16		
Do	(362g) 391g	Euroa leases	5	61.00	66.15	1.08	279.50	521.20	1.86		
Do	543g (311g)	Great Tontine	12	18.00	9.15	.51	18.00	9.15	.51		
Do	224/5g	Hannans Gold Estates, Ltd.	24	59.00	118.75	2.01	3,347.00	5,155.20	1.54		
Do	507g (443g)	Heather	5	157.00	109.65	.70	157.00	109.65	.70		
Do	552g	Kangaroo	5	34.00	44.05	1.29	34.00	44.05	1.29		
Do	513g	Kathleen	5	92.00	198.40	2.15	92.00	198.40	2.15	3 18 4	
Do	510g	Keep it Dark	5	32.00	53.20	1.66	32.00	53.20	1.66		
Do	488g	Kookynie	V.N.P.	15.00	3.60	.24	15.00	3.60	.24		
Do	544g	Last Venture	6	12.00	9.75	.81	12.00	9.75	.81		
Do	499g	Latrobe	5	16.00	17.75	1.11	16.00	17.75	1.11		
Do	314g	Lily	5	79.50	330.65	4.16	11.55	264.75	880.11	3.32	3 16 3
Do	442g	Mikado	6	25.00	25.00	1.00	...	155.00	256.25	1.65	
Do	518g	Missing Link	10	27.80	156.00	237.70	27.80	156.00	237.70	1.52	
Do	540g	Moonstone	12	22.00	10.55	.48	22.00	10.55	.48		
Do	503g	Niagara	5	151.00	68.75	.45	151.00	68.75	.45		
Do	521g (366g)	Never Can Tell	6	75.00	79.10	1.05	75.00	79.10	1.05		
Do	419g	Opal	12	208.00	240.00	1.15	552.50	532.00	.96	3 16 0	
Do	452g	Pine Lodge	12	349.00	223.50	.64	658.00	480.20	.73	3 15 10 1/2	
Do	531g	Rock	24	133.00	51.10	.38	133.00	51.10	.38		
Do	553g (366g)	Sunrise	5	16.50	18.25	1.10	16.50	18.25	1.10		
Do	512g	Te Ahora	12	40.00	31.80	.79	40.00	31.80	.79		
Do	445g	Try Again	6	118.00	129.90	1.10	318.00	348.40	1.09		
Do	555g	Two K's	5	46.00	28.10	.61	46.00	28.10	.61		
Do	561g	Vanity	Wdn.	20.00	8.45	.42	20.00	8.45	.42		
Do	474g	Wait-a-Bit	12	72.00	105.80	1.47	126.00	129.90	1.03		
Do	505g	W.E.G.	5	665.00	931.70	1.40	665.00	931.70	1.40	3 14 3	
Do	475g	York	12	184.00	137.80	.75	274.00	218.94	.80		
Do	...	Voided leases	...	...	...	...	47.90	6,930.80	5,078.99	...	
Do	...	Sundry claims	...	367.00	350.38	...	27.65	1,196.75	1,188.48	...	
Tampa	479g	Bismarck	6	156.00	125.90	.81	194.00	157.55	.81		
Do	560g	Banana	12	9.00	13.00	1.44	9.00	13.00	1.44		
Do	536g	Blue Bell	5	126.00	183.00	1.45	126.00	183.00	1.45		
Do	516g	Clematis	5	8.00	38.90	4.86	8.00	38.90	4.86		
Do	576g	Clingstone	3	5.00	18.65	3.73	5.00	18.65	3.73		
Do	278g	Fortuna	6	...	...	...	109.00	216.45	1.98		
Do	349g	Grafter	12	314.00	316.85	1.01	1,332.00	2,264.60	1.70	3 10 0	
Do	441g	Grafter No. 1 South	5	103.00	213.25	2.07	103.00	213.25	2.07	3 12 6	
Do	511g	Ophir	12	15.00	20.00	1.33	15.00	20.00	1.33		
Do	496g	Oriental	12	275.00	1,210.60	4.40	275.00	1,210.60	4.40	3 14 11	
Do	462g	Pass By	5	16.00	5.10	.32	40.00	29.10	.73		
Do	352g, 369g, 400g	Perseverance leases	30	10.00	21.45	2.14	891.00	1,103.02	1.24		
Do	572g	Reach	3	10.00	5.90	.59	10.00	5.90	.59		
Do	568g	Shah	5	23.00	65.90	2.86	23.00	65.90	2.86		
Do	...	Voided leases	...	...	...	...	19.40	9,468.80	5,200.89	...	
Do	...	Sundry claims	...	37.50	47.75	...	...	575.00	435.17	...	
Carried forward				117.05	85,862.50	80,138.95	405.22	206,004.95	193,894.18	...	

TABLE IV.—Production of Gold from all sources, etc.—continued.

North Coolgardie Goldfield—continued.

NIAGARA DISTRICT—continued.

MINING CENTRE.	NUMBER OF LEASE.	NAME OF LEASE.	REGISTERED NAME OF COMPANY.	Area in Acres.	TOTAL FOR 1902.					TOTAL GOLD PRODUCTION.					Estimated Value of Gold per oz., 1902.
					Alluvial.	Dollied and Specimens	Ore treated.	Gold therefrom.	Average per ton treated.	Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.	Average per ton treated.	
			Brought forward ...		ozs. ...	ozs. 117·05	tons. 85,862·50	ozs. 80,138·95	ozs. ...	ozs. ...	ozs. 405·22	tons. 206,004·95	ozs. 193,894·18	ozs. ...	£ s. d.
		<i>From District generally—</i>													
		Sundry parcels treated at Britannia Battery ...	...	...	...	...	52·00	37·00	...	...	...	52·00	37·00	...	
		Do do Golden Hope Battery ...	...	...	...	...	...	cy. 71·85	...	...	...	...	303·95	...	
		Do do Holbourn and Summer's Works ...	...	...	...	...	...	cy. 322·65	...	...	...	...	322·65	...	
		Do do Mignonette Battery ...	...	...	...	...	30·00	33·50	...	...	...	30·00	33·50	...	
		Do do State Battery, Niagara ...	...	...	...	...	13·00	11·80	...	...	...	13·00	11·80	...	
		Do do Tampa Cyanide Works ...	...	...	...	...	...	cy. 303·10	...	...	...	...	510·60	...	
		Alluvial ...	...	...	...	...	...	...	...	71·39	...	...	...	...	
		Notices of Purchase ...	...	...	...	...	...	...	...	101·04	182·39	...	...	...	
			Total ...		46·92	212·44	85,957·50	80,918·85	·94	172·43	567·61	206,099·95	195,113·68	·95	3 13 14

YERILLA DISTRICT.

					ozs.	ozs.	tons.	ozs.	ozs.	ozs.	ozs.	tons.	ozs.	ozs.	£ s. d.
Edjudina	632R	Beatrice	...	12	...	...	14·00	13·10	·93	...	...	14·00	13·10	·93	
Do	610R	Broken Hill	...	24	...	...	40·00	35·70	·89	...	...	40·00	35·70	·89	
Do	543R	Concordia	...	Ftd.	...	...	28·00	9·40	·33	...	...	28·00	9·40	·33	
Do	576R	Crow's Nest	...	24	...	...	55·00	63·00	1·14	...	...	55·00	63·00	1·14	
Do	552R	Eva	...	Ftd.	...	...	29·00	57·00	1·96	...	...	29·00	57·00	1·96	
Do	497R	Gawler	...	24	...	...	80·00	118·00	1·47	...	...	130·00	206·00	1·58	
Do	502R	Glengarry	...	15	...	...	...	...	...	...	...	359·00	243·50	·68	
Do	588R (512R)	Golden Girl	...	24	...	...	21·00	21·70	1·03	...	...	21·00	21·70	1·03	
Do	573R	Highland Mary	...	5	...	...	46·00	52·50	1·14	...	...	46·00	52·50	1·14	
Do	653R	Maid Marion	...	12	...	...	17·00	13·00	·77	...	...	17·00	13·00	·77	
Do	401R	Neta	...	24	...	...	928·00	1,277·10	1·37	...	...	3,202·50	4,918·39	1·53	3 7 0
Do	418R	Neta Extended	...	24	...	...	...	...	...	...	...	1,182·50	1,663·78	1·40	
Do	613R	Perseverance	...	5	...	...	24·00	40·00	1·66	...	...	24·00	40·00	1·66	
Do	679R	Rocky Range	...	24	...	...	8·00	10·30	1·29	...	...	8·00	10·30	1·29	
Do	566R	Scotchman	...	18	...	...	131·00	112·50	·86	...	...	131·00	112·50	·86	
Do	539R	Senate	...	24	...	...	259·00	524·90	2·02	...	...	259·00	524·90	2·02	3 10 0
Do	...	Voided leases	...	...	...	...	...	...	...	...	...	3,474·00	3,528·15	...	
Do	...	Sundry claims	...	...	...	...	283·00	338·30	...	...	...	796·00	817·26	...	
Eucalyptus	504R, 507R	Yando leases	...	10	...	452·86	20·00	270·75	...	1,252·61	...	39·00	655·60	...	3 15 0
Do	...	Voided leases	...	...	...	...	...	...	...	362·11	1,239·35	1,526·37	...	...	
Do	...	Sundry claims	...	...	...	...	...	...	...	410·12	170·50	220·32	...	...	
Linden	408R	...	Greenhill G.M. Co., Ltd.	V.N.P.	...	...	...	cy. 181·40	...	...	...	3,198·00	6,435·50	2·01	
Do	...	Voided leases	...	...	...	...	...	...	...	513·36	3,016·40	4,756·24	...	...	
Do	...	Sundry claims	...	...	...	...	11·00	11·50	...	...	20·00	238·50	278·20	...	
Mt. Celia	...	Voided leases	...	...	...	...	...	...	...	...	...	14·00	6·00	...	

Mt. Remarkable ...	...	Voided leases	...	...	...	...	...	...	...	...	19-90	528-72	467-06	...										
Do	...	Sundry claims	...	...	...	...	...	...	...	...	...	4-00	1-50	...										
Pendinnie	562R	A.W.A.	...	5	20-00	165-00	742-30	4-50	...	20-00	190-00	764-77	4-02	3 18 2										
Do	508R	Boer	...	6	...	...	...	...	...	...	201-50	550-80	2-73											
Do	645R	Central	...	12	...	15-00	23-86	1-59	...	...	15-00	23-86	1-59											
Do	550R	Granites King	...	V.N.P.	...	54-00	48-90	'90	...	...	54-00	48-90	'90											
Do	595R (550R)	Granite King	...	12	...	42-00	15-20	'36	...	...	42-00	15-20	'36											
Do	568R	Highland Chief	...	Surr.	...	42-00	47-40	1-13	...	...	42-00	47-40	1-13											
Do	443R	(Landed at Last)	...	...	...	...	...	...	...	...	60-00	82-05	1-36											
Do	522R	Little Wonder	...	12	...	197-00	839-86	4-26	...	...	279-00	1,123-86	4-03	3 14 2										
Do	443R, 457R, 463R, 493R	London and Hamburg Gold Recovery Co., Ltd.	...	72	...	...	...	...	...	...	125-00	157-50	1-26											
Do	541R	Maori Queen	...	24	...	290-00	582-50	2-01	...	...	360-00	707-50	1-96	3 12 0										
Do	450R, 456R, 536R,	Mt. Margaret Reward Claim, Ltd.	...	54	...	2,784-00	2,525-10	'90	...	...	7,611-00	6,331-29	'83	3 5 6										
Do	450R	(Potosi)	...	...	...	...	...	...	...	...	76-00	170-00	2-23											
Do	514R	Potosi North Extended	...	24	...	181-00	266-05	2-03	...	...	247-00	439-55	1-78	3 14 0										
Do	511R	Pretoria	...	18	...	20-00	23-20	1-16	...	...	55-00	56-05	1-02											
Do	466R	Queen of the May	...	24	...	255-00	257-45	1-01	...	...	675-60	658-20	'97											
Do	467R	Queen of the May South	...	12	...	113-00	171-00	1-51	...	...	566-55	1,191-90	2-10											
Do	554R	Straight Mates' Tucker Bag	...	12	50-00	...	...	...	...	50-00	...	...	...											
Do	549R	Treasure North	...	24	...	72-00	121-74	1-69	...	...	72-00	121-74	1-69											
Do	594R	Washington	...	12	...	30-00	48-50	1-62	...	...	30-00	48-50	1-62											
Do	553R	Yundamindera	...	24	...	69-00	66-95	'97	...	...	69-00	66-95	'97											
Do	...	Voided leases	...	...	...	...	...	...	...	13-00	543-10	821-58	...											
Do	...	Sundry claims	...	...	...	115-00	279-00	...	...	1-52	394-00	666-28	...											
Pingin	...	Voided leases	...	...	...	...	...	...	...	...	142-00	88-25	...											
Do	...	Sundry claims	...	...	...	...	...	...	...	8-30	...	...	...											
Yarrie	680R	Novitiate	...	12	19-25	...	...	...	...	19-25	...	...	...											
Do	585R	Queen's Birthday	...	12	...	10-00	239-00	...	...	...	10-00	239-00	...											
Do	587R	Record	...	12	...	8-00	18-00	2-25	...	...	8-00	18-00	2-25											
Yerilla	540R	Queen of the Earth	...	V.N.P.	...	15-00	32-50	2-17	...	...	15-00	32-50	2-17											
Do	...	Voided leases	...	...	...	...	...	...	...	3,439-67	2,984-96	2,142-97	...											
Do	...	Sundry claims	...	...	...	18-00	37-90	...	...	...	314-50	218-38	...											
Yilgangi	...	Voided leases	...	...	...	...	...	...	...	...	94-75	118-32	...											
Do	...	Sundry claims	...	...	...	...	...	...	135-36	5-18	...	...	...											
<i>From District generally--</i>																								
Sundry parcels treated at Holbourn and Summer's Works														...	...	605-10	...							
Do do Middleton's Works														...	...	910-00	...							
Do do Moss Rose Battery														...	...	144-00	...							
Do do Muir's Works														...	...	183-87	...							
Alluvial														...	...	516-70	...							
Notices of Purchase														139-92	...	470-38	166-39	...	...					
Total														139-92	542-11	6,439-00	9,536-56	1-48	1,122-44	6,301-41	33,685-43	145,398-24	1-35	3 10 04

† Also ounces from unknown tons, Bound to Rise ... .. ozs. 240-00  
 Do do Lombard ... .. 35-00  
 Total ... .. 275-00



TABLE IV.—Production of Gold from all sources, etc.—continued.

Broad Arrow Goldfield.

MINING CENTRE.	NUMBER OF LEASE.	NAME OF LEASE.	REGISTERED NAME OF COMPANY.	Area in Acres.	TOTAL FOR 1902.					TOTAL GOLD PRODUCTION.					Estimated Value of Gold per oz., 1902.
					Alluvial.	Dollied and Specimens	Ore treated.	Gold therefrom.	Average per ton treated.	Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom	Average per ton treated.	
Bardoc	1076w		Bardoc Gold Mines, Ltd.	12	ozs.	ozs.	tons.	ozs.	ozs.	ozs.	ozs.	tons.	ozs.	ozs.	£ s. d.
Do	36w	(Eva)					42.50	223.90	5.27			383.83	540.92	1.41	3 18 6
Do	18w, 25w, 33w	Excelsior leases		Ftd.			80.00	81.50	1.02			11.00	6.00	.54	
Do	1186w, 1187w	Excelsior leases		24			822.00	584.40	.71			822.00	584.40	.71	3 12 6
Do	107/9w, 887w, 956w, 1043w		Half-Mile Reef Mines, Ltd.	a. r. p. 83 3 38			3,490.00	2,113.61	.60			16,290.00	10,184.39	.62	3 14 3
Do	17w	(Mt. Pleasant)									31.46	10.00	31.20	3.12	
Do	1198w	Rob Roy		12			110.50	65.60	.59			110.50	65.60	.59	
Do	959w, 968w, 970w, 1045w, 1048w		Slug Hill (Pride of the Hill) G.M. Co., Ltd.	70			510.00	781.75	1.53		7.20	8,672.00	7,721.30	.89	
Do	1043w	(Struck Oil)										139.00	105.05	.75	
Do	17w, 36w, 39w (1008w), 1023w		Zoroastrian Gold Estates, Ltd.	a. r. p. 40 2 20				cy. 326.37				4,830.60	3,341.28	.69	3 10 0
Do		Voided leases					5.00	2.20			119.65	2,440.75	1,294.73		
Do		Sundry claims										190.25	149.38		
Black Flag	43w, 52w, 62w, 546w		Black Flag Proprietary Co., Ltd.	a. r. p. 72 3 16				cy. 1,087.86				21,232	7,013.78	.33	3 9 0
Do	1181w	Junction		V.N.P.			11.00	3.46	.31			11.00	3.46	.31	
Do	1177w	King Edward		12			139.00	468.95	3.37			172.00	512.85	2.98	3 11 0
Do	47/9w		Lady Bountiful G.M. Co., N.L.	36			128.00	850.17	6.64			6,920.65	10,953.10	1.58	
Do	1179w	Resurgum		Ftd.			10.00	26.25	2.62			31.00	51.75	1.67	
Do		Voided leases									33.00	4,612.16	3,148.30		
Do		Sundry claims										997.80	1,247.90		
Broad Arrow	1188w	Britannia		12		15.00	75.00	40.40	.54		15.00	75.00	40.40	.54	
Do	56w, 75w, 87w, 122w		Broad Arrow Consols G.M. Co., N.L.	68			280.00	113.84	.40			607.00	286.56	.47	
Do		Broad Arrow Deep Lead									65.09	990.25	1,346.64	1.35	
Do	142w (225/6w)		Credo Gold Mines, Ltd.	a. r. p. 14 1 23		105.86	100.50	98.00	.97		105.86	348.85	634.00	1.82	3 18 6
Do	960w, 995w		Dixie G.M., Ltd.	V.N.P.			1.85	62.75				2,710.85	5,948.85	2.19	
Do	3w, 138/9w, 173w, 1000w		Golden Arrow Mine, Ltd.	59			8,843.00	4,959.75	.56			22,692.75	13,769.93	.61	3 15 0
Do	1112w	Grafter		12							34.35	183.00	93.40	.51	
Do	1192w	Hope		5			28.50	22.60	.79			28.50	22.60	.79	
Do	56w, 75w, 122w	(Liberty leases)										298.90	425.90	1.42	
Do	76w	Light of the Swan		24			41.00	14.35	.35			490.50	331.72	.68	
Do	1028w		Mysore United Gold Co., Ltd. (late Mysore Harnhalli G.M. Co., Ltd.)	12			21.00	13.51	.64			314.50	220.38	.70	
Do	1185w	South Star		12			231.00	113.27	.49			231.30	113.27	.49	
Do	1189w	Tarnagulla United		Wdn.			18.00	6.60	.37			18.00	6.60	.37	

Do	643w	Victory	6	34.74	10.00	47.87	4.78	34.74	20.00	70.02	3.50		
Do		Voided leases						130.27	8,510.38	6,690.39			
Do		Sundry claims		73.70	6.65	349.00	376.59	75.70	1,755.75	1,032.94			
Do	1195w (147w)	Surbiton	12		37.00	43.13	1.16		37.00	43.13	1.16		
			a. r. p.										
Do	2w, 126w, 168w		20		3,194.00	2,448.59	.76		39,809.50	46,209.82	1.16	3 15 0	
Do	32w, 143w, 715w		60		21.00	18.50	.88		174.00	68.75	.39		
Paddington	1129w	Just-in-Time	V.N.P.		173.00	76.20	.44		580.00	500.70	.86		
Do	45w	Mount Corlic	12		36.00	86.00	2.39		4,098.25	2,881.55	.70		
			a. r. p.										
Do	1w, 53w, 57w, 60/1w, 128w, 1050w, 1063w, 1105w		115	3 5	3,071.50	1,273.70	.41		73,522.00	39,872.20	.54	3 9 4	
Do	71w, 127w, 1073w, 1110w		45		105.00	23.00	.22		195.00	49.35	.25		
Do	1142w	Paddington Consols South	12						34.00	4.91	.14		
Do	80w	Pakeha	12		129.00	71.45	.55		3,094.40	1,741.87	.56		
Do	1056w	Pakeha South	12						25.00	6.80	.27		
Do	1047w	Star of W.A.	18		1,203.00	1,213.73	1.01	136.60	6,236.00	6,392.53	1.02	3 15 10	
Do		Voided leases							751.00	333.68			
Do		Sundry claims			20.00	5.60		12.02	1,990.26	3,898.98			
Do		Voided leases							1,027.00	228.31			
Do		Sundry claims							20.00	10.58			
From Goldfield generally—													
		Sundry parcels treated at Black Flag Proprietary Battery							502.30	271.48			
Do	do	Excelsior Battery							22.00	16.04			
Do	do	Great Boulder No. 1 Battery							442.50	375.61			
Do	do	Half-Mile Reef Battery			73.00	11.35			119.00	37.37			
Do	do	Hannans Reward Battery						109.75	748.75	1,235.79			
Do	do	Howells' Works				cy. 174.95				174.95			
Do	do	Kalgoorlie Crushing and Cyanide Works							10.50	6.85			
Do	do	Lady Bountiful Battery			73.00	132.06			112.00	156.04			
Do	do	Lake View South Battery						563.21	1,245.50	2,014.24			
Do	do	Mona Public Battery							6,104.75	5,489.19			
Do	do	Nerrin Nerrin Battery							390.50	424.01			
Do	do	New Arrow Proprietary Battery			202.50	191.15			4,058.08	4,250.56			
Do	do	New Austral Works...							5.00	22.00			
Do	do	Paddington Cyaniding Works				cy. 199.50 con. 56.80 † 17.26				1,503.28			
Do	do	Railway Venture Battery							30.30	409.87			
Do	do	Seabrook Battery, Northam						810.63	952.75	933.00			
Do	do	Try-it Cyaniding Works								438.00			
Alluvial				666.30				2,980.68					
Total				984.43	162.25	23,684.85	18,528.52	78	5,282.01	1,087.54	255,071.11	199,679.01	78 3 13 44

† Also 250ozs. from unknown tons.

TABLE IV.—Production of Gold from all sources, etc.—continued.

North-East Coolgardie Goldfield.

KANOWNA DISTRICT.

MINING CENTRE.	NUMBER OF LEASE.	NAME OF LEASE.	REGISTERED NAME OF COMPANY.	Area in Acres.	TOTAL FOR 1902.					TOTAL GOLD PRODUCTION.					Estimated Value of Gold per oz., 1902.
					Alluvial.	Dollied and Specimens	Ore treated.	Gold therefrom.	Average per ton treated.	Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.	Average per ton treated.	
					ozs.	ozs.	tons.	ozs.	ozs.	ozs.	ozs.	tons.	ozs.	ozs.	£ s. d.
Black Swan	...	Voided leases	...	...	...	...	...	...	...	...	...	160.00	172.28	...	
Gambier	898x	Brilliant	...	12	...	...	...	...	...	...	33.55	48.00	62.00	1.29	
Do	434x	Camelia	...	24	...	...	...	...	...	...	...	242.50	386.35	1.59	
Do	1050x	Gambier	...	12	...	...	7.00	9.40	1.34	...	...	7.00	9.40	1.34	
Do	946x	Gem	...	12	...	5.00	10.00	43.00	4.30	...	9.10	47.00	169.95	3.61	
Do	...	Voided leases	...	...	...	...	...	...	...	...	...	202.00	213.18	...	
Do	...	Sundry claims	...	...	...	...	...	...	...	...	...	10.00	4.50	...	
Gordon	98x, 1006x, 1013x	...	Advance Australia Prospectors, Ltd.	48	...	...	70.00	124.51	1.78	...	...	286.00	302.18	1.05	
Do	1044x	General Wolseley	...	12	...	5.00	...	...	...	...	5.00	...	...	...	
Do	837x, 1000x	Koh-i-Noor leases	...	18	...	...	103.00	76.12	.74	...	...	323.80	235.61	.73	
Do	1033x	Mt. Upton	...	V.N.P.	...	...	10.00	4.15	.41	...	...	10.00	4.15	.41	
Do	891x	Sirdar	...	12	...	...	3.50	11.50	.33	...	...	21.00	26.55	9.00	
Do	...	Voided leases	...	...	...	...	...	...	...	...	...	205.00	333.84	...	
Do	...	Sundry claims	...	...	...	...	25.00	58.12	2.32	...	9.00	76.00	156.92	...	
Hayes' New Find	392x, 394x, 396x	South Gippsland leases (Whitehead's Find)	...	60	...	...	...	...	...	...	...	3,330.00	4,139.86	1.24	
Do	847x	...	...	...	...	...	...	...	...	...	22.00	313.00	557.72	1.78	
Do	847x, 964/5x	...	Vosperton G.Ms., Ltd.	36	...	...	30.00	30.65	1.02	...	...	180.00	118.65	.91	
Do	...	Voided leases	...	...	...	...	...	...	...	...	...	1,584.05	1,802.70	...	
Do	...	Sundry claims	...	...	...	456.25	...	...	...	...	671.25	324.00	574.55	...	
Kanowna	35x, 64x, 345x	...	Ballarat and Prince Oscar Syndicate, Ltd.	40	...	52.50	1,213.00	452.84	.37	...	52.50	4,048.00	2,672.55	.66	3 17 4
Do	(92x, 96x), 952x, 961x, 963x	...	Bonnie Charlie G.M. Co., N.L.	30	...	...	129.00	42.05	.33	...	...	1,230.50	594.82	.48	
Do	1052x	Coronation	...	4	...	...	...	cy. 28.90	...	...	...	...	28.90	...	
Do	927x	Commonwealth	...	V.N.P.	...	...	73.00	23.62	.32	...	...	695.50	397.51	.57	
Do	928x	Eaton's Lode Consolidated	...	a. r. p. 3 1 9	...	...	1,181.00	398.72	.34	...	83.69	2,455.50	1,272.32	.52	3 19 6
Do	952x	(Federal)	...	...	...	...	...	...	...	...	...	176.00	85.17	.48	
Do	926x	Federal Extended	...	a. r. p. 5 0 22	...	...	254.50	88.22	.34	...	...	759.50	370.52	.49	
Do	913x	Fitzroy Federated	...	4 2 26	...	...	648.00	215.70	.33	...	...	2,606.25	1,025.18	.39	3 18 0
Do	1062x	Gentle Polly	...	3 2 0	...	5.00	23.00	55.00	2.39	...	5.00	23.00	55.00	2.39	
Do	83x, 180x, 200/1x	...	(Golden Cement Claims)	...	...	...	...	...	...	...	...	5,848.00	2,841.35	.48	
Do	1063x	Golden Find	...	a. r. p. 3 3 0	...	50	...	...	...	...	50	...	...	...	
Do	367x (510x, 821x), 1036x, 1042x	...	Golden Valley Mines of W.A., Ltd.	52 3 32	...	...	146.00	2,382.75	...	...	...	5,279.00	4,180.87	.79	
Do	1024x	Havilah	...	12	...	...	110.00	118.55	1.08	...	2.35	120.50	140.30	1.16	
Do	1019x	Kanowna	...	7	...	423.67	233.50	1,810.30	7.75	...	436.67	315.50	1,928.40	.61	3 14 6

Do	808x (893x), 894x (905x), 953x, 1031x		Kanowna Champion Lode G.M. Co., N.L.	a. r. p. 34 0 31	...	514'00	113'40	'22	...	571'00	166'67	'29		
Do	153x, 807x		Kanowna Consolidated G.Ms., Ltd.	42	...	219'00	182'30	'83	...	499'00	371'85	'74		
Do	894x	Kanowna Perseverance	...	5	...	...	...	...	...	20'00	6'15	'30		
Do	187x, 456x	...	London and Coolgardie Ex- plorers, Ltd.	29	...	2,979'10	945'55	'32	...	17,769'60	8,004'67	'45		
Do	1055x	Kintore	...	a. r. p. 12 0 17	...	8'00	63'25	7'91	...	8'00	63'25	7'91		
Do	1023x	Kitchener	...	V.N.P.	...	77'00	44'45	'57	...	87'00	63'52	'73		
Do	1051x	Lake View	...	Ftd.	...	18'00	5'10	'28	...	18'00	5'10	'28		
Do	1068x (822x)	Lake View	...	5	...	5'00	4'35	'87	...	5'00	4'35	'87		
Do	18x, 19x (314x)	...	(Lily Australis G.Ms., Ltd.)	...	...	...	...	...	...	197'00	130'10	'66		
Do	1066x	Missing Link	...	7	...	1'55	...	...	...	1'55	...	...		
Do	38x, 55x	...	New Standard Exploration Co., Ltd. (late Golden Crown, Ltd.)	26	...	37'00	273'45	'74	...	13'30	1,912'50	2,460'03	1'28	
Do	918x	North Cross Reef	...	10	...	32'00	11'50	'36	...	32'00	11'50	'36		
Do	942x	North Lead Central	...	a. r. p. 9 2 2	...	102'00	82'82	'81	...	6'25	1,169'00	585'86	'50	
Do	923x	...	North Lead Load Amalga- mated Co., Ltd.	11 2 0	...	212'00	64'60	'30	...	776'00	263'96	'84		
Do	3x, 18/9x, 46x, 60x, 81x, 938x, 974x (1010x), 1035x, 1039x		North White Feather G.Ms., Ltd.	113 3 36	...	6,675'00	4,839'42	'72	...	12,773'00	10,298'26	'80	3 15 6	
Do	1028x	Panfry	...	7	...	71'00	31'60	'44	...	139'50	102'15	'73		
Do	944x	Pioneer Lode Claim	...	a. r. p. 5 2 19	...	115'00	47'25	'41	...	371'00	125'18	'34		
Do	52x, 68x, 185x, 213x	...	Robinson G.Ms., Ltd.	50	...	3,567'00	4,642'05	1'30	...	16,478'75	18,692'56	1'13	3 12 6	
Do	807x	...	(Second Kanowna Synd., Ltd.)	...	...	...	...	...	...	20'00	18'65	'68		
Do	194x, 1009x	Sunbeam leases	...	a. r. p. 15 1 34	...	820'00	1,266'30	1'54	...	4,090'75	6,725'37	1'64	3 15 0	
Do	153x	...	(Waldon's Find G.M., Ltd.)	...	...	...	...	...	...	1,076'05	1,008'27	'93		
Do	987x	...	(Westralian Gold Extracting Co., Ltd.)	...	...	...	...	...	...	60'00	21'00	'35		
Do	5x (843x)	...	White Feather Extended, Ltd.	a. r. p. 5 3 37	...	65'00	116'80	1'79	...	504'00	602'03	1'19		
Do	12/5x, 855x, 1001x, 1012x	...	White Feather Main Reefs, Ltd.	79 3 38	...	18,038'00	14,168'36	'78	...	69,841'00	63,188'16	'90	3 9 10	
Do	982x, 1022x	...	White Feather Main Reef South G.M. Co., N.L.	24	...	86'00	46'32	'54	...	86'00	46'32	'54		
Do	9x, 10x, 72x, 83x, 180x, 200/1x, 431x	...	White Feather Reward, Ltd. (late White Feather Re- ward Claim, Ltd.)	85	...	770'00	2,465'82	3'20	...	22,988'00	19,577'40	'85	3 3 1 1/2	
Do	...	Voided leases	...	...	...	...	...	...	...	358'76	5,872'85	5,076'09	...	
Do	...	Sundry claims	...	...	...	22'67	1,126'00	673'23	5'98	30'57	5,085'70	3,402'32	...	
Mulgarrie	1040x	Lady Clara	...	10	...	26'00	162'40	6'24	...	26'00	162'40	6'24		
Do	74x, 149x, 165x	...	Phoenix G.Ms., Ltd.	51	...	166'00	214'80	1'29	...	1,078'96	2,392'00	1,442'80	'60	
Do	...	Voided leases	...	...	...	...	...	...	...	110'00	52'02	...		
Do	...	Sundry claims	...	...	...	20'00	7'75	'38	...	96'00	179'20	...		
Six-Mile	1025x	Caledonia	...	12	...	61'15	16'00	2'98	...	214'67	16'00	47'70	2'98	
Do	931x	Home Signal	...	12	...	8'10	28'00	25'40	'91	735'80	126'50	239'55	1'89	
Do	1015x	Home Signal No. 1	...	a. r. p. 3 2 38	...	14'80	40'00	21'45	'53	115'80	92'00	96'25	1'04	
			Carried forward	...	...	1,056'19	40,101'60	36,541'02	...	4,112'27	196,341'30	168,333'45	...	

TABLE IV.—Production of Gold from all sources, etc.—continued.

North-East Coolgardie Goldfield—continued.

KANOWNA DISTRICT—continued.

MINING CENTRE.	NUMBER OF LEASE.	NAME OF LEASE.	REGISTERED NAME OF COMPANY.	Area in Acres.	TOTAL FOR 1902.					TOTAL GOLD PRODUCTION.					Estimated Value of Gold per oz., 1902.
					Alluvial.	Dolled and Specimens	Ore treated.	Gold therefrom.	Average per ton treated.	Alluvial.	Dolled and Specimens.	Ore treated.	Gold therefrom.	Average per ton treated.	
					ozs.	ozs.	tons.	ozs.	ozs.	ozs.	ozs.	tons.	ozs.	ozs.	£ s. d.
			Brought forward ...	...	...	1,056·19	40,101·60	36,541·02	...	...	4,112·27	196,341·30	168,333·45	...	
Six-Mile	932x (994x)	Signal Consols leases	...	12	...	45	6·00	7·50	1·25	...	136·08	87·50	208·45	2·38	
Do	1018x	Signal Junction	...	12	...	47·10	25·00	35·25	1·41	...	112·10	25·00	35·25	1·41	
Do	1053x	William Tell	...	10	...	101·67	20·00	67·75	3·38	...	101·67	20·00	67·75	3·38	
Do	...	Voided leases	...	...	...	...	...	...	...	...	9·25	96·50	65·11	...	
Do	...	Sundry claims	...	...	...	11·90	...	...	...	...	37·10	72·00	68·20	...	
		<i>From District generally—</i>													
		Sundry parcels treated at Albert Herbert Works	...	...	...	...	...	...	...	...	...	...	5·00	...	
Do	do	Golden Puzzle Works	...	...	...	...	...	cy. 131·85	...	...	...	49·50	306·60	...	
Do	do	Haacksville Works	...	...	...	...	...	cy. 227·35	...	...	...	26·00	380·15	...	
Do	do	Kalgoorlie Gold Recovery Works	...	...	...	...	...	cy. 3,028·57	...	...	...	...	3,275·57	...	
Do	do	Kanowna Carbine Works	...	...	...	...	...	cy. 100·00	...	...	...	14·00	182·00	...	
Do	do	Machinery Area 19x	...	...	...	...	...	cy. 340·50	...	...	...	...	378·40	...	
Do	do	Machinery Area 25x	...	...	...	...	...	cy. 37·90	...	...	...	...	122·42	...	
Do	do	Nemesis Works	...	...	...	...	...	cy. 122·42	...	...	...	...	77·50	90·25	...
Do	do	Quartz Claim 57x	...	...	...	...	39·50	307·25	...	...	...	39·50	307·25	...	
Do	do	Shamrock Works	...	...	...	...	...	...	...	...	...	8·50	13·60	...	
		<b>TOTAL FOR LEASES AND QUARTZ CLAIMS</b>	...	...	...	<b>1,217·31</b>	<b>40,192·10</b>	<b>40,964·36</b>	<b>1·02</b>	...	<b>4,508·47</b>	<b>196,857·30</b>	<b>173,839·45</b>	<b>88</b>	
		<b>CEMENT FROM ALLUVIAL CLAIMS.</b>													
		Reported by owners	...	...	...	...	...	...	...	262·50	1·00	14,305·15	12,223·33	...	
		§ Treated locally (not reported by owners)—													
		At Altoona Works	...	...	...	...	76·00	13·02	...	...	...	155·00	34·32	...	
		At Bonnie Charlie Works	...	...	...	...	...	...	...	...	...	266·00	196·20	...	
		At Golden Crown Works	...	...	...	...	...	...	...	...	...	2,350·08	1,566·15	...	
		At Golden Star Works	...	...	...	...	...	...	...	...	...	259·50	192·16	...	
		At Golden Valley Works	...	...	...	...	...	...	...	...	...	11,603·20	11,753·68	...	
		At Haacksville Works (W.R. 1x)	...	...	...	...	30·00	3·90	...	...	...	1,894·50	1,283·71	...	
		At Kanowna Carbine Works	...	...	...	...	...	...	...	...	...	3,491·70	6,311·40	...	
		At Kanowna Champion Lode Works	...	...	...	...	414·00	131·21	...	...	...	414·00	131·21	...	
		At London and Coolgardie Works	...	...	...	...	...	...	...	...	...	305·25	123·23	...	
		At Machinery Area 14x (Nemesis Works)	...	...	...	...	...	...	...	...	...	2,007·25	2,989·63	...	
		At Machinery Area 15x	...	...	...	...	446·00	219·70	...	...	...	1,371·00	422·62	...	
		At Machinery Area 16x	...	...	...	...	...	...	...	...	...	84·15	14·11	...	
		At Machinery Area 17x (Monmouth Works)	...	...	...	...	...	...	...	...	...	1,952·30	2,108·51	...	
		At Machinery Area 19x (Old Cement Works)	...	...	...	...	211·00	110·29	...	...	...	3,288·00	1,870·72	...	
		At Machinery Area 21x	...	...	...	...	...	...	...	...	...	48·00	35·00	...	
		At Machinery Area 24x	...	...	...	...	...	...	...	...	...	18·00	2·80	...	

At Machinery Area 25x	...	...	...	...	...	48'00	58'72	...	...	2,035'00	999'32	...				
At Machinery Area 29x (Globe Works)	...	...	...	...	...	...	...	...	...	362'50	276'80	...				
At Machinery Area 31x	...	...	...	...	...	72'00	20'50	...	...	152'00	35'85	...				
At Machinery Area 34x	...	...	...	...	...	245'00	61'08	...	...	528'00	198'28	...				
At North Cross Reef	...	...	...	...	...	5'00	1'75	...	...	5'00	1'75	...				
At Quartz Claim 57x	...	...	...	...	...	1,420'50	528'46	...	...	2,499'50	1,104'50	...				
At Red Cross Works	...	...	...	...	...	...	...	...	...	30'00	22'35	...				
At Red Lake Works	...	...	...	...	...	...	...	...	...	44'00	9'59	...				
At Rigg's Works, Red Lake	...	...	...	...	...	...	...	...	...	45'00	4'87	...				
At Robinson Works	...	...	...	...	...	497'00	224'95	...	...	10,705'40	9,177'10	...				
At Shamrock Works	...	...	...	...	...	...	...	...	...	17,004'95	16,503'95	...				
At Six-Mile Works (W.R. 46x)	...	...	...	...	...	...	...	...	...	114'00	50'10	...				
At Waldon's Find Works	...	...	...	...	...	...	...	...	...	1,703'95	1,425'08	...				
At White Feather Reward Works	...	...	...	...	...	...	...	...	...	2,433'50	2,171'56	...				
Treated outside District (not reported by owners)—	...	...	...	...	...	...	...	...	...	...	...	...				
At Brookman Bros' Boulder Works, Boulder	...	...	...	...	...	...	...	...	...	1,442'50	1,051'35	...				
At Coolgardie Exhibition Works, Coolgardie	...	...	...	...	...	...	...	...	...	5'15	6'95	...				
At Cosgrove's Bayley's Works, Coolgardie	...	...	...	...	...	...	...	...	...	1'00	21'25	...				
At Flagstaff Works, Coolgardie	...	...	...	...	...	...	...	...	...	424'00	250'51	...				
At Great Boulder No. 1 Works, Boulder	...	...	...	...	...	...	...	...	...	6,284'00	6,469'08	...				
At Hannan's Reward Works, Kalgoorlie	...	...	...	...	...	...	...	...	...	5,287'10	9,622'82	...				
At Hayeroft Gold Reduction Works, Kalgoorlie	...	...	...	...	...	...	...	...	...	272'50	730'13	...				
At Kalgoorlie Mint and Iron King Works, Boulder	...	...	...	...	...	...	...	...	...	529'00	849'31	...				
At Lake View South Works, Boulder	...	...	...	...	...	...	...	...	...	8,254'45	17,111'68	...				
At Leviathan Filter Press and Cyanide Works, Kalgoorlie	...	...	...	...	...	...	...	...	...	1,139'85	1,823'27	...				
At Seabrook Works, Northam	...	...	...	...	...	...	...	...	...	4,118'00	3,725'46	...				
Alluvial	...	...	...	...	...	3,410'02	...	...	111,340'39	...	...	...				
Notices of Purchase	...	...	...	...	...	...	...	...	133'10	...	98'00	...				
Total	...	...	...	...	...	3,410'02	1,217'31	43,656'60	42,337'94	'97	111,735'99	4,509'47	306,090'73	288,844'14	'94	3 11 2

§ Does not represent the total treatments at these works.

### BULONG DISTRICT.

						ozs.	ozs.	tons.	ozs.	ozs.	ozs.	ozs.	tons.	ozs.	ozs.	£ s. d.
Balagundi	748y	...	Mount Bellew	...	24	...	442'55	45'00	122'50	2'72	...	1,246'08	144'00	532'85	3'70	4 2 0
Do	...	...	Voided leases	...	...	...	...	...	...	...	...	5'00	144'50	194'35	...	...
Do	...	...	Sundry claims	...	...	...	...	...	...	...	...	...	26'50	9'16	...	...
Bulong	781y	...	Castle Comer	...	12	...	...	32'00	56'80	1'77	...	...	32'00	56'80	1'77	...
Do	802y	...	Don	...	5	...	...	10'00	20'60	2'06	...	...	10'00	20'60	2'06	...
Do	772y	...	Golden Hope	...	a. r. p.	...	...	...	...	...	...	...	10'00	2'55	25	...
Do	862y	...	Golden West	...	2 2 39	...	...	38'00	28'42	'75	...	...	38'00	28'42	'75	...
Do	835y	...	Green Harp	...	12	...	...	238'00	188'27	'79	...	...	238'00	188'27	'79	3'19
Do	751y	...	(I.O.U.)	...	...	...	...	...	...	...	...	...	53'00	19'31	36	...
Do	687y	...	Last Chance	...	18	...	...	21'00	34'44	1'64	6'20	...	242'00	218'36	'90	...
Do	11y, 36y	...	(Melbourne United G.M. Co., N.L.)	...	...	...	...	...	...	...	...	...	236'20	230'73	'97	...
Do	827y	...	Night and Day	...	Surr.	...	...	10'00	10'12	1'01	...	...	10'00	10'12	1'01	...
Do	683y, 688y, 698y	...	Ninety-eight leases	...	18	...	...	65'00	53'55	'82	...	122'00	584'75	820'78	1'40	...
Do	751y, 793y, 797y	...	Perseverance leases	...	18	...	...	50'00	15'76	'31	...	...	50'00	15'76	'31	...
Do	74y, 564y	...	Princess Margaret G.M. Co., N.L.	...	30	...	...	...	...	...	...	...	632'00	1,097'75	1'73	...
Do	90y	...	Queen Margaret Central G.M. Co., N.L.	...	12	...	...	300'00	373'90	1'24	...	...	300'00	373'90	1'24	3 16 0
			Carried forward	...	...	...	442'55	809'00	904'36	...	6'20	1,373'08	2,750'95	3,819'71	...	...

TABLE IV.—Production of Gold from all sources, etc.—continued.

North-East Coolgardie Goldfield—continued.

BULONG DISTRICT—continued.

MINING CENTRE.	NUMBER OF LEASE.	NAME OF LEASE.	REGISTERED NAME OF COMPANY.	Area in Acres.	TOTAL FOR 1902.					TOTAL GOLD PRODUCTION.					Estimated Value of Gold per oz., 1902
					Alluvial.	Dollied and Specimens	Ore treated.	Gold therefrom.	Average per ton treated.	Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.	Average per ton treated.	
					ozs.	ozs.	tons.	ozs.	ozs.	ozs.	ozs.	tons.	ozs.	ozs.	£ s. d.
			Brought forward ...	...	...	442.55	809.00	904.36	...	6.20	1,373.08	2,750.95	3,819.71	...	
Bulong	{ 9y, 11y, 36y, 142y, 692/3y, 697y, 763y }	...	Queen Margaret G.M. Co., Ltd.	126	...	...	9,013.00	6,246.42	.69	...	...	45,333.00	48,899.97	1.08	3 16 2½
Do	205y	...	Queen Margaret No. 1 South G.M. Co., N.L.	12	...	...	...	...	...	...	...	106.00	880.00	8.30	
Do	95y, 631y	...	Queen Margaret South G.M. Co., N.L.	48	6.40	...	30.00	23.18	.77	6.40	1,120.00	449.00	1,526.58	3.40	
Do	681y	(Slug Hill)	...	...	...	...	...	...	...	...	...	557.00	660.14	1.18	
Do	681y	...	Slug Hill Proprietary G.Ms. Co., N.L.	24	20.88	...	...	...	...	20.88	...	195.00	89.15	.45	
Do	873y	Stawell	...	12	...	...	12.00	82.02	6.83	...	...	12.00	82.02	6.83	
Do	832y (792y)	Toby Barton	...	6	...	36.00	70.00	50.13	.71	...	36.00	70.00	50.13	.71	
Do	850y	Trump	...	12	...	...	67.00	273.53	4.08	...	...	67.00	273.53	4.08	4 0 0
Do	851y	Vulcan	...	12	...	...	8.00	6.30	.79	...	...	8.00	6.30	.79	
Do	871y	Wakeful	...	6	...	...	5.00	21.30	4.26	...	...	5.00	21.30	4.26	
Do	14y	(White Horse)	...	...	...	...	...	...	...	...	801.05	336.50	821.77	2.44	
Do	14y	White Horse	Queen Margaret G.M. Co., Ltd.	12	...	...	678.00	560.85	.83	...	...	2,188.00	1,769.50	.81	
Do	...	Voided leases	...	...	...	...	...	...	...	72.35	637.65	2,288.50	1,281.11	...	
Do	...	Sundry claims	...	...	181.28	185.17	1,482.65	6,357.55	...	1,534.12	972.50	4,370.40	13,220.40	...	
Mt. Monger	809y	Black Hills	...	12	...	50.00	4.25	36.25	8.53	...	50.00	4.25	36.25	8.53	
Do	834y	Hibernian	...	6	...	...	15.10	11.95	.79	...	...	15.10	11.95	.79	
Do	740y	Hogan's Flat	...	18	...	27.00	30.00	31.00	1.03	...	40.00	30.00	31.00	1.03	
Do	820y	Hogan's Hill	...	V.N.P.	...	...	10.00	5.75	.57	...	...	10.00	5.75	.57	
Do	75y, 678y	...	Majestic G.Ms., Ltd.	24	...	...	283.75	335.67	1.18	...	...	283.75	335.67	1.18	4 0 6
Do	826y	Mighty Rumble	...	24	...	...	14.50	21.95	1.51	...	...	14.50	21.95	1.51	
Do	737y	Mount Monger	...	6	...	207.00	32.00	34.50	1.08	...	918.75	43.50	74.11	1.70	4 0 0
Do	841y	Stanley	...	24	...	...	161.50	147.35	.91	...	...	161.50	147.35	.91	
Do	846y	Struck Oil	...	12	...	62.00	7.50	53.30	7.10	...	62.00	7.50	53.30	7.10	
Do	...	Voided leases	...	...	...	...	...	...	...	...	2,018.28	119.00	380.46	...	
Do	...	Sundry claims	...	...	...	...	30.00	23.29	...	...	...	105.50	68.10	...	
Taurus	836y	La Mascotte	...	12	...	...	70.00	67.66	.96	...	...	70.00	67.66	.96	
Do	...	Voided leases	...	...	...	...	...	...	...	2.30	...	1,561.55	646.21	...	
Do	...	Sundry claims	...	...	...	...	110.00	165.17	...	125.73	...	133.00	177.76	...	
<i>From District generally—</i>															
		Sundry parcels treated at Holt's Battery	...	...	...	...	...	...	...	...	...	3,648.55	3,337.18	...	
	Do	do Middleton's Cyanide Works	...	...	...	...	...	cy. 161.69	...	...	...	...	161.69	...	
	Do	do Queen Margaret Battery	...	...	...	...	...	con. 6.06	...	...	...	35.50	31.11	...	
	Do	do State Battery, Bulong	...	...	...	...	...	...	...	...	...	2,224.00	1,678.60	...	
	Alluvial	...	...	...	720.17	...	...	...	...	21,144.21	...	...	...	...	
	Notices of Purchase	...	...	...	1,004.99	...	...	...	...	1,459.03	19.03	...	...	...	
Total					1,933.72	1,009.72	12,943.25	15,627.23	1.21	24,371.22	8,048.34	67,203.55	80,667.66	1.20	3 17 0½

KURNALPI DISTRICT.

					ozs.	ozs.	tons.	ozs.	ozs.	ozs.	ozs.	tons.	ozs.	ozs.	£	s.	d.
Jubilee	254k	Josephine	...	12	...	57'60	6'00	14'00	2'33	...	57'60	6'00	14'00	2'33	3	17	0
Do	220k (246k)	Jubilee Gift South	...	24	...	...	422'00	487'17	1'15	...	...	1,408'00	1,230'93	'87	3	8	0
Do	256k	King Edward	...	Wdn.	...	...	10'00	14'00	1'40	...	...	10'00	14'00	1'40			
Do	220k	(Mountain Maid and Iron Prince G.Ms., Ltd.)	...	...	...	...	...	...	...	...	...	208'00	229'51	1'10			
Do	...	Voided leases	...	...	...	...	...	...	...	...	106'47	93'50	149'95	...			
Do	...	Sundry claims	...	...	...	...	35'00	9'50	...	...	...	35'00	9'50	...			
Kurnalpi	...	Voided leases	...	...	...	...	...	...	...	...	...	1,710'05	1,019'81	...			
Do	...	Sundry claims	...	...	...	...	...	...	...	280'00	...	25'00	18'64	...			
Mulgabbie	...	Voided leases	...	...	...	...	...	...	...	...	44'60	...	...	...			
Do	...	Sundry claims	...	...	...	6'60	53'25	190'04	...	8'50	1,524'67	68'25	461'60	...			
<i>From District generally—</i>																	
Sundry parcels treated at Glover's Works					...	...	55'00	55'40	...	...	...	55'00	55'40	...			
Do do Hempseed's Cyanide Works					...	...	...	cy. 159'00	...	...	...	...	159'00	...			
Alluvial					579'35	...	...	...	...	10,481'80	...	...	...	...			
Notices of Purchase					...	...	...	...	...	159'59	...	...	...	...			
Total					579'35	64'20	581'25	29'11	1'60	10,929'89	1,733'34	3,618'80	3,362'34	'83	3	9	

East Coolgardie Goldfield.

MINING CENTRE.	NUMBER OF LEASE.	NAME OF LEASE.	REGISTERED NAME OF COMPANY.	Area in Acres.	TOTAL FOR 1902.					TOTAL GOLD PRODUCTION.					Estimated Value of Gold per oz., 1902		
					Alluvial.	Dollied and Specimens	Ore treated.	Gold therefrom.	Average per ton treated.	Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.	Average per ton treated.			
Binduli	...	Voided leases	...	...	ozs.	ozs.	tons.	ozs.	ozs.	ozs.	ozs.	tons.	ozs.	ozs.	£	s.	d.
Do	...	Sundry claims	...	...	...	...	...	...	...	...	...	120'00	81'27	...			
Boorara	2310E, 2312E, 2314E	Golden Ridge proprietary leases	Pro-...	70	...	42'60	779'00	474'70	'61	...	57'78	2,123'00	1,754'67	'83			
Do	2310E, 2312/4E	...	(Golden Ridge W.A. Proprietary, Ltd.)	...	...	...	...	...	...	...	...	322'78	602'66	1'86			
Do	3908E, 3910E, 3912E	Waterfall leases	...	72	...	...	1,867'00	1,240'10	'66	...	...	2,027'00	1,504'00	'74			
Boulder	38E, 71/2E, 101E	...	Associated G.Ms. of W.A., Ltd.	a. r. p. 75 3 24	...	...	58,060'00	57,028'98	'98	...	...	247,743'30	308,037'98	1'22	3	14	4
Do	49E, 52/3E, 263E	...	Associated Northern Blocks (W.A.), Ltd.	78	...	55'00	12,038'72	55,895'20	4'64	...	165'10	19,196'67	103,308'72	5'38	4	0	0
Do	188E (3800E)	Slug Hill	...	12	...	...	20'00	8'10	'40	...	...	36'00	25'15	'70			
Do	1006E	...	Boulder Central G.M. Co., N.L.	12	...	...	...	...	...	...	...	49'00	4'03	'08			
Do	1089E	...	Boulder Consols No. 1 G.M. Syndicate, N.L.	a. r. p. 16 1 7	...	...	100'00	13'60	'13	...	...	124'00	18'10	'14			
Do	1112E, 1394E	...	Boulder Half-Mile South G.M. Co., N.L.	28	...	...	...	...	...	...	...	80'00	20'30	'25			
Carried forward					...	97'60	72,864'72	114,660'68	...	...	222'88	271,846'75	410,382'83	...			



TABLE IV.—Production of Gold from all sources, etc.—continued.

East Coolgardie Goldfield—continued.

MINING CENTRE.	NUMBER OF LEASE.	NAME OF LEASE.	REGISTERED NAME OF COMPANY.	Area in Acres.	TOTAL FOR 1902.					TOTAL GOLD PRODUCTION.					Estimated Value of Gold per oz., 1902.
					Alluvial.	Dollied and Specimens	Ore treated.	Gold therefrom.	Average per ton treated.	Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.	Average per ton treated.	
			Brought forward ...	...	...	ozs. 97'60	tons. 72,864'72	ozs. 114,660'68	...	...	ozs. 222'88	tons. 271,846'75	ozs. 410,382'83	...	£
Boulder	261E, 281E	...	(Brookman Bros.' Boulder G.M. Co., Ltd.)	...	...	...	...	...	...	...	...	8,655'00	8,993'41	1'04	
Do	24E, 888E, 949E, 1168E	...	Central and West Boulder G.Ms., Ltd.	54	...	950'00	716'81	'75	...	...	...	25,581'00	17,528'60	'68	
Do	351E	...	Golden Horseshoe Estates Co., Ltd.	24	...	116,266'00	192,573'05	1'66	...	...	...	342,164'39	654,668'95	0'91	3 16 0
Do	446E, 1069E, 2326E	...	Golden Link Consolidated G.Ms., Ltd.	33	a. r. p.	1,520'00	871'24	'57	...	...	...	1,525'00	871'49	'57	
Do	873E	...	Great Boulder Main Reef, Ltd.	24 3 0	...	22,284'00	20,607'66	'92	...	...	...	77'223'89	106,915'08	1'38	3 9 6
Do	50E	...	Great Boulder No. 1, Ltd. ...	24	...	226'00	151'35	'67	...	...	...	2,245'00	2,338'95	1'04	
Do	66E	...	Great Boulder Perseverance G.M. Co., Ltd.	24	a. r. p.	140,573'50	193,296'79	1'37	...	...	...	341,365'23	462,051'62	1'35	3 14 0
Do	16E, 51E, 61E, 102E, 280E	...	Great Boulder Proprietary G.Ms., Ltd.	85 1 0	...	104,831'00	166,517'51	1'59	...	...	...	392,200'00	768,624'96	1'96	3 1 6½
Do	902E, 1011E, 1072E, 1124E	...	Great Boulder South G.M. Co., Ltd.	63	...	437'00	145'09	'33	...	...	...	437'00	145'09	'33	
Do	3643E	...	Hainault G.Ms., Ltd. ...	20	...	9,421'00	6,043'30	'64	...	...	...	15,016'20	10,029'30	'67	3 17 10½
Do	1131E	...	Hannan's Central Extended G.M. Co., N.L.	24	...	3,498'00	1,443'72	'41	...	...	...	9,121'00	7,745'67	'85	
Do	1294E	...	(Hannan's Golden Pike G.M., Ltd.)	...	...	...	...	...	...	...	...	25'00	16'30	'65	
Do	15E, 60E	...	Hannan's Star G.Ms., Ltd. ...	18	...	...	...	...	...	...	...	27,714'75	17,990'52	'65	
Do	31E	...	Ivanhoe Gold Corporation, Ltd.	24	...	131,800'00	142,297'52	1'08	...	...	...	403,934'00	555,913'31	1'37	3 8 1
Do	33E	...	Kalgoorlie Bank of England G.M. Co., Ltd.	10	...	...	...	...	...	...	...	11,775'50	7,492'95	'63	
Do	73E, 74E	...	Kalgoorlie Mint and Iron King G.Ms., Ltd.	42	...	...	...	...	...	...	...	3,647'00	8,201'97	2'24	
Do	22E, 34E	...	Kalgurli G.Ms., Ltd. ...	18	...	34,665'00	36,186'75	1'04	...	...	...	61,616'48	78,023'63	1'26	3 17 10½
Do	25E, 32E	...	Lake View Consols, Ltd. ...	48	...	78,843'00	80,532'53	1'02	...	...	...	390,097'60	762,689'47	1'95	3 9 1½
Do	103E	...	(Lake View Extended G.M. (W.A.), Ltd.)	...	...	...	...	...	...	...	...	710'00	177'25	'24	
Do	75E, 103E	...	Lake View South G.M. (W.A.), Ltd.	44	...	20'50	4,243'00	...	...	...	...	4,868'98	7,786'00	1'59	
Do	3911E	Last Chance	...	24	...	20'00	3'50	'17	...	...	...	30'00	7'20	'24	
Do	35E	...	North Boulder G.M. Co., Ltd.	9	...	1,391'75	1,523'05	1'09	...	...	...	33,549'15	50,081'27	1'49	
Do	287E, 444E	...	North Kalgurli Co., Ltd. (late North Kalgurli G.Ms. Co., Ltd.)	30	...	44'50	227'00	5'10	...	...	...	693'05	2,635'12	3'80	
Do	{ 410E, 448E, 532E, 578E, 698E, 944E, 1395E }	...	Oroya-Brownhill Co., Ltd. (late Hannans Brownhill G.M. Co., Ltd., and Hannans Oroya G.M. Co., W.A., Ltd.)	{ 89 3 5 }	a. r. p.	44,930'00	88,270'49	1'96	...	...	...	264,454'80	422,302'80	1'59	3 13 3

Do	1208E, 3612E	...	South Kalgurli G.Ms., Ltd.	a. r. p. 14 1 27	...	32,210·00	31,058·19	·96	...	63,999·00	61,531·83	·96	3 9 0		
Do	3031E	...	Trafalgar G.M. (W.A.), Ltd.	19 1 13	...	39·00	30·65	·78	...	189·95	66·07	·35			
Do	...	Voided leases	...	...	...	...	...	...	30·50	105·00	136·20	...			
Do	...	Sundry claims	...	...	...	...	...	...	...	499·00	820·70	...			
Feysville	3770E	Eagle Hawk United	...	8	...	...	...	...	23·00	108·00	185·81	1·72			
Do	Block 48	...	Hampton Plains Estate, Ltd.	...	...	12,836·00	1,499·45	·11	4,913·45	12,975·00	1,562·45	·12			
Do	Block 50	...	Hampton Properties Ltd.	...	...	551·00	877·70	1·59	...	8·00	2,746·00	1,735·95	·63		
Do	3941E	Levett's Boulder	...	12	26·00	...	...	...	...	26·00	...	...	...		
Do	2684E	Rosina	...	12	...	16·00	9·50	·59	1·10	...	33·50	17·30	·51		
Do	...	Voided leases	...	...	...	...	...	...	...	134·85	60·12	...	...		
Kalgoorlie	392E	Acrobat	Paringa Consolidated Mines, Ltd.	24	...	...	...	...	...	10·25	40·06	3·90	...		
Do	3935E	Australian Nation	...	12	...	71·00	47·00	·66	...	71·00	47·00	·66	...		
Do	796E, 1228E	Bonnie Lass leases	...	27	...	48·00	85·05	1·77	...	48·00	85·05	1·77	...		
Do	989E, 1013E, 1170E, 1596E	...	Brown Hill Central G.Ms., Ltd.	a. r. p. 58 3 9	...	...	...	...	...	2,764·50	2,196·09	·79	...		
Do	552E	Brown Hill Consols	...	12	...	35·00	29·15	·83	...	35·00	29·15	·83	...		
Do	558E	...	Brown Hill Extended, Ltd.	12	...	...	...	...	...	837·75	4,572·23	5·45	...		
Do	1101E, 1111E, 3890E	...	Brown Hill Junction G.M. Co., N.L. (late Brown Hill Junction G.M. Co.)	a. r. p. 33 1 21	...	782·00	248·80	·32	...	842·00	278·51	·33	...		
Do	552E (861E), 922E (99E, 1075E)	...	(Brown Hill Proprietary G.Ms., Ltd.)	...	...	28·00	23·50	·84	...	379·00	533·16	1·41	...		
Do	238E	...	Cresus North No. 1, Ltd.	9	...	1,145·00	460·48	·40	...	2,830·25	1,558·24	·55	...		
Do	1621E	...	(Cresus Proprietary G.M. Co.)	...	...	18·00	31·43	1·74	...	79·00	52·33	·66	...		
Do	13E, 90E, 302E	...	Cresus South G.Ms., Ltd.	27	...	3,444·00	3,337·88	·97	...	22,423·00	8,723·90	·39	3 17 10½		
Do	3880E	Devon Consols	...	24	28·87	3,161·00	3,224·59	1·02	40·22	3,604·00	3,522·38	·97	3 17 6		
Do	750E	...	Golden Link Consolidated G.Ms., Ltd.	18	...	1,218·00	772·05	·63	...	1,218·00	772·05	·63	...		
Do	947E, 1294E, 3469E	...	Golden Pike and Lake View East Mines, Ltd.	a. r. p. 37 1 15	...	...	...	...	...	151·00	32·30	·21	...		
Do	1694E	Golden Zone	...	22	...	571·00	226·55	·40	...	1,495·00	956·71	·64	...		
Do	6E	...	Hannan's Block 45, Ltd.	18	...	...	...	...	...	2,343·55	3,459·91	1·05	...		
Do	131E, 245E, 269E, 743E, 794E, 969E	...	Hannan's Central G.M., Ltd.	48	...	1,896·00	1,247·10	·66	...	6,098·00	3,920·37	·64	...		
Do	14CE, 415E, 1163E	...	Hannan's Consols, Ltd.	21	...	926·75	700·69	·76	...	2,519·75	2,338·63	·93	...		
Do	739E	...	Hannan's Cresus G.M. Co., Ltd.	23	...	...	cy. 101·55	...	...	4,256·75	4,866·97	1·14	...		
Do	755E	...	Hannan's Excelsior G.M., Ltd.	12	...	...	...	...	...	108·50	52·94	·51	...		
Do	9E (37E), 42E	...	Hannan's Find Gold Reefs, Ltd.	a. r. p. 10 1 7	...	...	...	...	...	83·50	31·15	·37	...		
Do	983E, 1183E, 1305E, 1393E	...	Hannan's Golden Group, Ltd.	73 1 27	...	...	...	...	...	6·00	18·00	3·00	...		
Do	3625E, 3905E	...	Hannan's Kapai, Ltd.	37 0 9	...	...	...	...	...	73·00	17·25	·23	...		
Do	134E, 924E	...	Hannan's Main Reef G.M. Co., Ltd.	21	...	...	...	...	...	145·00	62·85	·43	...		
Do	1004E	...	Hannan's North Cresus G.M. Co., Ltd.	12	...	...	...	...	...	50·00	14·22	·28	...		
Do	12E, 229E, 248E, 3938E	...	Hannan's North G.Ms., Ltd., (late Hannan's North G.M. Co., Ltd.)	60	...	5,915·00	3,422·23	·58	...	8,801·00	6,915·28	·78	3 16 0		
			Carried forward	...	...	152·47	829,496·72	1,097,744·58	...	4,913·45	351·70	2,832,554·87	4,474,326·90	...	

TABLE IV.—Production of Gold from all sources, etc.—continued.

East Coolgardie Goldfield—continued.

MINING CENTRE.	NUMBER OF LEASE.	NAME OF LEASE.	REGISTERED NAME OF COMPANY.	Area in Acres.	TOTAL FOR 1902.					TOTAL GOLD PRODUCTION.					Estimated Value of Gold per oz., 1902.
					Alluvial.	Dollied and Specimens	Ore treated.	Gold therefrom.	Average per ton treated.	Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.	Average per ton treated.	
					ozs.	ozs.	tons.	ozs.	ozs.	ozs.	ozs.	tons.	ozs.	ozs.	£ s. d.
			Brought forward ...	...	...	152·47	829,496·72	1,097,744·58	...	4,913·45	351·70	2,832,554·87	4,474,826·90	...	
Kalgoorlie	1024/5E, 1035E, 1167E	...	Hannan's Proprietary Development Co., Ltd.	a. r. p. 61 1 15	...	...	120·00	30·00	·25	...	...	19,908·50	8,809·65	·44	
Do	97E, 160E, 211/3E, 1240E, 1653E	...	Hannan's Reward and Mt. Charlotte, Ltd. (late Hannan's Reward, Ltd., and Mt. Charlotte G.M. Co., Ltd.)	106 1 37	...	...	2,632·00	3,033·51	1·15	...	2·83	31,314·10	25,241·35	·81	3 15 0
Do	796E, 1228E	...	(Hannan's Reward North G.M. Co., N.L.)	...	...	20·05	25·00	21·30	·85	...	20·05	384·00	270·44	·83	
Do	922E	Herlichite	...	12	...	...	90·50	63·27	·70	...	...	90·50	63·27	·70	
Do	946E	...	Ironsides North G.M. Co., N.L.	a. r. p. 24 3 20	...	...	17·00	19·97	1·17	...	...	1,101·00	800·79	·73	
Do	1004E	Kalgoorlie Golden Eagle	...	12	...	...	25·50	29·52	1·16	...	...	25·50	20·52	1·16	
Do	1260E (1733E, 1734E, 1735E)	...	Kalgoorlie Mining Developments Co., Ltd.	a. r. p. 22 3 2	...	...	...	...	...	...	9·67	2,640·85	2,866·27	1·08	
Do	12E, 229E (3745E)	...	(Kalgurli Star Syndicate, Ltd.)	...	...	...	...	...	...	...	5·67	1,597·29	977·23	·61	
Do	790E, 1008E	...	King of the Hills G.M. Co., Ltd. (late Harquahala G.M. Co., Ltd.)	27	...	...	45·00	2·50	·05	...	...	121·00	83·33	·69	
Do	3933E, 3936E	King Oswald leases	...	Ftd.	...	...	47·00	17·60	·37	...	...	47·00	17·60	·37	
Do	2E, 279E	...	Maritana G.M. Co., N.L.	a. r. p. 14 0 11	...	...	775·50	803·55	1·04	...	...	1,758·00	1,720·62	·98	
Do	21E, 64E	...	Monte Christo G.M. Co., N.L.	17 3 18	5·00	...	204·00	47·36	·23	5·00	...	311·00	81·06	·26	
Do	244E	...	North Croesus G.M. Co., Ltd.	12	...	...	...	...	...	...	18·26	...	...	...	
Do	1556E	...	North Mt. Charlotte G.Ms., Ltd.	24	...	...	326·00	178·04	·54	...	...	1,140·00	632·97	·55	
Do	890E, 912E	...	North Western Associated G.Ms. (W.A.), Ltd.	42	...	...	430·00	257·33	·60	...	...	459·00	308·97	·67	
Do	535E	...	Octagon Explorers, Ltd.	12	...	...	296·00	105·50	·35	...	...	648·00	282·20	·43	
Do	4E	...	Paringa Mines, Ltd. (late Paringa Consolidated Mines, Ltd.)	9	...	...	943·00	1,562·89	1·66	...	...	2,430·00	15,001·72	2·06	
Do	501E, 1591E, 2988E	...	Paringa Consolidated Mines, Ltd.	a. r. p. 14 3 7	...	...	15·00	19·36	1·29	...	...	216·00	175·56	·81	
Do	223E, 1114AE, 3789E	...	Reefer's Eureka G.M. Co., N.L.	36	...	...	...	...	...	...	...	995·40	1,083·77	1·08	
Do	3771E	Sons of Gwalla, Kalgoorlie	...	12	...	...	193·00	155·00	·80	...	...	293·00	240·00	·82	
Do	...	Voided leases	...	...	...	...	...	...	...	...	163·95	803·00	769·12	...	



TABLE IV.—Production of Gold from all sources, etc.—continued.

Coolgardie Goldfield—continued.

COOLGARDIE DISTRICT—continued.

MINING CENTRE.	NUMBER OF LEASE.	NAME OF LEASE.	REGISTERED NAME OF COMPANY.	Area in Acres.	TOTAL FOR 1902.					TOTAL GOLD PRODUCTION.					Estimated Value of Gold per oz., 1902.	
					Alluvial.	Dollied and Specimens	Ore treated.	Gold therefrom.	Average per ton treated.	Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.	Average per ton treated.		
			Brought forward ...	...	ozs.	ozs.	tons.	ozs.	ozs.	ozs.	ozs.	tons.	ozs.	...	£	s d.
onnievale	...	Voided leases	...	...	...	...	25,846.50	18,247.97	...	...	...	127,617.65	82,709.84	...		
Do	...	Sundry claims	...	...	...	...	...	...	...	2.47	...	13,340.70	12,847.35	...		
Bullabulling	...	Voided leases	...	...	...	...	...	...	...	...	...	144.50	86.50	...		
Do	...	Sundry claims	...	...	...	...	...	...	...	...	...	261.50	262.48	...		
Burbanks	3931	Bell Bird	...	12	...	...	40.00	92.47	2.31	...	14.65	198.00	182.45	...		
Do	134/6, 1527, 2761	...	Burbanks Birthday Gift, G.M., Ltd.	39	...	...	27,297.00	29,552.63	1.08	...	...	103,657.00	123,885.07	1.19	3	11 24
Do	3956	Burbanks Horse Shoe	...	9	...	...	65.00	45.71	.70	...	...	65.00	45.71	.70		
Do	3928	Burbanks Horseshoe West	...	Ftd.	...	...	43.00	14.95	.35	...	...	43.00	14.95	.35		
Do	4001 (3928)	Burbanks Horseshoe West	...	12	...	...	25.00	14.80	.59	...	...	25.00	14.80	.59		
Do	2985/6, 3444	...	Burbanks Main Lode, Ltd.	42	...	...	464.00	399.88	.86	...	...	2,044.00	1,256.95	.61		
Do	1705	...	Burbanks North G.M., Ltd.	24	...	...	...	...	...	...	...	22.50	8.80	.39		
Do	3935	Commonwealth	...	12	...	...	50.75	68.27	1.34	...	...	50.75	68.27	1.34		
Do	3959	Coronation No. 2	...	6	...	...	12.00	6.62	.55	...	...	12.00	6.62	.55		
Do	3921	Empress of India	...	6	...	...	66.00	71.85	1.09	...	...	66.00	71.85	1.09		
Do	1918	Glenloth South	...	10	...	...	...	...	...	...	...	372.00	515.20	1.38		
Do	3979	Goroke	...	10	...	...	15.00	2.30	.15	...	...	15.00	2.30	.15		
Do	3943	Hymettus	...	V.N.P.	...	...	6.50	5.50	.84	...	...	6.50	5.50	.84		
Do	2160	Lady Robinson	...	12	...	...	4,007.00	2,693.15	.67	...	...	5,315.40	3,565.29	.67	3	17 6
Do	3809, 3828	Lord Bobs leases	...	18	...	...	2,071.50	1,682.32	.81	...	...	2,596.50	2,764.17	1.06	3	17 10½
Do	3872	Lord Bobs East	...	6	...	...	34.50	14.00	.40	...	...	34.50	14.00	.40		
Do	3898	Lord Bobs No. 1 East	...	12	...	...	10.00	15.82	1.58	...	...	10.00	15.82	1.58		
Do	3845	Lord Bobs No. 1 North	...	5	...	...	223.00	299.29	1.34	...	...	728.00	861.41	1.18		
Do	4009	Lord Bobs No. 3 North	...	12	...	...	49.00	9.60	.20	...	...	49.00	9.60	.20		
Do	3939	Shamrock Ale	...	5	...	...	200.50	106.76	.53	...	...	200.50	106.76	.53		
Do	3920	Try Again	...	6	...	...	97.00	326.75	3.37	...	...	97.00	326.75	3.37	3	17 10½
Do	3932	Wallsend	...	12	...	...	248.00	140.65	.57	...	...	248.00	140.65	.57		
Do	...	Voided leases	...	...	...	...	...	...	...	...	54.26	3,259.50	4,179.73	...		
Do	...	Sundry claims	...	...	...	...	59.00	20.55	...	...	3.10	148.25	62.21	...		
Coolgardie	3867	Australasian	...	Ftd.	...	...	31.50	32.70	1.04	...	...	51.50	52.50	1.02		
Do	22	...	Bayley's Consols G.M. Co., N.L.	18	...	...	1,487.00	2,728.41	1.83	...	...	6,165.00	6,114.32	.99	3	13 11½
Do	3833	Bayley's Imperial	...	V.N.P.	...	...	27.00	37.76	1.40	...	...	27.00	37.76	1.40		
Do	471	Bayley's South Extended	...	a. r. p.	...	...	...	...	...	...	...	47.00	8.55	.18		
Do	133, 139, 142, 547	...	Bayley's G.Ms., Ltd. (late Bayley's United G.Ms., Ltd.)	94 0 25	307.09	104.42	1,418.00	1,015.84	.71	954.97	104.42	67,769.47	104,940.33	1.55		
Do	3868	Brilliant	...	Surr.	...	...	83.00	166.40	2.00	...	...	206.00	434.40	2.11		

Do	...	3972 (3868)	Brilliant	...	18	...	96.00	271.00	2.82	...	96.00	271.00	2.82		
Do	...	193 (1624)	...	...	15	...	...	...	...	...	69.00	46.42	.67		
Do	...	3886	Comet	...	V.N.P.	...	214.00	76.00	.35	...	214.00	76.00	.35		
Do	...	3918	Coolgardie Redemption	...	18	...	84.00	124.25	1.48	...	198.00	186.62	.94		
Do	...	3989	Coronation Jewel	...	Wdn.	...	250.00	25.45	.10	...	250.00	25.45	.10		
Do	...	3961	Daisy	...	6	...	56.00	52.22	.93	...	56.00	52.22	.93		
Do	...	4014	Duke of York	...	12	...	8.00	6.30	.79	...	8.00	6.30	.79		
Do	...	1865	...	(Empress of Coolgardie, G.M. 1896, Ltd.)	...	...	...	...	...	...	2,868.00	1,084.49	.37		
Do	...	3871	Family	...	15	...	89.00	97.49	1.09	...	114.00	130.29	1.14		
Do	...	1604/5, 2753, (3685, 3672)	...	Flagstaff G.Ms., Ltd. (late Flagstaff Mines, Ltd.)	a. r. p. 28 2 17	...	750.00	193.00	.26	...	10,285.50	4,992.12	.48		
Do	...	3590	Big Blow	Flagstaff G.Ms., Ltd. (late Flagstaff Mines, Ltd.)	24	...	1,008.00	431.36	.43	...	4,692.00	2,236.71	.48		
Do	...	284, 745	...	(Forrest King of Coolgardie, Ltd.)	...	...	...	...	...	...	857.50	582.03	.67		
Do	...	3827	Garfield	...	12	...	104.00	199.96	1.92	...	187.00	359.43	1.92		
Do	...	717, 3790	...	Gleeson's Success G.Ms., Ltd.	24	...	...	...	...	...	1,132.00	1,367.54	1.20		
Do	...	20, 188A	...	Golden Bar G.M. Co., N.L.	15	...	698.00	895.10	1.28	...	11,977.00	9,267.70	.77		
Do	...	1559, 3792	...	Golden Queen G.M. Co., N.L.	17	...	126.00	57.82	.46	...	1,202.25	1,045.30	.87		
Do	...	400	Great Coolgardie	...	a. r. p. 11 3 16	...	...	...	...	...	215.00	16.10	.07		
Do	...	1902	Griffiths (late Morning Star)	...	12	...	3,828.00	3,473.23	.91	...	6,074.00	055.43	.99		
Do	...	Block 53	...	Hampton Plains Estate, Ltd.	...	...	...	...	...	...	67.00	128.55	1.91		
Do	...	Block 59	...	Hampton Plains Estate, Ltd.	...	...	49.00	16.20	.33	...	581.00	230.98	.40		
Do	...	3910	Indicator	...	Surr.	...	1.50	12.12	8.08	...	1.50	12.12	8.08		
Do	...	226, 3527	(Killarney and Kyjak)	...	...	...	...	...	...	...	157.00	61.15	.38		
Do	...	18, 82, 226, 376, 3527, 3598	...	King Solomon's G.Ms., Ltd.	a. r. p. 65 1 12	28.02	3,505.00	1,457.71	.41	28.02	24,153.75	16,495.38	.68		
Do	...	666, 1384 (2216, 2357), 2419, (2826), 3549	...	Lady Charlotte G.Ms., Ltd.	40 1 2	...	178.00	1,387.43	7.79	...	9,689.00	7,308.68	.75		
Do	...	284, 336, 745, 1583, 3654	...	Lady Loch G.Ms., Ltd.	60	...	1,446.00	859.88	.59	...	24,711.00	22,830.48	.92		
Do	...	3973	Lady Theresa	...	5	...	16.00	8.00	.50	...	16.00	8.00	.50		
Do	...	3556	Lily	...	6	...	...	...	...	...	342.75	242.63	.70		
Do	...	3530	...	Lanarkshire G.Ms. of Australia, Ltd.	a. r. p. 9 2 20	...	...	...	66.05	16.50	504.00	308.75	.61		
Do	...	3803/4, 3856/7	...	Lindsay's Consolidated Mines, Ltd.	49 0 21	...	498.00	117.01	.23	...	498.00	117.01	.23		
Do	...	3701	Morning Star South	...	12	...	...	...	...	...	250.00	35.00	.14		
Do	...	3882	Mystery	...	V.N.P.	...	8.00	8.00	1.00	...	145.75	79.75	.54		
Do	...	3319, 3624	...	New Central Investment Corporation, Ltd.	29	...	361.00	339.80	.94	...	826.00	601.20	.73		
Do	...	84, 1464, 2831...	...	New Clyde G.Ms., Ltd.	a. r. p. 32 3 21	...	...	...	45.35	...	5,722.00	1,391.14	.24		
Do	...	3697	Olive	...	12	...	20.00	3.00	.15	...	83.00	11.45	.14		
Do	...	3880	Phoenix	...	12	...	82.50	61.05	.74	...	365.50	233.26	.63		
Do	...	(1111), 1865	...	Phoenix G.Ms., Ltd.	18	...	47.00	38.00	.81	...	2,766.50	2,166.17	.78		
Do	...	(1019), 3573, 3609, 3639	...	Richmond Consolidated Mining Co., Ltd.	a. r. p. 23 1 39	...	367.00	822.22	2.24	...	1,356.12	2,011.61	1.48		
Do	...	3977	Ritanita	...	12	...	100.00	26.40	.26	...	100.00	26.40	.26		
Carried forward					...	335.11	104.42	77,966.75	68,892.75	...	1,094.39	195.40	447,803.84	427,893.31	...

TABLE IV.—Production of Gold from all sources, etc.—continued.

Coolgardie Goldfield—continued.

COOLGARDIE DISTRICT—continued.

MINING CENTRE.	NUMBER OF LEASE.	NAME OF LEASE.	REGISTERED NAME OF COMPANY.	Area in Acres.	TOTAL FOR 1902.					TOTAL GOLD PRODUCTION.					Estimated Value of Gold per oz., 1902.
					Alluvial.	Dollied and Specimens	Ore treated.	Gold therefrom.	Average per ton treated.	Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.	Average per ton treated.	
					ozs.	ozs.	tons.	ozs.	ozs.	ozs.	ozs.	tons.	ozs.	ozs.	£ s. d.
			Brought forward ...	...	335·11	104·42	77,966·75	68,892·75	...	1,094·39	195·40	447,803·84	427,893·31	...	
Coolgardie	226	...	(Rosehill United G.M. Co., Ltd.)	...	...	...	...	...	...	...	...	364·00	185·09	·50	
Do	3945	Rose	...	5	...	6·00	51·15	229·56	4·49	...	6·00	51·15	229·56	4·49	
Do	1839	Royal Tar	...	12	...	...	36·00	13·66	·38	...	...	295·75	115·25	·39	
Do	3587	Shamrock	...	12	...	...	...	...	...	3·40	6·80	148·00	19·97	·13	
Do	3415/6	...	Sherlaw's G.M. Co., Ltd.	40	...	...	...	...	...	...	...	13,094·00	7,152·78	·54	
Do	73	Star of the South	...	a. r. p. 9 3 24	...	...	...	...	...	...	...	975·00	846·44	·86	
Do	33,3824, 3830	...	Tindall's Coolgardie G.M. Co., N.L.	30	...	...	4,108·00	507·25	·12	...	...	34,689·00	7,231·78	·21	
Do	3936	Tulip Bayley's No. 1 South	...	12	...	...	106·00	71·20	·67	...	...	118·50	248·55	2·10	
Do	1385	...	Union Jack G.M. Co., N.L.	12	...	...	...	...	...	...	...	644·50	694·52	1·07	
Do	...	Voided leases	...	...	...	...	...	...	...	60·63	28·64	26,630·50	26,052·46	...	
Do	...	Sundry claims	...	...	...	6·71	1,003·50	251·48	...	...	137·87	2,714·45	1,122·77	...	
Gibraltair	1854	De Beers	...	24	...	...	124·00	40·01	·32	...	...	202·00	74·56	·37	
Do	...	Voided leases	...	...	...	...	...	...	...	...	...	10·00	3·05	...	
Do	...	Sundry claims	...	...	...	...	...	...	...	...	...	12·00	9·23	...	
Gnarlbine	3694	Great Gnarlbine	...	Ftd.	...	...	30·00	10·15	·33	...	12·50	148·25	543·21	3·66	
Do	3980 (3694)	Great Tontine	...	12	...	...	7·00	7·65	1·09	...	...	7·00	7·65	1·09	
Do	3838	Prince of Wales	...	12	...	...	290·00	127·80	·44	...	...	345·00	167·08	·48	
Do	...	Voided leases	...	...	...	...	...	...	...	...	...	61·00	89·50	...	
Do	...	Sundry claims	...	...	...	...	20·00	13·57	...	...	1·50	36·00	24·92	...	
Londonderry	3834	Cheapside	...	18	...	...	256·50	227·93	·89	...	...	461·50	408·37	·88	
Do	3958	Gladys	...	12	...	...	63·00	10·20	·16	...	...	63·00	10·20	·16	
Do	4020 (1889)	Grosmont	...	5	...	...	40·00	21·65	·54	...	...	40·00	21·65	·54	
Do	575, 809, 1076	...	Londonderry G.M., Ltd.	a. r. p. 56 0 29	...	18·30	87·00	464·25	5·34	...	18·30	11,337·00	12,333·21	1·09	
Do	...	Voided leases	...	...	...	...	...	...	...	...	33·50	1,579·16	1,012·68	...	
Do	...	Sundry claims	...	...	...	...	164·00	50·62	...	...	...	453·85	301·64	...	
Mungari	3837	Lucy's Luck	...	24	...	...	40·00	13·85	·33	...	...	92·50	52·92	·57	
Do	...	Voided leases	...	...	...	...	...	...	...	...	...	14·00	10·45	...	
Red Hill	3408	Boomer	...	12	...	...	...	...	...	...	...	45·00	145·65	3·23	
Do	3404, 3417, 3426	...	Red Hill (W.A.) Gold Syndicate, Ltd.	a. r. p. 45 1 13	...	...	2,033·00	2,781·55	1·37	...	1,558·08	6,385·00	10,383·48	1·63	3 17 6
Do	...	Voided leases	...	...	...	...	...	...	...	...	3·40	963·25	441·69	...	
Do	...	Sundry claims	...	...	...	...	...	...	...	...	·57	110·00	7·23	...	
Widgiemooltha	4016	Alliance	...	24	...	...	38·00	23·10	·58	...	...	38·00	22·10	·58	
Do	3696	Bobby Dazzler	...	V.N.P.	...	...	9·00	4·23	·47	...	258·90	109·00	154·26	1·41	
Do	3548	Flinders	...	12	...	...	168·00	59·38	·35	...	28·26	397·60	338·84	·85	
Do	3903	Imperial	...	10	...	...	818·00	115·65	·14	...	...	1,853·00	283·65	·15	

Do	...	3904	...	Imperial North	...	V.N.P.	...	105'00	35'90	'34	...	230'00	42'65	...			
Do	...	3988	...	Lady Maude	...	Wdn.	...	20'00	8'80	'44	...	20'00	8'80	'18			
Do	...	3906	...	Yorkshire Lass	...	8	...	110'00	104'86	'95	...	144'00	160'71	'11			
Do	...	...	...	Voided leases	...	...	...	...	...	...	126'03	2,090'79	738'49	...			
Do	...	...	...	Sundry claims	...	...	...	147'00	97'98	...	3'80	511'85	292'91	...			
<i>From District generally—</i>																	
Sundry parcels treated at Bayley's United Works																	
Do	do			Bendigo and Coolgardie Proprietary Battery	...	...	...	20'00	8'39	...	...	27'00	3'00	...			
Do	do			Big Blow Battery	...	...	...	...	...	...	...	61'00	56'07	...			
Do	do			Burbanks Main Lode Works	...	...	...	362'00	415'86	...	...	364'00	281'75	...			
Do	do			Coolgardie Ore Reduction and Cyanide Works	...	...	...	...	...	...	...	404'00	459'54	...			
Do	do			De Beers Battery	...	...	...	37'00	11'91	...	...	...	2,592'66	...			
Do	do			Golden Bar Works	...	...	...	42'50	31'40	...	...	37'00	11'91	...			
Do	do			Highgate Works	...	...	...	68'00	21'15	...	...	240'75	150'82	...			
Do	do			Kalgoorlie Gold Recovery Works	...	...	...	...	...	...	...	68'00	21'15	...			
Do	do			King's Cross Cyanide Works	...	...	...	...	...	...	...	...	1,070'10	...			
Do	do			King Solomon's Works	...	...	...	...	...	...	...	...	69'10	...			
Do	do			Lady Charlotte Works	...	...	...	28'00	6'95	...	...	28'00	6'95	...			
Do	do			Lindsay's Consolidated Works	...	...	...	254'50	81'44	...	...	254'50	81'44	...			
Do	do			Londonderry Works	...	...	...	270'00	85'53	...	...	404'50	218'23	...			
Do	do			Mt. Burgess Cyanide Works	...	...	...	101'00	25'11	...	...	101'00	25'11	...			
Do	do			Red Hill Battery	...	...	...	29'00	42'13	...	...	...	4,308'82	...			
Do	do			State Battery, Widgiemooltha	...	4'80	...	46'00	12'60	...	4'80	148'00	51'00	...			
Alluvial	...	...	...	...	...	...	...	...	...	...	521'21	...	...	...			
Notices of Purchase	...	...	...	...	...	...	313'74	201'03	...	...	3,197'90	392'62	...	...			
Total							654'55	336'46	89,098'90	74,925'50	'84	4,883'73	2,811'67	557,455'10	509,333'34	'91	3 12 9

KUNANALLING DISTRICT.

						ozs.	ozs.	tons.	ozs.	ozs.	ozs.	ozs.	tons.	ozs.	ozs.	£ s. d.	
Balgarrie	622s	...	...	Balgarrie G.M. Co., N.L.	6	...	...	200'00	27'67	'14	...	...	200'00	27'67	'14	...	
Do	654s (605s)	...	Spirit of the West	12	...	...	17'00	6'00	308'75	...	...	17'00	6'00	308'75	...		
Do	622s	...	(United Australia)	...	...	...	...	...	...	...	...	...	30'00	12'31	'41	...	
Do	565s	...	Zuleika	12	...	...	...	130'00	91'97	'71	...	...	345'50	1,594'37	4'61	...	
Do	...	...	Voided leases	...	...	...	...	...	...	...	...	61'85	2,568'15	2,081'38	...		
Do	...	...	Sundry claims	...	...	...	...	...	...	...	...	20'38	710'25	280'74	...		
Do	...	...	Voided leases	...	...	...	...	...	...	...	...	...	185'00	30'00	...		
Barker's Find	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
Carbine	33s	...	Carbine	...	a. r. p.	...	...	175'00	91'87	'52	...	11'90	308'00	229'27	'74	3 16 0	
Do	591s	...	Globe	...	22 1 10	...	...	30'00	84'70	2'82	...	...	95'00	356'75	3'75	...	
Do	667s	...	Grafter	...	V.N.P.	...	...	45'00	50'00	1'11	...	...	45'00	50'00	1'11	...	
Do	...	...	Voided leases	...	...	...	...	...	...	...	...	...	1,161'00	1,552'12	...	...	
Carnage	43s	...	Carnage South	...	V.N.P.	...	...	22'00	44'00	2'00	...	731'10	185'00	327'85	1'77	...	
Do	2s (349s)	...	(Glenrock Consolidated, Ltd.)	...	...	...	...	...	...	...	...	...	1,079'50	566'80	'52	...	
Do	2s	...	(Perry's Reef)	...	...	...	...	...	...	...	...	...	171'50	249'00	1'45	...	
Do	2s (453s, 548s)	...	Perry's Reef	20	...	...	...	220'00	325'86	1'48	...	...	220'00	325'86	1'48	...	
Do	...	...	Voided leases	...	...	...	...	...	...	...	195'00	25'33	547'00	873'71	...	...	
Cashman's	607s	...	Denver City	12	...	44'50	...	...	...	...	...	332'50	...	...	...	...	
Do	3s	...	Fingall Proprietary, Ltd.	24	...	...	...	34'00	134'50	3'95	...	...	34'00	134'50	3'99	...	
Do	3s	...	(Lady Evelyn)	...	...	...	...	...	...	...	...	...	259'00	276'45	1'06	...	
Do	3s	...	(Lady Evelyn G.Ms., Ltd.)	...	...	...	...	...	...	...	...	...	2,511'40	2,248'32	'89	...	
Do	456s	...	Virgin	12	...	11'00	...	...	...	...	51'82	66'75	21'00	188'46	6'59	...	
Carried forward							11'00	61'50	862'00	1,159'32	...	246'82	1,266'81	10,677'30	11,664'31	...	...



TABLE IV.—Production of Gold from all sources, etc.—continued.

Coolgardie Goldfield—continued.

KUNANALLING DISTRICT—continued.

MINING CENTRE.	NUMBER OF LEASE.	NAME OF LEASE.	REGISTERED NAME OF COMPANY.	Area in Acres.	TOTAL FOR 1902.					TOTAL GOLD PRODUCTION.					Estimated Value of Gold per oz., 1902
					Alluvial.	Dollied and Specimens	Ore treated.	Gold therefrom.	Average per ton treated.	Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.	Average per ton treated.	
			Brought forward ...	...	ozs. 11'00	ozs. 61'50	tons. 862'00	ozs. 1,159'32	ozs. ...	ozs. 246'82	ozs. 1,266'81	tons. 10,677'30	ozs. 11,664'31	ozs. ...	£ s. d.
Cashman's	...	Voided leases	...	...	...	...	...	...	...	...	219'03	3,414'00	3,932'66	...	
Do	...	Sundry claims	...	...	...	...	...	...	...	...	6'75	116'00	74'44	...	
Dunnsville	530s	Jourdie	...	12	...	...	...	...	...	...	...	82'00	55'29	'67	
Do	582s	Jourdie Hills Boulder	...	12	...	...	...	...	...	...	...	48'00	22'89	'47	
Do	369s	...	Jourdie Hills G.M. Co., Ltd.	12	...	...	286'00	243'15	'85	...	...	286'00	243'15	'85	3 15 0
Do	514s	Pride of Jandie North	...	12	...	...	...	...	...	...	...	108'50	100'85	'92	
Do	369s	(Pride of the Jourdies)	...	...	...	...	...	...	...	...	...	410'74	530'41	1'29	
Do	17s, 82/3s	...	New Standard Exploration Co., Ltd. (late Wealth of Nations, Ltd.)	36	...	...	136'00	64'00	'47	...	...	13,681'00	6,596'94	'48	
Do	...	Voided leases	...	...	...	...	...	...	...	...	197'38	604'50	491'54	...	
Do	...	Sundry claims	...	...	...	...	...	...	...	...	...	29'00	22'80	...	
Kintore	64/5s	...	City of London G.Ms., Ltd.	a. r. p. 31 2 33	...	...	9'00	2'50	'28	...	36'00	2,528'60	1,868'32	'74	
Do	77s, 98s, 99s, 100s, 105s, 138s	...	Great Cement Proprietary, Ltd.	104 2 0	...	...	731'00	607'88	'83	...	...	15,151'00	3,673'27	'24	3 14 0
Do	93s, 99s (135s, 137s), 138s (139s)	...	(Great Dyke and Orizaba Cement Claims, Ltd.)	...	...	...	...	...	...	...	...	3,537'00	1,156'48	'32	
Do	61/2s	...	(Hands Across the Sea G.M. Co., Ltd.)	...	...	...	...	...	...	...	...	2,963'25	2,288'64	'77	
Do	61/2s	Hands Across the Sea leases	...	a. r. p. 21 2 36	...	...	491'00	466'16	'95	...	...	676'00	683'42	1'01	
Do	482s	Kintore North	...	3	...	...	56'00	100'85	1'80	...	...	56'00	100'85	1'80	3 14 8
Do	77s	(Ormuz)	...	...	...	...	...	...	...	...	...	4,519'75	4,931'08	1'09	
Do	658s (612s)	Rajah Brooke	...	3	...	...	25'00	26'65	1'07	...	...	25'00	26'65	1'07	
Do	409s	Sugarloaf	Great Cement Proprietary, Ltd.	a. r. p. 13 2 12	...	...	172'00	212'95	1'24	...	...	172'00	212'95	1'24	3 14 0
Do	603s	Sydney Mint	...	12	...	20'65	20'00	172'77	8'63	...	24'65	215'75	271'77	1'26	3 15 4
Do	114s, 132s, 161s 409s	...	(Sugar Loaf, 25-Mile, Cement Leases, Ltd.)	...	...	...	...	...	...	...	...	452'50	1,273'60	2'81	
Do	576s	Tom's Retreat	...	V.N.P.	...	...	30'00	17'01	'57	...	...	62'00	55'91	'90	
Do	632s	Truth	...	V.N.P.	...	...	31'00	10'00	'32	...	...	68'00	36'11	'53	
Do	100s, 105s	...	(W.A. Proprietary Cement Leases, Ltd.)	...	...	...	...	...	...	...	32'74	4'575'75	7'938'00	1'73	
Do	...	Voided leases	...	...	...	...	...	...	...	...	97'58	4,357'46	5,510'99	...	
Do	...	Sundry claims	...	...	...	...	8'00	53'40	...	...	...	73'50	167'34	...	
Siberia	633s	Ardfnaig	...	10	...	...	70'00	24'10	'34	...	...	100'00	39'90	'39	
Do	479s	Fair Adelaide	...	12	...	...	...	...	...	...	...	126'00	115'00	'91	
Do	643s	Horseshoe	...	18	...	73'00	...	...	...	...	152'50	...	...	...	
Do	519s	Invincible	...	12	...	...	...	...	...	...	203'74	32'00	153'30	4'79	

Do	538s	Merriwee King	V.N.P.	...	...	...	con. 9'55	...	...	140'00	465'21	3'32		
Do	106s	Mexico	13	...	...	157'00	52'00	'33	...	3,076'50	5,316'89	1'73		
Do	518s	Mexico West	12	...	...	77'00	25'10	'33	...	77'00	25'10	'33		
Do	628s	Mystery	V.N.P.	...	...	20'00	13'00	'65	...	50'00	32'00	'64		
Do	299s	Pole	12	...	...	...	cy. 313'00	...	...	1,100'00	1,594'72	1'45		
Do	655s	Silksworth	12	...	...	42'00	18'00	'43	...	42'00	18'00	'43		
Do	614s	Victory	V.N.P.	...	...	5'00	3'25	'65	...	10'00	7'55	'75		
Do	124s	Waverley	9	...	...	130'00	107'00	'82	...	355'00	931'80	1,161'48	1'25	
Do	...	Voided leases	...	...	...	...	...	...	1'17	146'60	455'65	764'86	...	
Do	...	Sundry claims	...	...	...	...	...	...	33'90	...	74'00	59'96	...	
25-Mile	646/9s	...	Amalgamated G.Ms., Ltd.	42	...	164'00	194'83	1'19	...	394'00	592'08	1'50		
Do	(511/3s), 522s	...	(Catherwood G.Ms. (1898), Ltd.)	...	...	...	...	...	...	38'00	13'00	'34		
Do	74s	(Consolation)	...	...	...	...	...	...	...	69'00	126'10	1'82		
Do	660s	Ellinor	6	...	...	11'00	13'50	1'23	...	11'00	13'50	1'23		
Do	111s	(Emu)	...	...	...	...	...	...	...	143'00	179'92	1'25		
Do	626s	General Buller	V.N.P.	...	...	22'00	36'00	1'64	...	55'00	49'90	'91		
Do	568s, 652s	...	Golden Fremantle Co., N.L.	30	...	80'00	16'50	'21	...	314'00	124'00	'39		
Do	625s	Nil Desperandum	V.N.P.	...	...	72'00	72'50	1'01	...	189'00	155'60	'82		
Do	243s	Pearce's Find	12	...	...	...	...	...	...	33'00	71'87	2'17		
Do	524s	...	Pearce's Kunanalling Co., N.L.	24	...	56'00	35	...	...	56'00	35	...		
Do	70s, 79s, 111s, (278s), 436s	...	Premier G.M. Co., N.L.	a. r. p. 71 3 33	...	2,302'00	6,356'63	2'76	...	56,434'00	45,871'70	'81	3 5 1 1/2	
Do	74s	...	(Premier South G.M. Co., N.L.)	5	...	...	...	...	...	925'00	416'93	'45		
Do	539s	...	Premier South G.M. Co., N.L.	5	...	20'00	18'00	'90	...	357'00	382'85	1'07		
Do	586s	Shamrock	12	...	59'00	368'00	383'85	1'04	59'00	702'00	745'85	1'06		
Do	645s (609s)	Star of Fremantle	5	...	...	535'00	482'55	'90	...	535'00	482'55	'90	3 18 6	
Do	676s	Troedyrhiw	12	...	...	19'00	229'00	...	...	19'00	229'00	...	3 9 0	
Do	616s	Waratah	6	...	...	41'00	69'25	1'69	...	96'00	128'40	1'34		
Do	669s	White Funnel Main Reef	24	...	...	29'00	18'56	'64	...	29'00	18'56	'64		
Do	...	Voided leases	...	...	...	...	...	...	16'03	7,601'20	5,956'67	...		
Do	...	Sundry claims	...	...	...	...	...	...	94'30	221'35	215'66	...		
<i>From District generally—</i>														
Sundry parcels treated at Glenrock Consolidated Battery										21'50	21'80	...		
Do	do	Great Cement Proprietary Works	...	...	...	...	...	...	...	44'00	25'00	...		
Do	do	Hands Across the Sea Battery	...	...	...	77'50	72'17	...	...	105'50	87'73	...		
Do	do	Pole Works	...	...	...	...	...	...	...	59'00	38'15	...		
Do	do	Premier Works	...	...	...	52'75	39'80	...	...	59'75	49'56	...		
Do	do	Stanley Battery	...	...	...	10'00	12'90	...	...	98'00	53'15	...		
Total				11'00	214'15	7,217'25	11,718'03	1'62	281'89	2,908'11	143,714'85	119,734'51	'83	3 7 7

TABLE IV.—Production of Gold from all sources, etc.—continued.

Yilgarn Goldfield.

MINING CENTRE.	NUMBER OF LEASE.	NAME OF LEASE.	REGISTERED NAME OF COMPANY.	Area in Acres.	TOTAL FOR 1902.					TOTAL GOLD PRODUCTION.					Estimated Value of Gold per oz., 1902.
					Alluvial.	Dolled and Specimens	Ore treated.	Gold therefrom.	Average per ton treated.	Alluvial.	Dolled and Specimens.	Ore treated.	Gold therefrom.	Average per ton treated.	
					ozs.	ozs.	tons.	ozs.	ozs.	ozs.	ozs.	tons.	ozs.	ozs.	£ s.
Blackbourne	...	Voided leases	...	...	...	...	...	...	...	...	...	84-00	52-52	...	
Golden Valley	...	Voided leases	...	...	...	...	...	...	...	...	...	130-00	271-85	...	
Greenmount	503	United Australia	...	18	...	...	...	...	...	...	...	350-00	97-20	27	
Do	...	Voided leases	...	...	...	...	...	...	...	...	...	1,077-00	333-18	...	
Hope's Hill	19,52,288 (360), 480	...	Hope's Hill G.M. Co., Ltd.	63	...	...	14,000-00	4,506-36	32	...	...	60,564-00	21,347-02	35	3 13 6
Do	...	Voided leases	...	...	...	...	...	...	...	...	...	60-00	8-15	...	
Do	...	Sundry claims	...	...	...	...	...	...	...	...	...	23-00	5-00	...	
Jaccolletti	490,517	Turnbull's leases	...	10	...	...	632-00	546-60	86	...	...	932-00	863-80	93	3 7 6
Mt. Jackson	246,450/1,459, 460,494	...	Associated Mt. Jackson G.Ms. (W.A.), Ltd.	a. r. p. 114 3 0	...	...	725-50	192-61	26	...	...	801-50	277-51	35	3 6 6
Do	212,217,233, 397,462	...	Mt. Jackson G.Ms., Ltd. (1897)	55 2 30	...	...	...	...	...	...	...	9,537-00	7,446-74	78	
Mt. Rankin	525	Mt. Rankin	...	10 1 16	4-00	6-00	...	...	...	4-00	6-00	...	...	...	
Do	...	Voided leases	...	...	...	...	...	...	...	...	...	56-00	26-65	...	
Parker's Range	508	Australia	...	18	...	...	252-00	152-00	60	...	...	290-00	168-15	58	3 16 0
Do	520 (515)	Blue Hill	...	18	...	...	3-00	15-00	5-00	...	...	3-00	15-00	5-00	
Do	528 (491)	Gordon Highlander	...	12	...	...	44-00	50-00	1-13	...	...	44-00	50-00	1-13	
Do	518	...	McIntosh G.M. Co., Ltd.	18	...	...	29-00	17-17	59	...	...	29-00	17-17	59	
Do	...	Voided leases	...	...	...	...	...	...	...	...	23-18	1,266-00	1,436-98	...	
Southern Cross	13, 29, 279, 505/6, 509	...	British and Foreign Development Syndicate, Ltd. (late Mines Development Syndicate, Ltd.)	146	...	...	14,712-00	12,997-83	88	...	...	36,848-00	30,868-16	84	3 15 0
Do	279	(Central)	...	...	...	...	...	...	...	...	...	44,958-00	27,148-81	60	
Do	521 (467)	Comet	...	7	...	...	3,161-00	657-15	21	...	...	3,161-00	657-15	21	
Do	456	...	Day Dawn G.M. Co., N.L.	20	...	...	...	...	...	...	...	72-50	9-99	13	
Do	13	...	(Fraser's G.M. Co., N.L.)	...	...	...	...	...	...	...	...	151,771-00	78,659-19	51	
Do	29	...	(Fraser's South G.M. Co., N.L.)	...	...	...	...	...	...	...	...	48,233-00	26,157-67	54	
Do	256 (496)	...	Fraser's South Extended G.M. Co., Ltd.	24	...	...	7,280-00	2,303-95	32	...	...	17,540-18	11,086-60	63	3 8 9
Do	526	Irene	...	12	...	...	196-00	50-02	25	...	...	196-00	50-02	25	
Do	529	Reward	...	12	...	...	34-00	85-50	2-51	...	...	34-00	85-50	2-51	
Do	...	Voided leases	...	...	...	...	...	...	...	...	...	15,762-20	8,435-55	...	
Do	...	Sundry claims	...	...	4-30	...	150-00	34-20	...	4-30	738-18	445-75	123-90	...	
From Goldfield generally—															
Sundry parcels treated at Clarke's Battery, Parker's Range								cy. 249-00	...				541-00	...	
Do do Hatt's Central Cyanide Works								cy. 1,258-00	...				1,258-00	...	
Do do Small Horse Battery, Parker's Range								...	...			6-00	7-00	...	
Total					8-30	6-00	41,218-50	23,115-39	56	8-30	767-36	394,274-13	217,505-46	55	3 13 8

# Dundas Goldfield.

MINING CENTRE.	NUMBER OF LEASE.	NAME OF LEASE.	REGISTERED NAME OF COMPANY.	Area in Acres.	TOTAL FOR 1902.					TOTAL GOLD PRODUCTION.					Estimated Value of Gold per oz., 1902.			
					Alluvial.	Dollied and Specimens	Ore treated.	Gold therefrom.	Average per ton treated.	Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.	Average per ton treated.				
																	ozs.	ozs.
Buldanía	779	Buldanía Bell	...	18	...	...	12'00	18'15	1'51	...	...	40'00	58'45	1'46	£	s.	d.	
Do	...	Voided leases	...	...	...	...	...	...	...	...	...	400'05	480'25	...				
Do	...	Sundry claims	...	...	...	...	...	...	...	...	...	88'00	90'93	...				
Dundas	828	Comet	...	V.N.P.	...	...	24'00	12'00	'50	...	...	48'00	36'00	'75				
Do	...	Voided leases	...	...	...	...	...	...	...	...	...	4,877'73	2,563'22	...				
Do	...	Sundry claims	...	...	...	...	...	...	...	...	...	22'00	14'28	...				
Killaloe	...	Voided leases	...	...	...	...	...	...	...	...	...	20'65	7'75	...				
Norseman	583	Albemarle	...	12	...	...	60'50	24'70	'41	...	...	480'50	866'00	2'01				
Do	770	Alikazander	...	Ftd.	...	...	21'00	8'03	'38	...	...	737'00	352'22	'48				
Do	39, 97	...	(All Nations G.Ms., Ltd.)	...	...	...	...	...	...	...	...	200'00	67'00	'33				
Do	837	Bandit King	...	Surr.	...	...	60'00	34'35	'57	...	...	151'00	117'88	'78				
Do	854	Braeside	...	Surr.	...	...	36'00	22'95	'63	...	...	36'00	22'95	'63				
Do	571	Break-o'-Day	...	24	...	...	130'00	208'05	1'60	...	...	7,754'00	11,974'25	1'54	3	5	0	
Do	846	Bulletin	...	V.N.P.	...	...	7'00	3'58	'51	...	...	14'00	6'13	'44				
Do	579, 690, 700	...	Cumberland G.M. Co., N.L.	60	...	...	733'00	687'96	'94	...	...	3,086'10	4,159'92	1'34	3	17	6	
Do	848	Desirable	...	5	...	...	50'00	23'75	'47	...	...	23'75	23'75	'47				
Do	802	Federation	...	12	...	...	57'00	128'91	2'26	...	...	207'50	389'02	1'87	3	14	0	
Do	863 (837)	Hit or Miss	...	3	...	...	21'00	10'12	'48	...	...	21'00	10'12	'48				
Do	844	Horseshoe	...	V.N.P.	...	...	10'00	4'50	'45	...	...	26'00	14'78	'57				
Do	53	(John Bull)	...	...	...	...	...	...	...	...	...	314'00	315'15	1'00				
Do	52, 71	...	Kirkpatrick's Consolidated G.M. Co., N.L.	24	...	...	182'00	139'91	'77	...	...	1,138'50	1,165'33	1'02	3	14	0	
Do	614	...	Kirkpatrick Mt. Benson G.M. Co., N.L.	6	...	...	76'00	29'32	'38	...	...	76'00	29'32	'38				
Do	857	La Mascotte	...	6	...	...	...	...	...	...	...	212'85	...	...	3	12	6	
Do	757, 800	Lady Jean Leases	...	18	...	...	335'00	715'97	2'14	...	...	6'00	1,091'00	1,800'61	1'65	3	15	0
Do	49, 99, 635/6	Lady Mary Leases	...	54	...	...	789'00	1,375'29	1'74	...	...	...	16,614'50	19,577'02	1'18	3	17	0
Do	762	Lady Mary Extended	...	12	...	...	...	...	...	...	...	232'00	105'24	'45				
Do	868 (770)	Lady Miller	...	5	...	...	...	...	...	...	...	22'19	...	...				
Do	858 (839)	Lord Hopetoun	...	5	...	...	47'00	40'70	'86	...	...	47'00	40'70	'86				
Do	856	Lucky Call	...	5	...	...	180'95	9'25	...	...	...	180'95	9'25	...	3	18	2	
Do	53	...	Midas G.M. Co., N.L.	14	...	...	...	...	...	...	...	416'00	237'14	'57				
Do	855	Moonlight	...	Wdn.	...	...	14'00	5'65	'40	...	...	14'00	5'65	'40				
Do	42/3, 681	...	Mt. Benson G.M. Co., N.L.	a. r. p. 23 1 8	...	...	184'00	187'05	1'02	...	...	4,797'40	4,772'64	'99	3	14	8	
Do	16 (482, 685)	...	(No. 1 North Norseman G.M. Co., N.L.)	...	...	...	...	...	...	...	...	2,574'00	1,524'00	'59				
Do	{ 18/9, 20/2, 24/6, 48, 116, 138, 611 }	...	Norseman G.Ms., Ltd.	a. r. p. 101 0 15	...	...	1,983'00	4,631'31	2'33	...	...	74,476'00	46,576'85	'62	3	1	5	
Do	16	Norseman No. 1 North	...	12	...	...	258'50	104'17	'40	...	...	747'50	542'56	'72				
Do	821	Northern Star	...	12	...	...	190'65	160'98	1'43	...	...	190'65	261'50	1'02	3	10	0	
Do	845 (89)	Primrose	...	Surr.	...	...	6'00	22'00	'29	...	...	6'00	26'00	'84				
Do	106, 187, 587	...	Princess Royal G.M. Co., N.L.	a. r. p. 51 3 12	...	...	18,073'00	20,541'25	1'14	...	...	69,411'50	83,890'08	1'21	3	10	6	
		Carried forward	...	...	...	...	820'71	23,331'75	29,349'90	...	...	913'71	189,955'68	182,331'54	...			

TABLE IV.—Production of Gold from all sources, etc.—continued.

Dundas Goldfield—continued.

MINING CENTRE.	NUMBER OF LEASE.	NAME OF LEASE.	REGISTERED NAME OF COMPANY.	Area in Acres.	TOTAL FOR 1902.					TOTAL GOLD PRODUCTION.					Estimated Value of Gold per oz., 1902
					Alluvial.	Dollied and Specimens	Ore treated.	Gold therefrom.	Average per ton treated.	Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.	Average per ton treated.	
			Brought forward ...	...	ozs.	ozs.	tons.	ozs.	ozs.	oz.	ozs.	tons.	ozs.	ozs.	£ s. d.
Norseman	634, 653	...	Princess Royal North G.M. Co., N.L.	24	...	820'71	23,331'75	29,349'90	...	...	913'71	189,955'68	182,331'54	1'64	
Do	187	(Princess Royal South)	...	...	...	...	...	...	...	...	...	358'00	640'00	1'78	
Do	71	Rising Sun	...	12	...	13'25	28'50	124'20	4'35	...	13'25	28'50	124'20	4'35	3 14 0
Do	849 (695)	St. Patrick	...	6	...	124'61	224'00	467'92	2'09	...	124'61	224'00	467'92	2'09	3 14 6
Do	812	Union Jack	...	6	...	...	128'00	114'46	'89	...	...	493'00	547'60	1'11	3 18 0
Do	22, 24 (239)	...	(United Scotchman G.M. Co., N.L.)	...	...	...	...	...	...	...	...	3,322'00	3,134'70	'94	
Do	838	Vale	...	5	...	...	108'00	123'42	1'14	...	...	130'00	187'50	1'44	3 12 0
Do	831	Valkyrie	...	5	...	142'64	85'00	174'86	2'05	...	142'64	137'00	255'13	1'86	3 15 0
Do	822	Wheel	...	V.N.P.	...	...	7'00	4'68	'67	...	...	73'00	92'66	1'27	
Do	...	Voided leases	...	...	...	...	...	...	...	5'25	226'65	18,521'10	16,222'25	...	
Do	...	Sundry claims	...	...	159'02	9'22	675'50	505'89	...	943'72	43'43	2,319'10	1,455'93	...	
Peninsula	(96), 129	...	Central Wealth Consolidated Goldfields, Ltd.	24	...	...	1,462'00	719'58	1'49	...	23'20	7,426'00	4,652'26	'62	3 5 0
Do	143	Day Dawn North Extended	...	V.N.P.	...	...	47'00	53'95	1'15	...	...	228'00	155'76	'68	
Do	...	Voided leases	...	...	...	...	...	...	...	...	...	110'00	32'47	...	
<i>From Goldfield generally—</i>															
Sundry parcels treated at Breakell's Cyanide Works ...					...	...	...	...	...	...	67'75	...	379'00	...	
Do do Mararoa Crushing and Cyanide Works ...					...	...	...	cy. 500'10	...	...	...	152'50	1,842'63	...	
Do do Norseman G.Ms. Works ...					...	...	...	...	...	...	...	35'00	10'63	...	
Do do State Battery, Norseman ...					...	...	37'00	1,065'89	...	...	...	189'00	1,705'28	...	
Alluvial ...					276'30	...	...	...	...	419'05	...	...	...	...	
Total					435'32	1,110'43	26,123'75	33,204'85	1'27	1,368'02	1,555'24	223,721'88	214,270'26	'95	3 9 9

# Phillips River Goldfield.

MINING CENTRE.	NUMBER OF LEASE.	NAME OF LEASE.	REGISTERED NAME OF COMPANY.	Area in Acres.	TOTAL FOR 1902.					TOTAL GOLD PRODUCTION.					Estimated Value of Gold per oz., 1902.	
					Alluvial.	Dollied and Specimens	Ore treated.	Gold therefrom.	Average per ton treated.	Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.	Average per ton treated.		
					ozs.	ozs.	tons.	ozs.	ozs.	ozs.	ozs.	tons.	ozs.	ozs.	£ s. d.	
Harbour View	M.L. 52	Harbour View		50			1,492.75	994.79	.66			1,492.75	994.79	.66	2 10 0	
Do	42	Minna		Wdn.			161.00	108.35	.67			161.00	108.35	.67		
Do	M.L. 132	Omaha		50			241.00	87.00	.36			241.00	87.00	.36		
Do	M.L. 60	Red, White, and Blue		50			185.50	46.26	.25			185.50	46.26	.25		
Do	M.L. 87	Welcome Stranger		Ftd.			9.00	.80	.09			9.00	.80	.09		
Ironcaps	37	Agnes Reward		24												
Mt. Desmond	M.L. 109	Mt. Desmond		52												
Do	M.L. 108	Mt. Stennett		39												
Ravensthorpe	20	Alpha		V.N.P.			10.00	3.00	.30			10.00	3.00	.30		
Do	3	All for the Best		V.N.P.			35.00	21.60	.62			35.00	21.60	.62		
Do	15	Br. dgetown		V.N.P.			15.00	10.00	.66			15.00	10.00	.66		
Do	36	Christiana		V.N.P.			50.00	15.00	.30			50.00	15.00	.30		
Do	10	Commonwealth		Surr.			60.00	33.00	.55			60.00	33.00	.55		
Do	48	Coronation		12			31.00	21.00	.68			31.00	21.00	.68		
Do	M.L. 13	Cousin's Glory		30			80.00	37.05	.46			80.00	37.05	.46		
Do	38	Cumberland		V.N.P.			20.00	4.00	.20			20.00	4.00	.20		
Do	33	Daylight		V.N.P.			23.00	17.10	.74			23.00	17.10	.74		
Do	16	Diamond Jubilee		24			60.00	30.00	.50			60.00	30.00	.50		
Do	M.L. 26	Ellendale		20			30.00	13.20	.44			30.00	13.20	.44		
Do	45	Floater Proprietary		24			30.00	17.00	.56			30.00	17.00	.56		
Do	43 (M.L. 21)		Gilbert Gold Mine, Ltd.	24			3,558.00	4,429.72	1.24			3,558.00	4,429.72	1.24	3 17 10½	
Do	17	Grafter		24			66.00	105.50	1.60			66.00	105.50	1.60	4 0 0	
Do	41	Hawick		Surr.			15.00	10.00	.66			15.00	10.00	.66		
Do	26	James Henry		24			210.00	244.68	1.16			232.00	317.33	1.36		
Do	M.L. 74	Lady Jessie		20			40.00	32.00	.80			40.00	32.00	.80		
Do	21	Lucy		24			68.00	68.00	1.00			68.00	68.00	1.00		
Do	4	Maori Chief		24			15.00	3.50	.23			15.00	3.50	.23		
Do	1		Phillips River G.M. Co., N.L.	24			2,720.00	1,953.98	.72			2,890.00	2,107.06	.72	3 18 9	
Do	33		Phillips River Options Syndicate, N.L.	V.N.P.			23.00	17.00	.74			23.00	17.00	.74		
Do	52	Princess Royal		20			59.00	34.00	.58			59.00	34.00	.58		
Do	6	Sirdar		Ftd.			18.00	27.00	1.50			18.00	27.00	1.50		
Do	51	Two Bobs		a. r. p.			48.00	29.45	.61			48.00	29.45	.61		
Do	34	Waratah		V.N.P.			6.00	2.38	.39			6.00	2.31	.39		
Do		Voided leases									117.19					
Do		Sundry claims					11.00	29.00				11.00	29.00			
<i>From Goldfield generally—</i>																
Alluvial						44.00					44.00					
Total						44.00	5.00	9,390.25	8,445.36	.90	44.00	531.11	9,582.25	8,671.09	.90	3 14 5½

TABLE IV.—Production of Gold from all sources, etc.—continued.

**Donnybrook Goldfield.**

MINING CENTRE.	NUMBER OF LEASE.	NAME OF LEASE.	REGISTERED NAME OF COMPANY.	Area in Acres.	TOTAL FOR 1902.					TOTAL GOLD PRODUCTION.					Estimated Value of Gold per oz., 1902
					Alluvial.	Dollied and Specimens	Ore trea. ed.	Gold therefrom.	Average per ton treated.	Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.	Average per ton treated.	
				a. r. p.	ozs.	ozs.	tons.	ozs.	ozs.	ozs.	ozs.	ozs.	ozs.	ozs.	£ s. d.
Donnybrook	6	Ark of Gold	Donnybrook Goldfields, Ltd.	10 2 26	...	...	7.50	21.50	2.87	...	...	7.50	21.50	2.87	
Do	P.P.L. 9	Blackwood Venture	Donnybrook Goldfields, Ltd.	12	...	...	165.50	17.50	.10	...	...	165.50	17.50	.10	
Do	P.P.L. 10	Bullington	Donnybrook Goldfields, Ltd.	20 1 0	...	...	...	...	...	...	...	187.00	58.55	.31	
Do	P.P.L. 2	Donnybrook	Donnybrook Goldfields, Ltd.	12	...	...	5.00	24.63	4.92	32.00	...	51.25	236.73	4.62	
Do	P.P.L. 1	Donnybrook No. 1 South	Donnybrook Goldfields, Ltd.	6	...	...	...	...	...	...	...	26.50	39.50	1.49	
Do	P.P.L. 11	Hunter's Venture	Donnybrook Goldfields, Ltd.	12 2 0	...	...	354.00	37.10	.10	...	...	465.00	102.65	.22	
Do	2	Perseverance	Donnybrook Goldfields, Ltd.	12	...	...	...	...	...	...	...	4.00	.13	.08	
Do	5	Queen of the South	Donnybrook Goldfields, Ltd.	11 3 16	...	...	...	...	...	...	...	292.05	569.70	1.95	
Do	P.P.L. 14	Star of the West	...	18	...	...	...	...	...	...	...	5.00	1.00	.20	
Do	...	Voided leases	...	...	...	...	...	...	...	10	...	9.50	1.97	...	
Do	...	Sundry claims	...	...	...	...	...	...	...	...	...	40.00	2.50	...	
Total				...	...	...	532.00	100.73	.19	32.10	...	1,253.30	1,051.73	.84	2 11 9

**Goldfields Generally.**

MINING CENTRE.	NUMBER OF LEASE.	NAME OF LEASE.	REGISTERED NAME OF COMPANY.	Area in Acres.	TOTAL FOR 1902.					TOTAL GOLD PRODUCTION.					Estimated Value of Gold per oz., 1902.
					Alluvial.	Dollied and Specimens	Ore treated.	Gold therefrom.	Average per ton treated.	Alluvial.	Dollied and Specimens.	Ore treated.	Gold therefrom.	Average per ton treated.	
					ozs.	ozs.	tons.	ozs.	ozs.	ozs.	ozs.	ozs.	ozs.	ozs.	£ s. d.
Sundry parcels treated at Northam Milling and Mining Works				...	...	...	...	...	...	...	...	...	1,233.90	...	...
Notices of Purchase				...	...	...	...	...	...	142.33	176.01	...	...	...	...
Total				...	...	...	...	...	...	142.33	176.01	...	1,233.90	...	...

TABLE V.

MILLING and CYANIDING PLANTS erected, in the respective Goldfields and Districts, on the 31st December, 1902.

Lease or Area on which erected.	NAME OF COMPANY OR WORKS.	MILLING.										CYANIDING.			
		Bat-teries.	Other Mills.								Leaching Vats.	Agitators and Agitating Vats.	Storage Vats.	Filter Presses.	
			Number of Stamps.	Ball.	Griffin.	Huntington.	Prospecting.	Tremain.	Arrastras.	Crushing Rollers.					Dry Crushers.
<b>KIMBERLEY GOLDFIELD.</b>															
M.A. 8	Mt. Bradley Tunnelling Claim	10													
M.A. 9	Ruby Queen	15													
	Total	25													
<b>PILBARRA GOLDFIELD.</b>															
<i>Marble Bar District.</i>															
3, etc.	British Exploration of Australasia, Ltd.	5										2			
161	Bulletin	10													
M.A. 17	Cremorne	5													
601	Golden Granite				1										
M.A. 18	Klondyke Battery	5													
M.A. 26	Lady Adelaide Battery	10													
M.A. 23	Lallarookh G.M. Co.	10					1								
M.A. 19	Salgash Public Crushing Battery	15										4			
	Total	60				1	1					6			
<i>Nullagine District.</i>															
106L	Barton	10													
M.A. 7L	Elsie Mill						1								
M.A. 4L	Lambert's Treatment Works											4	3		
M.A. 6L	Royer's Public Crushing Battery	10													
	Total	20					1					4	3		
<b>WEST PILBARRA GOLDFIELD.</b>															
106, etc.	Ninety-nine leases				1										
117	Pilgrim's Rest	10													
(97)	Queen Victoria Mill						1								
	Total	10				1	1								
<b>PEAK HILL GOLDFIELD.</b>															
M.A. 4P	Peak Hill Goldfields, Ltd.	40				1						8	9	9	
	Ravelstone State Battery	10													
	Total	50				1						8	9	9	
<b>EAST MURCHISON GOLDFIELD.</b>															
24, etc.	Bellevue Proprietary, Ltd.	20										4		2	
532	Brilliant	5													
645	Cinderella	5													
M.A. 17	Condor Battery	5													
(Q.P.P.A. 22)	Earlsville Mill				1										
37, etc.	East Murchison United, Ltd.	40	1									6	3		
1, etc.	Fingall Reefs Extended, Ltd.	10													
140, etc.	Golden Age Consolidated, Ltd.	20				1		1				5		2	
316, etc.	Gwalia Consolidated, Ltd.	10													
	Carried forward	115	1			2		1				15	3	4	



TABLE V.—Milling and Cyaniding Plants erected, in the respective Goldfields and Districts, etc.—continued.

Lease or Area on which erected.	NAME OF COMPANY OR WORKS.	MILLING.										CYANIDING.			
		Bat-teries. Number of Stamp.	Other Mills.								Leaching Vats.	Agitators and Agitating Vats.	Storage Vats.	Filter Presses.	
			Ball.	Griffin.	Huntington.	Prospecting.	Tremain.	Arrastras.	Crushing Rollers.	Dry Crushers.					Puddlers.
<b>EAST MURCHISON GOLDFIELD—continued.</b>															
	Brought forward	115	1			2		1				15	3	4	
534 ...	Kingston ...	5													
	Lake Darlot State Battery	10													
149, etc.	Lake Way Goldfields (1899), Ltd.	30										4		6	
M.A. 11	Lawlers Public Battery	10										4		2	
15 ...	Leinster ...	10										6			
137, etc.	Monarch of the East G.M. Co., N.L.	10				1						3		3	
113 ...	Nil Desperandum ...	10													
M.A. 15	Pascoe leases ...	5													
M.A. 8	Tazewell's Works											4		1	
520 ...	Sons of Lawlers ...					2									
326 ...	Weelona ...					1									
382 ...	Yellow Aster ...	10										4	3		
	Total	215	1			6		1				40	6	16	
<b>MURCHISON GOLDFIELD.</b>															
<i>Cue District.</i>															
T. As. 13 and 14	Anchor Consolidated G.Ms. (W.A.), Ltd.	10										3	2	2	
203 ...	Cue No. 1	20										8		2	
M.A. 5	Cue Public Battery Co., Ltd.	10													
1174 ...	Cue Victory	10										4		2	
634 ...	Fingall Proprietary, Ltd.		1									4		2	
523 ...	Gem of Cue G.M., Ltd.	15										5		2	
1277 ...	Murchison Associated G.Ms., Ltd.	10													
222 ...	Princess (Murchison) Consolidated, Ltd.	10										4			
	Tuckanarra State Battery	10													
595, etc.	Victory United G.M. Co., N.L.	10										4			
M.A. 17	Weld Hercules G.Ms., Ltd.	20													
	Total	125	1									32	2	10	
<i>Nannine District.</i>															
M.A. 1N	After Many Years Battery	20										4			
238N ...	Alliance ...	5													
10N, etc.	Champion Reef (Nannine) G.M. Co., Ltd.	30													
357N ...	Dorothy ...	5													
	Garden Gully Battery	10													
361N ...	Margueritta ...	10													
	Meekatharra State Battery	10										3			
171N ...	Mt. Vranizan ...	10										6			
7N, etc.	Mt. Yagahong G.M. and Exploration Co., Ltd.	20										6			
32N, etc.	Nannine Goldfields, Ltd.	10													
16N, etc.	Nannine leases ...	13													
408N ...	New Alliance ...	5										4			
172N, etc.	New Murchison King G.Ms.	10										5		2	
174N ...	Star of the East, Ltd.	20										6			
415N ...	Wanganui G.M. Co., Ltd.	10													
	Total	188										34		2	
<i>Day Dawn District.</i>															
M.A. 6D	Day Dawn Public Battery											3		1	
15D, etc.	Emperor G.Ms., Ltd.	5													
26D ...	Eureka No. 5 ...	5													
35D, etc.	Golconda G.Ms., Ltd.	10													
1D, etc.	Great Fingall Consolidated, Ltd.	60										8		4	1
5D, etc.	Island Eureka G.M. Co., N.L.	10												2	
M.A. 1D	New Standard Exploration Co., Ltd.	10										3		1	
227D ...	Trenton ...	10										3			
	Total	110										17		8	1

TABLE V.—Milling and Cyaniding Plants erected, in the respective Goldfields and Districts, etc.—continued.

Lease or Area on which erected.	NAME OF COMPANY OR WORKS.	MILLING.								CYANIDING.			
		Batteries.	Other Mills.							Leaching Vats.	Agitators and Agitating Vats.	Storage Vats.	Filter Presses.
			Number of Stamps.	Ball.	Griffin.	Huntington.	Prospecting.	Tremain.	Arrastras.				
<b>MURCHISON GOLDFIELD—continued.</b>													
<i>Mt. Magnet District.</i>													
327m, etc.	Burra Burra leases	10											
313m ...	Chums Consolidated, Ltd.	10									6		2
(80m)	Colonial Consolidated Finance Corporation, Ltd.	20									6		3
465m, etc.	Empress leases	10											
	Lennonville State Battery	10									3		3
30m, etc.	Long Reef G.M. Co., Ltd.	20									10	6	
314m, etc.	Morning Star Quartz Co., N.L.	10									6		3
	Mt. Magnet East State Battery	5											
57m ...	Welcome					1							
340m, etc.	Windsor Consolidated (W.A.) G.Ms., Ltd.	20											
	Total	115				1					31	6	11
<b>YALGOO GOLDFIELD.</b>													
129 ...	Emerald Reward Consolidated	5			1								
441, etc.	Field's Find G.M.'s, Ltd.	20											
Q.P.P.A. 80	(Marchings and party)					1							
34, etc.	Phoenix G.M.'s, Ltd.	10											
446, etc.	Pinyalling Discovery G.Ms., Ltd.	5											
M.A. 8	Royal Standard leases	5				3							
440 ...	Victoria United	5									5		
R.C. 4	Woodley's Reward Claim	20									4		2
	Total	70			1	1	3				9		2
<b>MT. MARGARET GOLDFIELD.</b>													
<i>Mt. Morgans District.</i>													
M.A. 3F	Mt. Morgans Public Battery	5									3		
15f, etc.	Redcastle leases	10									5		1
5f, etc.	Westralia (Mt. Morgans) G.Ms. Co., Ltd.	80				2					12	5	12
	Total	95				2					20	5	13
<i>Mt. Malcolm District.</i>													
52c, etc.	Arrow Brown Hill G.M. Co., Ltd.	10									6		2
291c, etc.	Diorite King Consols, Ltd.	10									3		4
722c ...	Dumbarton G.Ms., Ltd.	5											
947c ...	Folly										3		
W.R. 84c	(Hill and party)					1							
335c, etc.	King of the Hills G.M. Co., Ltd.	20									4		2
195c, etc.	Leonora Gold Blocks	10									5		2
	Leonora State Battery	10											
781c ...	Malcolm King	5									4		
638c, etc.	Merton's Reward G.M. Co., Ltd.	30											
11c, etc.	Mt. Malcolm Mines, Ltd.	30									8		
441c, etc.	Mt. Stirling leases	10									10		
2c, etc.	North Star G.Ms., Ltd.	20									8		7
532c ...	Proprietary Extended	6											
12c ...	Richmond Gem G.M. Co., N.L.	10									5		
190c, etc.	Sons of Gwalia, Ltd.	50									16		3
263c ...	Trump	10											
M.A. 4c	Webster's G.M. Co., Ltd.	10											
956c ...	Windsor					1							
	Total	246				2					72		20
<i>Mt. Margaret District.</i>													
1041f	Away from Home	1											
720f etc.	Baneygo leases	5											
	British Flag State Battery	10											
M.A. 11f	Burtville Ore Reduction Works	5									5		2
	Carried forward	21									5		2

TABLE V.—Milling and Cyaniding Plants erected, in the respective Goldfields and Districts, etc.—continued.

Lease or Area on which erected.	NAME OF COMPANY OR WORKS.	MILLING.								CYANIDING.					
		Batteries.	Other Mills.							Leaching Vats.	Agitators and Agitating Vats.	Storage Vats.	Filter Presses.		
			Number of Stamps.	Ball.	Griffin.	Huntington.	Prospecting.	Tremain.	Arrastras.					Crushing Rollers.	Dry Crushers.
<b>MT. MARGARET GOLDFIELD—continued.</b>															
<i>Mt Margaret District—continued.</i>															
	Brought forward	21								5		2			
M.A. 10T	Caledonia North	3													
761T, etc.	Childe Harold G.M. Co., Ltd.	20								5		3			
592T	Craiggiemore Proprietary, Ltd.	20				1				9		2			
811T	Edinboro' Castle	8								4		2			
1112T	Eldorado	3													
795T, etc.	Erlistoun Proprietary G.M. Co., N.L.	10								3		2			
785T, etc.	Euro G.M.'s, Ltd.	40													
371T, etc.	Golden Rhine G.Ms. (W.A.), Ltd.	10								4		2			
801T, etc.	Golden Ring	1													
829T, etc.	Ida H. G.M. Co., Ltd.	10								5		2			
M.A. 7T	Lancefield G.M. Co., Ltd.	20								16		6			
781T, etc.	Sailor Prince leases	5								4		2			
934T	Sons of Westralia	10								5		2			
	Total	181				1				60		25			
<b>NORTH COOLGARDIE GOLDFIELD.</b>															
<i>Menzies District.</i>															
2728z, etc.	Boddington leases	20													
4988z	Coonega									5		1			
2823z, etc.	Crusoe Gold Claims, Ltd.	30								6	3		2		
2821z, etc.	Florence	10								3					
4855z, etc.	Goodenough	3								2					
5048z	Hicks' United									3					
2820z, etc.	Lady Shenton G.M., Ltd.	30				1				10	2	2	2		
4931z, etc.	Menzies Consolidated G.Ms, Ltd.	20								6	3				
2892z, etc.	Menzies Mining and Exploration Corporation, Ltd.	10								10		5			
4525z, etc.	Mt. Ida Consols, Ltd.	10													
	Mt. Ida State Battery	10								3		2			
2836z, etc.	Queensland Menzies G.M. Co., N.L.	15								3		3			
3048z, etc.	Warrior Menzies G.M. Co., N.L.	5								2		2			
	Total	163				1				53	8	15	4		
<i>Ularring District.</i>															
	Mulline State Battery	20								5		4			
	Mulwarrie State Battery	10													
M.A., 1U	Riverina G.M. Co., N.L.	10													
11U, etc.	Speakman's Mt. Callion, Ltd.	10								3					
	Total	50								8		4			
<i>Niagara District.</i>															
41g	Britannia G.M. Co. Ltd.	10								6		3			
M.A. 136g	Champion Proprietary, Ltd.	10								4					
M.A. 20g	Continental and W.A. Trust, Ltd.	10								3		2			
265g, etc.	Cosmopolitan Proprietary, Ltd.	30													
20g, etc.	Cumberland Niagara G.M., Ltd.	20								10		2			
26g	Englshman : Cosmopolitan Proprietary, Ltd.	50								12		4	1		
M.A. 7g	Golden Hope Battery	5								5		2			
	Holbourn and Summers Works									4		1			
	Niagara State Battery	10													
352g, etc.	Perseverance leases	10													
452g	Pine Lodge	5													
255g	Puzzle					1				3		3			
M.A. 4g	Tampa Cyanide Works									4		2			
	Total	160				1				51		19	1		

TABLE V.—Milling and Cyaniding Plants erected in the respective Goldfields and Districts, etc.—continued.

Lease or Area on which erected.	NAME OF COMPANY OR WORKS.	MILLING.								CYANIDING.				
		Batteries.	Other Mills.							Leaching Vats.	Agitators and Agitating Vats.	Storage Vats.	Filter Presses.	
			Number of Stamps.	Ball.	Griffin.	Huntington.	Prospecting.	Tremain.	Arrastras.					Crushing Rollers.
<b>NORTH COOLGARDIE GOLDFIELD—continued.</b>														
<i>Yerilla District.</i>														
M.A. 3R ...	Moss Rose Battery ...	...	...	...	...	1	...	...	...	...	...	...	...	
M.A. 5R ...	Mt. Margaret Reward Claim, Ltd. ...	10	...	...	...	...	...	...	...	...	6	...	2	
401R ...	Neta ...	5	...	...	...	...	...	...	...	...	4	...	2	
M.A. 2R ...	Shannon Battery ...	10	...	...	...	...	...	...	...	...	...	...	...	
	Total ...	25	...	...	...	1	...	...	...	...	10	...	4	
<b>BROAD ARROW GOLDFIELD.</b>														
43w, etc. ...	Black Flag Proprietary Co., Ltd. ...	50	...	...	...	...	...	...	...	...	6	...	3	
56w, etc. ...	Broad Arrow Consols G.M. Co., N.L. ...	10	...	...	...	...	...	...	...	...	...	...	...	
1186w, etc. ...	Excelsior leases ...	5	...	...	...	1	...	...	...	...	1	...	1	
3w, etc. ...	Golden Arrow Mine, Ltd. ...	20	...	...	...	...	...	...	...	...	...	...	...	
1112w ...	Grafter ...	5	...	...	...	...	...	...	...	...	...	...	...	
M.A. 1w ...	Half-Mile Reef Mines, Ltd. ...	20	...	...	...	...	...	...	...	...	5	...	2	
47w, etc. ...	Lady Bountiful G.M. Co., N.L. ...	10	...	...	...	...	...	...	...	...	3	...	3	
M.A. 17w ...	Mona G.M., Ltd. ...	10	...	...	...	...	...	...	...	...	...	...	...	
45w ...	Mt. Corlic ...	10	...	...	...	...	...	...	...	...	4	...	1	
M.A. 14w ...	New Arrow Proprietary Battery ...	10	...	...	...	...	...	...	...	...	...	...	...	
2w, etc. ...	New Austral Co., Ltd. ...	...	1	...	...	...	...	...	...	...	...	...	...	
1w, etc. ...	New Standard Exploration Co., Ltd. ...	40	...	...	...	...	...	...	...	...	10	8	3	
M.A. 15w ...	Northam Milling and Mining Co., Ltd. ...	20	...	...	...	...	...	...	...	...	...	...	...	
T.A. 13w ...	Paddington Cyaniding Syndicate ...	...	...	...	...	...	...	...	...	...	3	...	2	
959w, etc. ...	Slug Hill (Pride of the Hill) G.M. Co., Ltd. ...	20	...	...	...	...	...	...	...	...	6	...	2	
17w, etc. ...	Zoroastrian Gold Estates, Ltd. ...	10	...	...	...	...	...	...	...	...	...	...	...	
	Total ...	240	1	...	...	1	...	...	1	...	38	8	14	3
<b>NORTH-EAST COOLGARDIE GOLDFIELD.</b>														
<i>Kanowna District.</i>														
952x, etc. ...	Bonnie Charlie G.M. Co., N.L. ...	10	...	...	...	...	...	...	...	...	...	...	...	
Q.C. 61x ...	Campbell's Works ...	...	...	...	...	...	...	...	...	...	1	...	...	
1052x ...	Coronation ...	...	...	...	...	...	...	...	...	...	6	...	1	
M.A. 30x ...	Golden Puzzle Works ...	5	...	...	...	...	...	...	...	...	4	...	3	
367x, etc. ...	Golden Valley Mines of W.A., Ltd. ...	10	...	...	1	...	...	...	...	...	12	...	2	
M.A. 36x ...	Kalgoorlie Gold Recovery Co., Ltd. ...	...	...	1	...	...	...	...	...	...	18	...	4	
808x, etc. ...	Kanowna Champion Lode G.M. Co., N.L. ...	10	...	...	...	...	...	...	...	...	...	...	...	
153x, etc. ...	Kanowna Consolidated G.Ms., Ltd. ...	10	...	...	...	...	...	...	...	...	5	...	...	
837x, etc. ...	Koh-i-Noor leases ...	5	...	...	...	...	...	...	...	...	...	...	...	
187x, etc. ...	London and Coolgardie Explorers, Ltd. ...	20	...	...	...	...	...	...	...	...	...	...	...	
M.A. 25x ...	McIlraith and Campbell's Works ...	...	...	...	1	...	...	...	...	...	6	...	2	
M.A. 31x ...	Mitchell and Donnan's Works ...	...	...	...	1	...	...	...	...	...	...	...	...	
M.A. 17x ...	Monmouth Works ...	...	...	...	1	...	...	...	...	...	...	...	...	
M.A. 38x ...	Moore's Works ...	...	...	...	1	...	...	...	...	...	...	...	...	
38x, etc. ...	New Standard Exploration Co., Ltd. ...	...	...	...	...	...	...	...	...	...	12	...	3	
918x ...	North Cross Reef ...	...	...	...	...	...	...	...	...	...	1	...	...	
3x, etc. ...	North White Feather G.Ms., Ltd. ...	20	...	...	...	...	...	...	...	...	8	...	3	
Q.C. 57x ...	Norton's Works ...	...	...	...	1	...	...	1	...	...	9	1	8	
M.A. 19x ...	Old Cement Works ...	5	...	...	...	...	...	...	...	...	5	...	2	
74x, etc. ...	Phoenix G.Ms., Ltd. ...	20	...	...	...	...	...	...	...	...	...	...	...	
52x, etc. ...	Robinson G.Ms., Ltd. ...	20	...	...	...	...	...	...	...	...	...	...	...	
M.A. 15x ...	Sims and Son's Works ...	...	...	...	1	...	...	...	...	...	1	...	...	
891x ...	Sirdar ...	10	...	...	...	...	...	...	...	...	...	...	...	
392x, etc. ...	South Gippsland leases ...	10	...	...	...	...	...	...	...	...	...	...	...	
847x, etc. ...	Vosperton G.Ms., Ltd. ...	10	...	...	...	...	...	...	...	...	...	...	...	
12x, etc. ...	White Feather Main Reefs, Ltd. ...	20	...	...	...	...	...	...	...	...	7	...	...	
9x, etc. ...	White Feather Reward, Ltd. ...	20	...	...	...	...	...	...	...	...	12	2	...	
	Total ...	205	...	1	4	3	...	...	1	...	3	104	3	28

TABLE V.—Milling and Cyaniding Plants erected in the respective Goldfields and Districts, etc.—continued.

Lease or Area on which erected.	NAME OF COMPANY OR WORKS.	MILLING.								CYANIDING.					
		Bat-teries.	Other Mills.							Leaching Vats.	Agitators and Agitating Vats.	Storage Vats.	Filter Presses.		
			Number of Stamps.	Ball.	Griffin.	Huntington.	Prospecting.	Tremain.	Arrastras.					Crushing Rollers.	Dry Crushers.
<b>NORTH-EAST COOLGARDIE GOLDFIELD—continued.</b>															
<i>Bulong District.</i>															
M.A. 4Y ...	Middleton's Cyanide Works ...	...	...	...	...	...	...	...	...	...	...	3	...	2	...
9Y, etc. ...	Queen Margaret G.Ms. Co., Ltd. ...	20	...	...	...	...	...	...	...	...	...	...	...	...	...
	Total ...	20	...	...	...	...	...	...	...	...	...	3	...	2	...
<i>Kurnalpi District.</i>															
M.A. 3K ...	Glover's Works ...	...	...	...	1	...	...	...	...	...	...	...	...	...	...
M.A. 1K ...	Jubilee Gift South ...	5	...	...	...	...	...	...	...	...	...	...	...	...	...
	Total ...	5	...	...	1	...	...	...	...	...	...	...	...	...	...
<b>EAST COOLGARDIE GOLDFIELD.</b>															
38E, etc. ...	Associated G.Ms. of W.A., Ltd. ...	...	10	...	3	...	...	...	4	...	...	10	13	12	6
261E, etc. ...	Brookman Bros. Boulder G.M. Co., Ltd. ...	10	...	...	...	...	...	...	...	...	...	2	...	...	...
13E, etc. ...	Crossus South G.Ms., Ltd. ...	20	...	...	...	...	...	...	...	...	...	5	...	...	...
3880E ...	Devon Consols ...	...	...	2	...	...	...	...	...	...	...	...	...	...	...
351E ...	Golden Horseshoe Estates Co., Ltd. ...	100	...	...	...	...	...	...	1	...	...	20	6	10	16
750E ...	Golden Links, Ltd. ...	10	1	...	...	...	...	...	...	...	...	...	...	...	...
2310E, etc. ...	Golden Ridge Proprietary leases ...	10	...	...	...	...	...	...	...	...	...	...	...	...	...
873E ...	Great Boulder Main Reef, Ltd. ...	...	2	...	...	...	...	...	...	...	...	...	4	6	6
50E ...	Great Boulder No. 1, Ltd. ...	10	...	...	...	...	...	...	...	...	...	4	4	...	...
66E ...	Great Boulder Perseverance G.M. Co., Ltd. ...	...	...	12	...	...	...	...	...	...	...	...	24	4	13
16E, etc. ...	Great Boulder Proprietary G.Ms., Ltd. ...	30	...	12	...	...	...	...	...	...	...	...	15	2	12
3643E ...	Hainault G.Ms., Ltd. ...	20	...	...	...	...	...	...	...	...	...	8	...	2	...
Block 48 ...	Hampton Plains Estates, Ltd. ...	20	1	...	...	1	...	...	...	...	...	6	...	4	1
Block 50 ...	Hampton Properties, Ltd. ...	5	...	...	...	...	...	...	...	...	...	...	...	...	...
1131E ...	Hannan's Central Extended G.M. Co., N.L. ...	10	...	...	...	...	...	...	...	...	...	...	...	...	...
12E, etc. ...	Hannan's North G.Ms., Ltd. ...	10	...	...	...	...	...	...	...	...	...	...	...	...	...
1024E, etc. ...	Hannan's Proprietary Development Co., Ltd. ...	...	...	3	...	...	...	...	...	...	...	9	...	...	...
M.A. 11E ...	Hannan's Public Crushing, Condensing, and Saw Mills Co. (W.A.), Ltd. ...	20	...	...	...	...	...	...	...	...	...	3	4	6	4
97E ...	Hannan's Reward and Mt. Charlotte, Ltd. ...	30	...	...	...	...	...	...	...	...	...	...	...	...	...
15E, etc. ...	Hannan's Star G.Ms., Ltd. ...	...	2	...	2	...	...	...	...	...	...	...	4	7	2
31E ...	Ivanhoe Gold Corporation, Ltd. ...	100	2	...	...	...	...	...	...	...	...	28	7	...	6
M.A. 26E ...	Kalgoorlie Gold Recovery Co., Ltd. ...	...	...	...	...	...	...	...	...	...	...	16	...	...	...
73E, etc. ...	Kalgoorlie Mint and Iron King G.Ms., Ltd. ...	10	...	...	...	...	...	...	...	...	...	4	...	2	...
22E, etc. ...	Kalgurli G.Ms., Ltd. ...	...	6	...	...	...	...	1	...	...	...	15	5	8	6
790E, etc. ...	King of the Hills G.M. Co., Ltd. ...	...	...	...	...	...	...	...	...	...	...	3	...	1	...
25E, etc. ...	Lake View Consols, Ltd. ...	75	4	...	...	...	...	...	...	1	...	25	12	4	19
75E, etc. ...	Lake View South G.M. (W.A.), Ltd. ...	30	...	...	...	...	...	...	...	...	...	7	...	6	...
35E, etc. ...	North Boulder G.M. Co., Ltd. ...	10	1	...	2	...	...	...	...	...	...	12	...	8	...
410E, etc. ...	Oroya-Brownhill Co., Ltd. ...	30	4	...	3	...	...	2	...	...	...	11	13	12	6
1208E, etc. ...	South Kalgurli G.Ms., Ltd. ...	...	...	7	...	...	...	2	...	...	...	...	9	...	8
	Total ...	560	33	31	13	2	1	...	10	...	1	188	120	94	105
<b>COOLGARDIE GOLDFIELD.</b>															
<i>Coolgardie District.</i>															
M.A. 7 ...	Bayley's Consols G.M. Co., N.L. ...	10	...	...	...	...	...	...	...	...	...	10	...	3	...
M.As. 11, 16... ..	Bayley's G.Ms., Ltd. ...	20	...	...	...	...	...	...	...	...	1	6	...	4	4
126, etc. ...	Bendigo and Coolgardie Propy. G.M. Co., N.L. ...	15	...	...	...	...	...	...	...	...	...	...	...	...	...
134, etc. ...	Burbank's Birthday Gift G.Ms., Ltd. ...	60	...	...	...	...	...	...	...	...	...	7	4	...	...
2985, etc. ...	Burbank's Main Lode, Ltd. ...	10	...	...	...	...	...	...	...	...	...	4	...	3	...
3811, etc. ...	Cyanide leases ...	...	...	...	...	...	...	...	...	...	...	5	...	...	...
1854 ...	De Beer's ...	5	...	...	...	...	...	1	...	...	...	...	...	...	...
1604, etc. ...	Flagstaff G.Ms., Ltd. ...	20	...	...	...	...	...	...	...	...	...	...	...	...	...
595, etc. ...	Gem leases ...	25	...	...	...	...	...	...	...	...	...	8	...	2	...
3805 ...	Gentle Annie ...	5	...	...	...	...	...	...	...	...	...	...	...	...	...
	Carried forward ...	170	...	...	...	...	...	1	...	1	1	40	4	12	4

TABLE V.—Milling and Cyaniding Plants erected in the respective Goldfields and Districts, etc.—continued.

Lease or Area on which erected.	NAME OF COMPANY OR WORKS.	MILLING.									CYANIDING.				
		Bat-teries. Number of Stamps.	Other Mills.							Leaching Vats.	Agitators and Agitating Vats.	Storage Vats.	Filter Presses.		
			Ball.	Griffin.	Huntington.	Prospecting.	Tremain.	Arrastras.	Crushing Rollers.					Dry Crushers.	Puddlers.
COOLGARDIE GOLDFIELD—continued.															
Coolgardie District—continued.															
	Brought forward	170						1		1	1	40	4	12	4
1902 ...	Griffith's ...	10										6			
20, etc.	Golden Bar G.M. Co., N.L.	15										4		2	
M.A. 22	Highgate Works				1							2		1	
18, etc.	King Solomon's G.Ms., Ltd.	20										5			
666, etc.	Lady Charlotte G.Ms., Ltd.	10													
M.A. 3	Lady Loch G.Ms., Ltd.	20					1					6		2	
2160, etc.	Lady Robinson	10										6		2	
3803, etc.	Lindsay Consolidated Mines, Ltd.	11										6		3	
575, etc.	Londonderry G.Ms., Ltd.	10										6			
1610 ...	Mt. Burgess Christmas Gift	5													
3880 ...	Prince of Wales	10													
3404, etc.	Red Hill (W.A.) Gold Syndicate, Ltd.	10												9	
122 ...	Robinson G.Ms., Ltd.											4			
3415, etc.	Sherlaw's G.Ms., Ltd.											5		6	
M.A. 33	Tindal's Coolgardie G.M. Co., N.L.	10													
1552, etc.	Vale of Coolgardie, Ltd.	10										5		2	
144, etc.	Westralia and East Extension Mines, Ltd.	40										12			
	Widgiemooltha State Battery	10													
	Total	371				1	1	1		1	1	107	4	39	4
Kumanalling District.															
646s, etc.	Amalgamated G.Ms. Co., N.L.	10													
33s ...	Carbine	10													
479s ...	Fair Adelaide	5													
568s ...	Golden Fremantle G.Ms. Co., N.L.	10													
77s, etc.	Great Cement Proprietary, Ltd.	20										8		4	
61s, etc.	Hands-Across-the-Sea leases	5													
369s ...	Jourdie Hills G.M. Co., Ltd.	10													
W.R. 4250	Little Dot Mill					1									
17s, etc.	New Standard Exploration Co., Ltd.	10													
2s ...	Perry's Reef	10										4			
299s ...	Pole	5										5	2		
70s, etc.	Premier G.M. Co., N.L.	25										14	2	10	
	Stanley Battery	5													
409s ...	Sugarloaf: Great Cement Proprietary, Ltd.	10													
	Total	135				1						31	4	14	
YILGARN GOLDFIELD.															
246, etc.	Associated Mt. Jackson G.Ms. (W.A.), Ltd.	10													
508 ...	Australia	5													
520 ...	Blue Hill	5													
13, etc.	British and Foreign Development Syndicate, Ltd.	50										19		4	1
T.A. 9	Clarke's Battery	10										6		2	
256 ...	Fraser's South Extended G.M. Co., Ltd.	20										5	2	2	
T.A. 20	Hatt's Cyanide Works											20		4	
19, etc.	Hope's Hill G.M. Co., Ltd.	70		4								6		2	
498 ...	Lass o' Gowrie Battery	5													
212, etc.	Mt. Jackson G.Ms., Ltd.	10													
490, etc.	Turnbull's leases										1	8		4	
	Total	185		4							1	64	2	18	1
DUNDAS GOLDFIELD.															
M.A. 30	Break o' Day Battery	10										4	2		
129, etc.	Central Wealth Consolidated Gfs., Ltd.	10													
49, etc.	Lady Mary leases	20										5		2	
M.A. 18	Mararoa Crushing and Cyaniding Works	10										4		4	
42, etc.	Mt. Benson G.M. Co., N.L.	10										2		2	
18, etc.	Norseman G.Ms., Ltd.	20	2									5		3	
	Norseman State Battery	10										12	1	17	1
M.A. 28	Pathway Battery											1			
106, etc.	Princess Royal G.M. Co., N.L.	30										5		2	
88 ...	Three Colonies				1							4			
	Total	120	2		1						1	41	3	30	1

TABLE V.—Milling and Cyaniding Plants erected in the respective Goldfields and Districts, etc.—continued.

Lease or Area on which erected.	NAME OF COMPANY OR WORKS.	MILLING.									CYANIDING.							
		Bat-teries.	Other Mills.								Leaching Vats.	Agitators and Agitating Vats.	Storage Vats.	Filter Presses.				
			Number of Stamps.	Ball.	Griffin.	Huntington.	Prospecting.	Tremain.	Arrastras.	Crushing Rollers.					Dry Crushers.	Puddlers.		
<b>PHILLIPS RIVER GOLDFIELD.</b>																		
M.L. 43 ...	Gilbert G.M., Ltd. ...	10																
W.R. 12 ...	(Grant, C.) ...	5																
M.L. 52 ...	Harbour View ...	10																
M.A. 1 ...	Phillips River G.M. Co., N.L. ...	10																
(3) ...	(Phipps and party) ...	...				1												
M.L. 60 ...	Red, White, and Blue ...	5																
	Total ...	40				1												
<b>DONNYBROOK GOLDFIELD.</b>																		
P.P.L. 11 ...	Donnybrook Goldfields, Ltd. ...	5																
	Total ...	5																
<b>STATE GENERALLY.</b>																		
	Fremantle Smelting Works, Ltd. ...	...							2	1								
	Northam Milling and Mining Co., Ltd. ...	60				1			1				5			2		
	Total ...	60				1			3	1			5			2		

TABLE VI.

Average FINENESS and VALUE per ounce of Gold Bullion produced from each District, Goldfield, and the State during 1902.

GOLDFIELD.		DISTRICT.	Value per oz. of Metal produced.	Average Fineness of Metal produced.	Gross Yield from Mines supplying data.	Total Fine Gold Contents.	Value per oz. of Metal produced.	Average Fineness of Metal produced.	Gross Yield from Mines supplying data.	Total Fine Gold Contents.	GOLDFIELD.	
			£ s. d.		ozs.	ozs.	£ s. d.		ozs.	ozs.		
1	Kimberley		...	...	...	...	...	...	...	...	Kimberley	1
2	Pilbarra	Marble Bar	3 5 9¼	·7741	4,939·09	3,823·35	3 14 0	·8710	346·40	301·71	Pilbarra	2
	Do.	Nullagine	4 0 2½	·9441	2,279·12	2,151·85					Do.	3
3	West Pilbarra		...	...	...	...	3 10 4	·8278	7,218·21	5,975·20	West Pilbarra	3
4	Ashburton		...	...	...	...	3 14 4½	·8756	2,015·51	1,764·84	Ashburton	4
5	Gascoyne		...	...	...	...	4 0 6	·9475	978·00	926·65	Gascoyne	5
6	Peak Hill		...	...	...	...	3 19 3½	·9333	35,793·38	33,406·32	Peak Hill	6
7	East Murchison		...	...	...	...	3 10 10½	·8339	85,397·52	71,217·78	East Murchison	7
8	Murchison	Cue	3 17 0	·9063	16,452·40	14,910·83					Murchison	8
	Do.	Nannine	3 10 8¾	·8325	19,758·73	16,448·43					Do.	9
	Do.	Day Dawn	3 5 7½	·7725	131,146·33	101,318·34					Do.	10
	Do.	Mt. Magnet	3 18 7½	·9254	26,959·18	24,947·35					Do.	11
9	Yalgoo		...	...	...	...	3 8 11	·8112	194,316·64	157,624·95	Yalgoo	9
10	Mt. Margaret	Mt. Morgans	3 13 5½	·8646	57,518·10	49,729·60	3 15 5½	·8881	4,604·97	4,090·08	Mt. Margaret	10
	Do.	Mt. Malcolm	3 14 9	·8798	84,058·96	73,962·67					Do.	11
	Do.	Mt. Margaret	3 17 1¼	·9081	51,940·69	47,169·76					Do.	12
11	North Coolgardie	Menzies	3 6 0½	·7773	59,007·13	45,864·36	3 15 0	·8829	193,517·75	170,862·03	North Coolgardie	11
	Do.	Ularring	3 15 0½	·8834	23,237·95	20,538·87					Do.	12
	Do.	Niagara	3 13 1¾	·8610	76,150·03	65,549·15					Do.	13
	Do.	Yerilla	3 10 0¼	·8242	7,481·42	6,165·83					Do.	14
12	Broad Arrow		...	...	...	...	3 10 8¾	·8327	165,876·53	138,118·20	Broad Arrow	12
13	North-East Coolgardie	Kanowna	3 11 2	·8877	30,735·68	25,849·59	3 13 4¼	·8635	15,006·42	12,958·31	North-East Coolgardie	13
	Do.	Bulong	3 17 0½	·9067	8,108·20	7,352·24					Do.	14
	Do.	Kurnalpi	3 9 2	·8140	558·77	454·82					Do.	15
14	East Coolgardie		...	...	...	...	3 12 6¾	·8541	39,402·65	33,656·65	East Coolgardie	14
15	Coolgardie	Coolgardie	3 12 9	·8563	56,420·16	48,316·85	3 11 4¼	·8399	1,033,794·82	868,276·22	Coolgardie	15
	Do.	Kunanalling	3 7 7	·7955	8,518·30	6,776·19					Do.	16
16	Yilgarn		...	...	...	...	3 12 1	·8484	64,938·46	55,093·04	Yilgarn	16
17	Dundas		...	...	...	...	3 13 8	·8671	20,699·35	17,948·28	Dundas	17
18	Phillips River		...	...	...	...	3 9 9	·8210	31,584·17	25,936·19	Phillips River	18
19	Donnybrook		...	...	...	...	3 14 5¼	·8761	7,493·69	6,565·29	Donnybrook	19
			...	...	...	...	2 11 9	·6091	100·73	61·34		20
			...	...	...	...	3 11 7¾	·8432	1,903,085·20	1,604,783·08		21

Average Value per ounce, 1902, of Western Australian Gold Bullion, £3 11s. 7½d.

Estimated Value for 1902, £3 12s., i.e., it is based on these figures taken to the nearest shilling.

NOTE.—Taking the average fineness of Western Australian Gold Bullion as ·8432, the output of 2,177,441 ounces, as shown by the Export and Mint Returns, would give the output of the State for 1902 as 1,836,018 ounces fine; and the amount of 2,117,241 ounces, reported to the Mines Department, as 1,725,258 ounces fine.



TABLE VII.

Return of Gold Bullion entered for EXPORT to the 31st December, 1902, showing the Quantity obtained from the respective Goldfields, and the Estimated Value thereof.

Year.	Month.	Kimberley.	Pilbarra.	a West Pilbarra.	Ashburton.	b Gascoyne.	c Peak Hill.	c East Murchison.	Murchison.	d Yalgoo.	e Mt. Margaret.	e North Coolgardie.
Previous to 1899	...	24,215·30	134,897·05	2,028·27	4,290·42	...	18,846·85	49,017·16	413,896·63	5,790·61	51,952·42	162,341·95
1899	...	814·36	19,996·40	1,955·51	239·50	333·07	15,721·34	37,811·59	68,842·39	5,689·53	64,905·53	60,909·38
1900	...	32·60	9,646·63	584·35	50·10	...	10,650·78	26,319·76	60,156·46	517·05	73,774·55	17,505·24
1901	...	...	40·47	86·48	8·50	7·27	255·80	32,857·16	101,669·21	7·50	72,103·79	7,304·79
1902	January	...	...	...	...	...	...	2,789·87	11,192·82	...	6,187·58	100·05
	February	...	...	...	...	...	...	...	...	143·50	5,693·05	39·10
	March	...	...	...	...	...	...	2,446·63	11,419·90	...	5,256·98	1,564·34
	April	...	...	...	...	...	...	2,127·75	11,031·26	...	4,825·03	580·64
	May	...	...	...	...	...	...	2,338·65	12,494·10	316·80	4,947·26	37·80
	June	...	...	...	...	...	...	1,980·60	17,542·10	...	5,866·90	223·97
	July	...	...	...	...	...	100·00	2,390·00	9,809·31	...	5,441·96	188·10
	August	...	...	...	...	...	...	2,720·65	15,060·88	102·17	7,708·55	·27
	September	...	...	...	...	...	...	2,458·90	17,073·37	...	6,824·54	884·53
	October	...	...	...	...	...	...	5,148·97	20,410·04	...	6,803·66	652·00
	November	...	1·72	...	...	...	...	2,799·60	15,491·62	...	5,837·47	189·87
	December	...	...	...	...	...	...	2,416·85	13,905·11	...	6,581·04	264·06
	Total	25,063·98	164,580·55	4,654·61	4,588·52	340·34	45,574·77	175,624·14	809,506·85	12,567·16	334,710·31	252,791·09

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Year.	Month.	f Broad Arrow.	e North-East Coolgardie.	e East Coolgardie.	g Coolgardie.	Yilgarn.	h Dundas.	i Phillips River.	j Donnybrook.	Goldfields generally.	Total.		
											Quantity.	Value.†	
Previous to 1899	...	28,790·71	162,259·49	835,636·57	531,104·38	211,424·88	56,311·19	...	...	...	2,692,803·88	10,232,654 14 10	
1899	...	36,020·79	64,470·28	890,566·37	113,558·84	7,734·34	44,691·32	...	309·94	...	1,434,570·48	5,451,367 16 6	
1900	...	33,484·49	11,626·00	671,061·18	68,174·20	769·59	9,104·36	...	...	6,309·93	999,767·27	3,799,115 12 6	
1901	...	10,275·65	7,500·90	770,154·89	10,574·47	54·23	5,970·50	...	...	238·21	1,019,109·82	3,923,572 16 2	
1902	January	553·65	...	58,373·22	...	...	573·99	153·35	...	1·00	79,925·53	291,728 3 8	
	February	396·00	...	54,193·49	177·48	...	199·34	...	...	...	70,353·61	256,790 13 6	
	March	405·70	19·10	62,958·80	100·79	...	315·05	472·73	...	3·38	84,963·40	310,116 8 3	
	April	312·70	...	52,189·31	52·93	...	502·11	318·36	...	...	71,940·09	262,581 6 7	
	May	292·10	...	40,655·16	65·73	3·85	310·95	...	...	4·66	61,467·06	224,354 15 5	
	June	231·55	5·48	38,858·86	38·06	...	244·97	335·52	...	...	65,333·01	238,465 9 9	
	July	127·95	...	40,729·31	102·57	...	361·97	188·16	...	...	...	59,439·33	216,953 11 1
	August	157·40	5·61	37,630·63	182·40	...	...	...	...	...	...	63,568·56	232,025 4 10
	September	...	...	27,196·57	286·82	...	754·68	332·99	...	...	...	55,812·40	203,715 5 2
	October	...	...	41,937·22	29·37	...	631·16	...	...	...	...	75,708·97	276,337 14 10
	November	...	...	195·22	46,389·94	1,420·24	...	516·25	1,229·88	5·75	...	74,077·56	270,383 1 10
	December	...	...	317·03	4,755·81	886·64	...	711·61	398·07	...	...	60,236·22	219,862 4 1
	Total	111,048·69	246,495·66	3,703,287·33	726,754·92	219,986·89	121,199·45	3,429·06	315·69	6,557·18	6,969,077·19	26,410,024 19 0	

† To 1900 at £3 16s. per oz.; 1901 at £3 17s. per oz.; 1902 at £3 13s. per oz. a. Prior to 1st May, 1898, included with Pilbarra. b. Prior to 1st March, 1899, included with Ashburton. c. From 1st August, 1897. d. Prior to 1st April, 1897, included with Murchison. e. Prior to 1st May, 1896, included with Coolgardie. f. From 1st September, 1897. g. Declared 5th April, 1894, to which date included with Yilgarn. h. Prior to 1893 included with Yilgarn. i. Prior to 1902 included with Goldfields generally. j. From 1st March, 1899.

TABLE VIII.

Return of Gold Bullion received at the Perth Branch of the ROYAL MINT from May, 1899, to the 31st December, 1902, showing the Quantity obtained from the respective Goldfields and other Countries, and the Actual Value thereof.

Year.	Month.	Kimberley.	Pilbarra.	West Pilbarra.	Ashburton.	Gascoyne.	Peak Hill.	East Murchison.	Murchison.	Yalgoo.	Mt. Margaret.	North Coolgardie.	Broad Arrow.	North-East Coolgardie.
1899	...	ozs. 308·45	ozs. 529·80	ozs. ...	ozs. 281·80	ozs. 85·65	ozs. 16,274·00	ozs. 3,758·07	ozs. 24,675·64	ozs. 5,190·05	ozs. 16,911·54	ozs. 44,779·38	ozs. 8,503·50	ozs. 16,700·90
1900	...	644·02	7,493·88	137·33	474·26	86·10	18,019·08	32,049·74	48,540·12	8,851·52	67,748·45	88,688·14	14,376·10	40,503·12
1901	...	663·37	11,279·93	394·38	55·42	18·56	21,351·67	44,746·88	43,024·65	9,191·01	126,703·91	135,493·31	18,829·13	43,055·63
1902	January	...	36·38	155·08	...	9·02	1,416·48	4,466·86	3,098·66	63·11	12,740·29	13,877·05	1,334·24	4,255·83
	February	26·46	...	...	...	...	1,028·63	3,239·92	4,800·60	233·49	9,748·99	10,468·98	1,338·52	4,948·28
	March	...	85·74	...	...	...	1,850·94	4,520·98	4,205·04	327·17	11,044·07	12,706·72	1,423·28	3,865·64
	April	156·43	2,664·16	250·76	...	...	4,475·88	2,043·90	4,243·12	451·62	11,681·59	16,888·11	1,506·15	5,708·00
	May	15·14	503·10	24·22	...	...	1,452·29	4,819·89	2,920·67	414·96	11,541·28	18,894·56	235·44	4,219·11
	June	22·95	921·64	5·40	...	...	3,766·75	4,580·02	5,774·29	571·64	8,966·49	17,747·69	1,280·47	5,230·87
	July	50·39	2,379·04	597·04	...	...	4,127·89	4,418·86	4,366·92	458·90	16,562·26	14,937·72	1,905·27	3,487·38
	August	46·53	35·47	...	...	59·84	3,134·82	8,615·24	2,594·66	524·77	12,445·02	14,220·98	1,656·46	4,619·42
	September	28·30	2,885·86	1,058·20	...	...	3,114·55	5,250·49	3,703·15	489·36	13,164·55	17,087·70	934·75	5,171·73
	October	...	880·60	24·83	...	56·00	2,669·73	7,768·59	4,778·28	534·13	8,812·74	15,170·59	1,537·86	4,008·38
	November	60·50	153·27	311·68	...	...	3,141·92	4,583·74	4,268·24	952·22	10,875·43	15,097·72	1,220·30	4,482·57
	December	33·23	160·77	857·16	...	...	2,457·29	8,049·49	2,874·55	95·57	17,080·41	15,445·24	1,530·68	3,904·37
	Total	2,055·77	30,009·64	3,816·08	811·48	315·17	88,281·92	142,912·67	163,868·59	28,349·52	356,027·02	451,503·89	57,612·15	154,161·23

Year.	Month.	East Coolgardie.	Coolgardie.	Yilgarn.	Dundas.	† Phillips River.	Donnybrook.	Goldfields generally.	TOTAL.				GRAND TOTAL.							
									Western Australia.		Other Countries.		Quantity.	Actual Value.	Quantity.	Actual Value.				
									Quantity.	Actual Value.	Quantity.	Actual Value.								
1899	...	ozs. 33,051·33	ozs. 27,611·24	ozs. 9,070·70	ozs. 473·63	ozs. ...	ozs. 196·17	ozs. 904·39	ozs. 209,306·24	£ 762,546	s. 11	d. 6	ozs. 103·46	£ 336	s. 18	d. 3	ozs. 209,409·70	£ 762,883	s. 9	d. 9
1900	...	139,845·60	51,607·26	28,648·51	31,583·20	...	265·55	1,620·93	581,182·91	2,096,212	14	2	17·49	44	15	7	581,200·40	2,096,257	9	9
1901	...	263,514·75	78,026·07	29,433·84	32,825·75	...	4·64	1,667·79	860,280·69	3,033,311	0	4	92·25	297	5	8	860,372·94	3,033,608	6	0
1902	January	34,186·62	7,895·05	2,660·70	1,713·66	...	...	324·47	88,233·50	308,188	10	10	5·25	12	16	3	88,238·75	308,201	7	1
	February	37,429·62	6,206·70	1,387·54	1,442·64	...	5·35	33·23	82,338·95	289,643	17	1	2·76	5	16	0	82,341·71	289,649	13	1
	March	41,899·38	7,310·92	1,550·76	1,526·31	...	...	225·25	92,542·20	328,231	13	10	...	...	...	...	92,542·20	328,231	13	10
	April	48,609·64	7,945·22	2,460·38	1,771·43	559·29	...	175·57	111,591·25	394,266	18	1	...	...	...	...	111,591·25	394,266	18	1
	May	46,215·31	6,564·80	1,644·15	3,179·11	...	...	115·25	102,759·28	368,705	18	11	...	...	...	...	102,759·28	368,705	18	11
	June	59,598·05	10,421·37	2,026·96	2,090·57	986·50	...	295·84	124,287·50	443,252	5	1	...	...	...	...	124,287·50	443,252	5	1
	July	58,648·81	7,122·23	2,486·64	2,503·35	648·18	...	87·46	124,788·34	444,403	12	10	...	...	...	...	124,788·34	444,403	12	10
	August	60,637·46	9,305·15	2,491·88	2,965·69	961·14	...	88·46	124,402·99	410,468	6	1	...	...	...	...	124,402·99	410,468	6	1
	September	63,160·31	9,197·53	2,178·27	3,776·44	588·08	...	565·96	132,355·23	465,696	17	8	8·26	19	17	11	132,363·49	465,716	15	7
	October	59,007·35	7,949·34	2,444·60	2,981·45	...	...	53·98	118,678·45	413,516	2	5	...	...	...	...	118,678·45	413,516	2	6
	November	62,955·69	7,385·66	2,427·15	4,213·23	860·92	...	129·23	123,119·47	435,850	14	0	...	...	...	...	123,119·47	435,850	14	0
	December	64,188·28	6,830·20	2,114·65	2,925·03	542·69	61·73	367·28	129,518·62	459,079	1	3	...	...	...	...	129,518·62	459,079	1	3
	Total	1,072,948·20	251,378·74	93,026·73	95,971·49	5,146·80	533·44	6,655·09	3,005,385·62	10,683,374	4	1	229·47	717	9	8	3,005,615·09	10,684,091	13	9

† Prior to 1902 included in Goldfields generally.

TABLE IX.

Return of Gold Bullion entered for EXPORT and received at the Perth Branch of the ROYAL MINT, from 1st January, 1886, to 31st December, 1902, showing the Quantity obtained, each Year, from the respective Goldfields, the estimated Fine Contents thereof, and the Total Annual Value.

YEAR.	KIMBERLEY.		PILBARRA.		a WEST PILBARRA.		ASHBURTON.		b GASCOYNE.		c PEAK HILL.		c EAST MURCHISON.		MURCHISON.		d YALGOO.		e MT. MARGARET.		e NORTH COOLGARDIE.	
	Gross Weight.	Fine Contents.	Gross Weight.	Fine Contents.	Gross Weight.	Fine Contents.	Gross Weight.	Fine Contents.	Gross Weight.	Fine Contents.	Gross Weight.	Fine Contents.	Gross Weight.	Fine Contents.	Gross Weight.	Fine Contents.	Gross Weight.	Fine Contents.	Gross Weight.	Fine Contents.	Gross Weight.	Fine Contents.
1886	ozs. 302.00	ozs. 270.17	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
1887	4,873.00	4,359.37	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
1888	3,493.00	3,124.82	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
1889	2,464.00	2,204.28	11,170.00	9,992.63	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
1890	4,474.00	4,002.42	16,055.31	14,363.01	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
1891	2,699.62	2,415.07	11,875.00	10,623.32	...	...	838.72	750.31	...	...	...	...	...	...	2,064.43	1,846.83	...	...	...	...	...	...
1892	1,088.85	974.08	12,892.80	11,533.84	...	...	...	70.63	...	...	...	...	...	...	24,356.47	21,789.19	...	...	...	...	...	...
1893	1,621.70	1,450.77	11,693.50	10,465.43	...	...	467.74	418.43	...	...	...	...	...	...	21,210.45	18,974.77	...	...	...	...	...	...
1894	588.64	526.59	16,254.50	14,541.20	...	...	285.27	255.20	...	...	...	...	...	...	52,946.32	47,365.54	...	...	...	...	...	...
1895	876.68	784.27	19,522.40	17,464.65	...	...	540.76	483.76	...	...	...	...	...	...	65,477.26	58,575.66	...	...	...	...	...	...
1896	891.86	797.85	11,810.11	10,565.27	...	...	699.17	593.64	...	...	...	...	...	...	71,282.69	63,769.17	...	...	...	...	17,160.51	15,351.71
1897	554.07	495.67	11,955.87	10,695.67	...	...	1,038.18	923.75	...	...	5,110.00	4,571.38	9,453.81	8,457.34	82,891.85	74,154.67	2,034.23	1,819.81	8,685.73	7,770.22	74,556.12	66,697.57
1898	287.88	257.54	11,662.56	10,433.27	2,023.27	1,814.48	440.88	432.46	...	...	13,736.85	12,288.93	39,563.35	35,393.19	93,667.16	83,794.22	3,756.38	3,360.44	43,266.69	38,706.19	70,625.82	63,181.09
1899	1,122.81	1,004.46	20,526.20	18,362.65	1,955.51	1,749.39	521.30	466.36	418.72	374.59	31,995.34	28,622.88	41,569.66	37,188.03	93,518.03	83,660.80	10,879.58	9,732.83	81,817.07	73,193.17	105,688.76	94,548.69
1900	676.62	605.30	17,140.51	15,333.82	721.68	645.61	524.36	469.09	86.10	77.02	28,669.86	25,647.93	58,369.50	52,217.09	108,696.58	97,239.47	9,368.57	8,381.08	141,523.00	126,605.83	106,193.88	95,000.12
1901	663.37	601.26	11,320.40	10,260.43	480.86	435.84	63.92	57.94	25.83	23.41	21,607.47	19,584.29	77,604.04	70,337.70	144,693.86	131,145.66	9,198.51	8,337.22	198,807.70	180,192.63	142,798.10	129,427.40
1902	441.65	379.50	10,706.03	9,199.50	3,284.37	2,822.20	...	...	124.86	107.29	32,737.17	28,130.48	91,976.45	79,033.73	212,570.34	182,657.99	5,679.41	4,880.23	216,637.14	186,152.50	187,272.79	160,920.24
Total	27,119.75	24,253.42	194,590.19	173,834.69	8,470.69	7,467.52	5,400.00	4,831.57	655.51	582.31	133,856.69	118,845.89	318,536.81	282,627.08	973,375.44	864,973.97	40,916.68	36,511.61	690,737.53	612,620.54	704,294.98	625,126.82

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YEAR.	f BROAD ARROW.		e NORTH-EAST COOLGARDIE.		e EAST COOLGARDIE.		g COOLGARDIE.		YILGARN.		h DUNDAS.		i PHILLIPS RIVER.		j DONNYBROOK.		GOLDFIELDS GENERALLY.		GRAND TOTAL.		+ Value.	
	Gross Weight.	Fine Contents.	Gross Weight.	Fine Contents.	Gross Weight.	Fine Contents.	Gross Weight.	Fine Contents.	Gross Weight.	Fine Contents.	Gross Weight.	Fine Contents.	Gross Weight.	Fine Contents.	Gross Weight.	Fine Contents.	Gross Weight.	Fine Contents.	Gross Weight.	Fine Contents.		
1886	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
1887	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
1888	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
1889	...	...	...	...	...	...	...	...	1,858.50	1,662.61	...	...	...	...	...	...	...	...	...	...	...	
1890	...	...	...	...	...	...	...	...	2,277.00	2,096.99	...	...	...	...	...	...	...	...	...	...	...	
1891	...	...	...	...	...	...	...	...	12,833.30	11,480.61	...	...	...	...	...	...	...	...	...	...	...	
1892	...	...	...	...	...	...	...	...	21,309.49	18,973.91	...	...	...	...	...	...	...	...	...	...	...	
1893	...	...	...	...	...	...	...	...	75,744.55	67,760.73	147.97	132.37	...	...	...	...	...	...	...	...	...	
1894	...	...	...	...	...	...	...	...	105,929.82	94,227.58	223.38	204.31	...	...	...	...	...	...	...	...	...	
1895	...	...	...	...	...	...	...	...	125,105.94	111,919.21	31,498.38	28,178.31	...	...	...	...	...	...	...	...	...	
1896	...	...	...	...	...	...	...	...	69,135.19	61,848.03	16,565.25	14,819.20	...	...	...	...	...	...	...	...	...	
1897	4,159.27	3,720.87	32,903.82	29,437.40	300,037.24	268,411.95	104,306.37	93,312.00	17,994.48	16,087.78	19,310.81	17,275.36	...	...	...	...	...	...	...	...	...	
1898	24,631.44	22,035.17	125,240.49	112,039.53	450,312.27	402,847.31	127,227.06	119,816.75	11,696.18	10,463.95	32,031.82	28,655.52	...	...	...	...	...	...	...	...	...	
1899	44,524.29	39,831.22	81,171.18	72,615.37	923,617.70	826,264.21	141,170.08	126,290.11	16,905.04	15,033.71	45,164.95	40,404.36	...	...	...	...	...	...	...	...	...	
1900	47,860.59	42,815.87	52,129.12	46,634.47	810,906.78	725,433.53	119,781.46	107,155.95	29,418.10	26,317.30	40,687.56	36,398.91	...	...	506.11	452.76	904.39	809.07	1,056,183.60	949,489.49	3,990,697.13	7
1901	29,104.78	26,379.59	50,556.53	45,822.74	1,033,669.64	936,883.49	88,600.54	80,304.56	29,488.07	26,727.00	38,796.25	35,163.62	...	...	263.55	237.56	7,930.86	7,094.91	1,580,950.18	1,414,310.86	6,007,610.13	8
1902	18,380.47	15,794.01	54,540.57	46,865.74	1,172,404.84	1,007,426.94	97,477.20	83,760.46	25,877.53	22,236.11	36,210.99	31,115.47	...	...	4.64	4.20	1,906.00	1,727.54	1,879,330.51	1,703,416.52	7,235,653.93	9
Total	168,660.84	150,576.73	400,656.89	357,094.93	4,776,235.53	4,243,564.85	978,133.66	872,634.65	313,013.62	279,453.86	217,170.94	193,458.09	8,575.86	7,369.09	849.13	757.10	13,212.27	11,754.81	9,974,462.81	8,868,339.53	37,670,311.19	5

a Prior to 1st May, 1893, included with Pilbarra. b Prior to 1st March, 1899, included with Ashburton. c From 1st August, 1897. d Prior to 1st April, 1897, included with Murchison. e Prior to 1st May, 1896, included with Coolgardie. f From 1st September, 1897. g Declared 5th April, 1894, to which date included with Yilgarn. h Prior to 1893 included with Yilgarn. i Prior to 1902 included in Goldfields generally. j From 1st March, 1899. + To 1900, at £3 16s. per oz.; 1901, at £3 17s. per oz.; 1902, at £3 13s. per oz.

**TABLE X.**

*Comparative Return of Gold Bullion entered for EXPORT and received at the Branch of the ROYAL MINT, from 1st January, 1900, to 31st December, 1902, showing the Quantity obtained each Month and the Estimated Fine Contents thereof.*

MONTH.	1900.				1901.				1902.			
	Customs.	Royal Mint.	TOTAL.		Customs.	Royal Mint.	TOTAL.		Customs.	Royal Mint.	TOTAL.	
			Gross Weight.	Fine Contents.			Gross Weight.	Fine Contents.			Gross Weight.	Fine Contents.
	ozs.	ozs.	ozs.	ozs.	ozs.	ozs.	ozs.	ozs.	ozs.	ozs.	ozs.	ozs.
JANUARY ... ..	115,065·13	28,754·72	143,819·85	128,660·58	72,724·63	65,972·24	138,696·87	125,710·19	79,925·53	88,233·50	168,159·03	144,496·11
FEBRUARY ... ..	86,362·85	31,486·37	117,849·22	105,427·38	85,912·42	49,584·90	135,497·32	122,810·22	70,353·61	82,338·95	152,692·56	131,206·04
MARCH ... ..	72,525·30	53,524·20	126,049·50	112,763·31	75,535·92	52,309·65	127,845·57	115,874·94	84,963·40	92,542·20	177,505·60	152,527·45
<i>1st January to 31st March</i> ...	273,953·28	113,765·29	387,718·57	346,851·27	234,172·97	167,866·79	402,039·76	364,395·35	235,242·54	263,114·65	498,357·19	428,229·60
APRIL ... ..	77,859·48	35,646·81	113,506·29	101,542·21	87,420·18	62,598·31	150,018·49	135,971·73	71,940·09	111,591·25	183,531·34	157,705·27
MAY ... ..	81,847·81	38,464·72	120,312·53	107,631·05	86,786·48	57,300·94	144,087·42	130,596·01	61,467·06	102,759·28	164,226·34	141,116·82
JUNE ... ..	85,205·72	51,561·52	136,767·24	122,351·35	94,157·13	67,810·32	161,967·45	146,801·86	65,333·01	124,287·50	189,620·51	162,937·58
<i>1st January to 30th June</i> ...	518,866·29	239,438·34	758,304·63	678,375·88	502,536·76	355,576·36	858,113·12	777,764·95	433,982·70	601,752·68	1,035,735·38	889,989·27
JULY ... ..	64,192·96	49,408·90	113,601·86	101,627·71	68,689·94	91,604·46	160,294·40	145,285·47	59,439·33	124,788·34	184,227·67	158,303·61
AUGUST ... ..	73,598·71	57,886·85	131,485·56	117,626·39	103,238·77	58,531·76	161,770·53	146,623·38	63,568·56	124,402·99	187,971·55	161,520·66
SEPTEMBER ... ..	87,726·19	60,579·27	148,305·46	132,673·39	90,893·62	87,402·05	178,295·67	161,601·21	55,812·40	132,355·23	188,167·63	161,689·15
<i>1st January to 30th September</i> ...	744,384·15	407,313·36	1,151,697·51	1,030,303·37	765,359·09	593,114·63	1,358,473·72	1,231,275·01	612,802·99	983,299·24	1,596,102·23	1,371,502·69
OCTOBER ... ..	84,561·72	48,724·24	133,285·96	119,237·01	85,761·38	83,508·72	169,270·10	153,420·74	75,708·97	118,678·45	194,387·42	167,033·70
NOVEMBER ... ..	83,258·96	63,376·12	146,635·08	131,179·08	85,324·01	89,157·31	174,481·32	158,144·02	74,077·56	123,119·47	197,197·03	169,447·95
DECEMBER ... ..	87,562·44	61,769·19	149,331·63	133,591·40	82,665·34	94,500·03	177,165·37	160,576·75	60,236·22	129,518·62	189,754·84	163,053·01
<b>Total</b> ...	<b>999,767·27</b>	<b>581,182·91</b>	<b>1,580,950·18</b>	<b>1,414,310·86</b>	<b>1,019,109·82</b>	<b>860,280·69</b>	<b>1,879,390·51</b>	<b>1,703,416·52</b>	<b>822,825·74</b>	<b>1,354,615·78</b>	<b>2,177,441·52</b>	<b>1,871,037·35</b>

TABLE XI.

Monthly Returns of GOLD BULLION, GOLD ORES, and FINE GOLD BARS entered for EXPORT during 1902.

MONTH.	NEW SOUTH WALES.		QUEENSLAND.		SOUTH AUSTRALIA.		TASMANIA.		VICTORIA.		BELGIUM.	
	Bullion.	Ore.	Bullion.	Ore.	Bullion.	Ore.	Bullion.	Ore.	Bullion.	Ore.	Bullion.	Ore.
	ozs.	Estimated ozs.	ozs.	Estimated ozs.	ozs.	Estimated ozs.	ozs.	Estimated ozs.	ozs.	Estimated ozs.	ozs.	Estimated ozs.
January ...	...	...	...	...	50'00	...	1'00	...	4,035'41	...	...	...
February ...	...	...	...	...	...	...	...	...	3,059'67	...	...	...
March ...	2,163'00	7,703'12	...	2'60	...	1,884'89	...	...	4,311'76	96'18	...	...
April ...	1,989'32	1,911'23	...	...	...	383'56	...	...	3,850'94	...	...	...
May ...	...	644'10	...	...	...	191'79	...	...	5,007'73	...	...	...
June ...	...	1,890'74	...	...	13'15	463'00	...	...	5,256'04	...	...	...
July ...	...	4,075'99	...	...	...	512'32	...	...	3,864'87	...	...	1,805'20
August ...	...	6,082'19	...	...	...	465'75	...	...	2,109'39	28	...	...
September ...	40'68	3,452'05	...	...	...	117'81	...	...	6,424'39	...	...	3,479'45
October ...	...	11,243'43	...	...	92'51	93'15	...	...	4,860'31	...	...	4,492'33
November ...	2'00	17,819'22	...	...	...	310'96	...	...	4,746'67	131'78	...	1,325'34
December ...	...	6,418'78	...	...	...	...	...	...	4,849'04	...	...	...
Total ...	4,195'00	61,240'85	...	2'60	155'66	4,423'23	1'00	...	52,376'22	228'24	...	11,102'32

MONTH.	GERMANY.		UNITED KINGDOM.		SINGAPORE.		TOTALS OF BULLION AND ORE.			INDIA.
	Bullion.	Ore.	Bullion.	Ore.	Bullion.	Ore.	Bullion.	Ore.	Total.	* Fine Bars.
	ozs.	Estimated ozs.	ozs.	Estimated ozs.	ozs.	Estimated ozs.	ozs.	Estimated ozs.	ozs.	ozs.
January ...	...	...	75,839'12	...	...	...	79,925'53	...	79,925'53	4,744'82
February ...	...	...	67,293'94	...	...	...	70,353'61	...	70,353'61	4,744'59
March ...	...	3,541'91	60,389'34	4,870'60	...	...	66,864'10	18,099'30	84,963'40	7,101'54
April ...	...	...	63,788'33	16'71	...	...	69,628'59	2,311'50	71,940'09	9,464'10
May ...	...	...	53,427'00	2,196'44	...	...	58,434'73	3,032'33	61,467'06	8,278'01
June ...	...	...	57,705'97	4'11	...	...	62,975'16	2,357'85	65,333'01	3,552'81
July ...	...	...	49,180'95	...	...	...	53,045'82	6,393'51	59,439'33	...
August ...	...	5'61	54,905'34	...	...	...	57,014'73	6,553'83	63,568'56	5,917'23
September ...	...	...	41,498'02	800'00	...	...	47,963'09	7,849'31	55,812'40	2,367'58
October ...	...	...	53,556'83	1,370'41	...	...	58,509'65	17,199'32	75,708'97	11,851'94
November ...	...	5'75	49,735'84	...	...	...	54,484'51	19,593'05	74,077'56	9,474'19
December ...	...	...	47,722'70	1,242'70	3'00	...	52,574'74	7,661'48	60,236'22	7,111'55
Total ...	...	3,553'27	675,043'38	10,500'97	3'00	...	731,774'26	91,051'48	822,825'74	74,608'36

\* When considering the total production of the State these fine bars must be disregarded, as the metal from which they were manufactured is already recorded in the total receipts of gold at the Mint.

PART II.—MINERALS OTHER THAN GOLD.

TABLE XII.

GENERAL RETURN of Ore and Minerals, other than Gold, showing the Quantity produced and the Value thereof, as reported to the Mines Department, from the respective Goldfields, Districts, and Mining Districts during 1902 and previous years.

YEAR.	MONTH.	BLACK TIN.						COPPER ORE.											
		Greenbushes M.D.		Marble Bar D.		Total.		Day Dawn D.		Mt. Malcolm D.		Northampton M.D.		Phillips River Gf.		West Pilbarra Gf.		Total.	
		Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
Previous to 1899	...	tons. 1,590'33	£ 66,108	tons. 75'45	£ 4,419	tons. 1,665'78	£ 70,527	tons. ...	£ ...	tons. ...	£ ...	tons. ...	£ ...	tons. ...	£ ...	tons. 7,018'00	£ 55,270	tons. 7,018'00	£ 55,270
1899	...	277'32	21,658	57'50	3,612	334'82	25,270	...	...	273'00	4,338	136'00	2,122	...	...	2,555'00	29,478	2,964'00	35,938
1900	...	435'62	29,528	387'87	27,174	823'49	56,702	5'15	91	4,539'00	30,718	...	...	34'00	725	1,005'00	12,139	6,183'15	43,673
1901	...	321'34	18,852	412'98	21,148	734'32	40,000	10'50	76	7,660'00	40,738	38'50	277	1,089'14	12,918	1,162'00	15,891	9,960'14	69,900
1902	January	12'09	675	13'50	747	25'59	1,422	...	...	600'00	2,652	...	...	12'00	102	...	...	612'00	2,754
Do.	February	26'82	1,498	30'65	2,141	57'47	3,639	...	...	450'00	1,656	...	...	...	...	...	...	450'00	1,656
Do.	March	22'67	1,321	2'05	131	24'72	1,452	...	...	380'00	1,458	...	...	...	...	...	...	380'00	1,458
Do.	April	41'17	2,408	14'65	1,065	55'82	3,473	...	...	524'00	1,086	...	...	17'00	233	...	...	541'00	1,319
Do.	May	38'52	2,474	19'80	1,464	58'32	3,938	...	...	...	...	...	...	...	...	...	...	...	...
Do.	June	27'38	1,668	8'85	651	36'23	2,319	...	...	...	...	...	...	...	...	...	...	...	...
Do.	July	42'52	2,776	19'10	1,394	61'62	4,170	...	...	...	...	...	...	...	...	...	...	...	...
Do.	August	62'16	4,055	5'50	440	67'66	4,495	...	...	...	...	...	...	...	...	...	...	...	...
Do.	September	39'02	2,378	31'95	2,237	70'97	4,615	...	...	...	...	...	...	...	...	...	...	...	...
Do.	October	45'57	2,739	22'65	1,522	68'22	4,261	...	...	...	...	...	...	2'50	28	...	...	2'50	28
Do.	November	28'94	1,758	27'80	1,923	56'74	3,681	...	...	...	...	...	...	276'75	875	...	...	276'75	875
Do.	December	16'35	930	19'85	1,388	36'20	2,318	...	...	...	...	...	...	...	...	...	...	...	...
	Total	3,027'82	160,826	1,150'15	71,456	4,177'97	232,282	15'65	167	14,425'00	82,646	174'50	2,399	1,431'39	14,881	12,340'00	112,778	28,387'54	212,871

YEAR.	MONTH.	IRONSTONE.						LEAD ORE.		SILVER-LEAD ORE.		COAL.		LIMESTONE.						DIAMONDS.	
		West Pilbarra Gf.		State generally.		Total.		Northampton M.D.		Ashburton Gf.		Collie River Coal M.D.		Yilgarn Gf.		State generally.		Total.		Nullagine D.	
		Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
Previous to 1899	...	tons. 100'00	£ 300	tons. ...	£ ...	tons. 100'00	£ 300	tons. ...	£ ...	tons. ...	£ ...	tons. 3,508'00	£ 1,761	tons. ...	£ ...	tons. ...	£ ...	tons. ...	£ ...	carats. ...	£ ...
1899	...	...	...	12,852'00	8,939	12,852'00	8,939	82'75	912	...	...	54,336'00	25,951	...	...	17,593'00	2,838	17,593'00	2,838	*	24
1900	...	...	...	12,251'00	9,258	12,251'00	9,258	268'00	533	...	...	118,410'10	54,835	...	...	269'85	273	15,657'00	3,321	15,926'85	3,594
1901	...	...	...	20,569'00	13,246	20,569'00	13,246	...	...	21'05	152	117,835'80	68,561	1,642'00	919	16,568'00	3,429	18,210'00	4,348	...	...
1902	January	...	...	...	...	...	...	...	...	...	...	10,267'25	6,338	65'00	32	...	...	65'00	32	...	...
Do.	February	...	...	...	...	...	...	...	...	...	...	10,298'95	6,238	54'00	33	...	...	54'00	33	...	...
Do.	March	...	...	4,800'00	2,040	4,800'00	2,040	...	...	35'85	277	9,752'00	6,067	37'50	24	4,118'35	883	4,155'85	907	...	...
Do.	April	...	...	...	...	...	...	...	...	...	...	12,219'00	7,502	50'00	27	...	...	50'00	27	...	...
Do.	May	...	...	...	...	...	...	...	...	...	...	13,205'00	8,112	53'00	26	...	...	53'00	26	...	...
Do.	June	...	...	...	...	...	...	...	...	...	...	10,925'00	6,661	32'50	22	427'00	117	459'50	139	...	...
Do.	July	...	...	...	...	...	...	...	...	...	...	13,053'00	7,912	55'00	28	...	...	55'00	28	...	...
Do.	August	...	...	...	...	...	...	...	...	...	...	12,645'00	7,730	37'00	29	...	...	37'00	29	...	...
Do.	September	...	...	...	...	...	...	...	...	...	...	11,916'70	7,320	35'00	30	...	...	35'00	30	...	...
Do.	October	...	...	...	...	...	...	...	...	...	...	12,947'00	7,963	42'00	32	...	...	42'00	32	...	...
Do.	November	...	...	...	...	...	...	...	...	...	...	10,769'00	6,496	50'00	39	...	...	50'00	39	...	...
Do.	December	...	...	...	...	...	...	...	...	...	...	12,886'00	7,849	24'00	18	...	...	24'00	18	...	...
	Total	100'00	300	50,472'00	33,483	50,572'00	33,783	350'75	1,445	56'90	429	434,973'80	237,296	2,446'85	1,532	54,363'35	10,588	56,810'20	12,120	...	24

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NOTE.—As the collection of Statistics of Minerals other than Gold commenced during 1899, the total Production from the different localities can only be approximately estimated by the Customs Records. \* Weight unknown.

TABLE XIII.

Quantity and Value of BLACK TIN reported to the Mines Department during 1902, and the Total Output to date.

GOLDFIELD, DISTRICT, OR MINING DISTRICT.	LOCALITY.	NUMBER OF LEASE.	REGISTERED NAME OF COMPANY OR MINE.	1902.		TOTAL TO DATE.		REMARKS.
				Quantity.	Value.	Quantity.	Value.	
Greenbushes M.D.	Greenbushes	19	(Redruth) ... ..	tons.	£	tons.	£	
Do	do	19, 222, 225	Homeward Bound Tin Min- ing Syndicate, N.L.	11.40	811	11.40	811	
Do	do	35	(Horans) ... ..	...	...	188.35	11,605	
Do	do	35, 169	Westralian Stannaries, Ltd.	13.10	789	13.10	789	
Do	do	40	Cornwall ... ..	4.14	250	4.14	250	
Do	do	56	(Amanda) ... ..	...	...	.85	52	
Do	do	56, 217	Amanda leases ... ..	11.78	750	11.78	750	
Do	do	73	(Nelson) ... ..	...	...	22.40	1,675	
Do	do	73, 233	Nelson leases ... ..	8.75	512	8.75	512	
Do	do	147	Haphazard ... ..	.90	48	6.19	361	
Do	do	154	North Junction ... ..	.10	7	.45	28	
Do	do	156	Caledonia Tin Mine, N.L.	10.00	558	12.26	685	
Do	do	169	(Horans No. 1 North) ...	...	...	9.50	684	
Do	do	182/5, 224	Westralian Tinfields, Ltd.	4.40	224	7.90	434	
Do	do	(214)	(Aqua) ... ..	1.30	73	4.45	256	
Do	do	217	(Glenceoe) ... ..	.69	35	3.66	201	
Do	do	218	(W.A. Mount Bischoff) ...	.78	40	5.38	342	
Do	do	218, 228, 272, 237	Westralian Stannaries, Ltd.	10.04	667	10.04	667	
Do	do	222	(Homeward Bound) ...	...	...	9.41	597	
Do	do	225	(Redruth Extended) ...	...	...	.50	30	
Do	do	234	Glasgow ... ..	.16	9	.33	18	
Do	do	244	Mount Pleasant ... ..	8.34	499	8.34	499	
Do	do	(245) 246	Haphazard Extended ...	2.12	130	3.12	190	
Do	do	247, 264/8	Homeward Bound Tin Min- ing Syndicate, N.L.	1.80	107	2.00	115	
Do	do	(257) 273	Dixie Extended ... ..	9.07	573	12.22	760	
Do	do	271	Pioneer ... ..	1.84	117	1.84	117	
Do	do	281	Hokitika ... ..	.16	10	.16	10	
Do	do	294	Stanrighan ... ..	.18	9	.18	9	
Do	do	297	Dixie ... ..	.05	3	.05	3	
Do	do	302	Dixon ... ..	.25	18	.25	18	
Do	do	303	Energetic ... ..	1.70	99	1.70	99	
Do	do	...	Voided leases ... ..	...	...	17.52	1,233	
Do	do	...	Sundry claims ... ..	300.16	18,342	2,643.69	136,680	
			Total ... ..	403.21	24,680	3,027.82	160,826	
Marble Bar D.	Cooglegong ...	...	Sundry claims ... ..	91.80	6,373	331.29	18,940	
Do	Eastern Creek	77	Stanum ... ..	1.00	56	1.00	56	
Do	Moolyella ...	(43/4)	(Huntsman leases) ...	5.00	317	32.50	1,827	
Do	do	...	Voided leases ... ..	...	...	298.03	19,513	
Do	do	...	Sundry claims ... ..	99.55	7,090	454.23	29,072	
Do	Old Shaw ...	...	Voided leases ... ..	...	...	6.75	424	
Do	do	...	Sundry claims ... ..	19.00	1,267	26.35	1,624	
			Total ... ..	216.35	15,103	1,150.15	71,456	
			GRAND TOTAL ...	619.56	39,783	4,177.97	232,282	

TABLE XIV.

Quantity and Value of COPPER ORE reported to the Mines Department during 1902, and the Total Output to date.

GOLDFIELD, DISTRICT, OR MINING DISTRICT.	LOCALITY.	NUMBER OF LEASE.	REGISTERED NAME OF COMPANY OR MINE.	1902.		TOTAL TO DATE.		REMARKS.
				Quantity.	Value.	Quantity.	Value.	
Day Dawn D. ...	Day Dawn ...	...	Voided leases ...	tons.	£	tons.	£	
Mt. Malcolm D. ...	Murrin Murrin	6c	Butte City-Murrin Copper Mines, Ltd.	...	...	15.65	167	
Do ...	do ...	10c	Mt. Malcolm-Murrin Copper Mines, Ltd.	†1,954.00	6,852	13,516.00	70,754	† Returned 124.50 tons Metallic Copper
			Total ...	1,954.00	6,852	14,426.00	82,646	
Northampton M.D.	Geraldine ...	10, 11	Geraldine leases ...	...	...	136.50	1,992	
Yandanooka M.D.	Yandanooka	...	Voided leases ...	...	...	38.00	407	
Phillips River Gf.	Harbour View	149	Australia ...	‡ 4.50	43	4.50	43	‡ Returned 1 ton Metallic Copper
Do ...	do ...	52	Harbour View ...	‡ 272.75	805	504.95	3,698	‡ Returned 15.36 tons Metallic Copper
Do ...	do ...	60	Red, White, and Blue ...	...	...	10.75	196	
Do ...	Mt. Desmond	106	Elverton South ...	...	...	18.70	260	
Do ...	do ...	104	Marnoo ...	...	...	4.25	58	
Do ...	do ...	107	Mountain View ...	...	...	9.50	194	
Do ...	do ...	109	Mt. Desmond ...	...	...	23.00	350	
Do ...	do ...	117	Mt. Garrity ...	† 12.50	190	12.50	190	† Returned 3.25 tons Metallic Copper
Do ...	do ...	95	Phillips River Options Syn- dicate, N.L.	...	...	557.00	6,866	
Do ...	do ...	...	Voided leases ...	...	...	4.00	55	
Do ...	Mt. Stennett	108	Mt. Stennett ...	...	...	32.00	430	
Do ...	Ravensthorpe	110	Grimsby ...	...	...	1.40	16	
Do ...	do ...	116	Last Chance ...	...	...	13.50	223	
Do ...	do ...	120	Last Chance Proprietary ...	‡ 12.00	102	15.50	137	‡ Returned 1.75 tons Metallic Copper
Do ...	do ...	16	Marion Martin ...	...	...	75.00	804	
Do ...	do ...	7	Mary ...	...	...	32.90	465	
Do ...	do ...	15	Mt. Cattlin ...	‡ 2.50	28	2.50	28	‡ Returned .50 tons Metallic Copper and .54 ozs. Gold
Do ...	do ...	(153)	(Pick and Shovel) ...	‡ 4.00	70	4.00	70	‡ Returned 1.50 tons Metallic Copper
Do ...	do ...	114	Surprise ...	...	...	5.50	62	
Do ...	do ...	46	Zealandia ...	...	...	39.75	450	
Do ...	do ...	...	Voided leases ...	...	...	60.19	286	
			Total ...	308.25	1,238	1,431.39	14,881	
West Pilbarra Gf.	Croydon ...	31	British Exploration of Aus- tralia, Ltd.	...	...	453.00	5,593	
Do ...	do ...	...	Voided leases ...	...	...	40.00	595	
Do ...	Egina ...	3	Balla Balla Copper Mines, Ltd.	...	...	530.00	6,571	
Do ...	Roebourne ...	49	Glenderry ...	...	...	22.00	287	
Do ...	do ...	...	Voided leases ...	...	...	159.00	2,459	
Do ...	Whim Creek	34	Balla Balla Copper Mines, Ltd.	...	...	2,009.00	12,036	
Do ...	do ...	...	Freehold of 100 acres ...	...	...	9,097.00	84,987	
Do ...	do ...	...	Voided leases ...	...	...	30.00	250	
			Total ...	...	...	12,340.00	112,778	
			GRAND TOTAL ...	2,262.25	8,090	28,387.54	212,871	



TABLE XV.

Quantity and Value of IRONSTONE reported to the Mines Department during 1902, and the Total Output to date.

GOLDFIELD, DISTRICT, OR MINING DISTRICT.	LOCALITY.	NUMBER OF LEASE.	REGISTERED NAME OF COMPANY OR MINE.	1902.		TOTAL TO DATE.		REMARKS.
				Quantity.	Value.	Quantity.	Value.	
West Pilbarra Gf.	Whim Creek	...	Voided leases ...	tons. ...	£ ...	tons. 100'00	£ 300	
East Coolgardie Gf.	Boulder ...	...	Voided leases ...	...	...	450'00	247	
* From State generally—								
	Avon ...	...	...	...	...	22,223'00	16,241	
	Clackline ...	...	...	2,845'00	1,209	11,807'00	6,210	
	Coates' Paddock ...	...	...	...	...	4,712'00	3,277	
	Greenbushes ...	...	...	1,955'00	831	6,680'00	4,308	
	Werribee ...	...	...	...	...	4,600'00	3,200	
			Total ...	4,800'00	2,040	50,572'00	33,783	

\* Ore flux received by the Fremantle Smelting Works, Ltd.

TABLE XVI.

Quantity and Value of LEAD ORE reported to the Mines Department during 1902, and the Total Output to date.

GOLDFIELD, DISTRICT, OR MINING DISTRICT.	LOCALITY.	NUMBER OF LEASE.	REGISTERED NAME OF COMPANY OR MINE.	1902.		TOTAL TO DATE.		REMARKS.
				Quantity.	Value.	Quantity.	Value.	
Northampton M.D.	Narra Tarra...	...	From locality generally ...	tons. ...	£ ...	tons. 225'00	£ 185	
Do ...	Northampton	62	Yiapa ...	...	...	30'00	195	
Do ...	do.	...	Voided leases ...	...	...	76'75	853	
Do ...	Victoria ...	...	Voided leases ...	...	...	19'00	212	
			Total ...	...	...	350'75	1,445	

TABLE XVII.

Quantity and Value of SILVER-LEAD ORE reported to the Mines Department during 1902, and the Total Output to date.

GOLDFIELD, DISTRICT, OR MINING DISTRICT.	LOCALITY.	NUMBER OF LEASE.	REGISTERED NAME OF COMPANY OR MINE.	1902.		TOTAL TO DATE.		REMARKS.
				Quantity.	Value.	Quantity.	Value.	
Ashburton Gf. ...	Ashburton ...	3	Rainbow ...	tons. 1+35'85	£ 277	tons. 56'90	£ 429	1+ Returned 626ozs. silver and 18'76 tons lead.

TABLE VIII.

Quantity and Value of COAL reported to the Mines Department during 1902, and the Total Output to date.

GOLDFIELD, DISTRICT, OR MINING DISTRICT.	LOCALITY.	NUMBER OF LEASE.	REGISTERED NAME OF COMPANY OR MINE.	1902.		TOTAL TO DATE.		REMARKS.
				Quantity.	Value.	Quantity.	Value.	
Collie River Coal M.D.	Collie ...	85-100	Collie Proprietary Coal- fields of W.A., Ltd. (No. 2 Pit)	tons. 67,904·00	£ 42,152	tons. 151,388·40	£ 89,301	
Do ...	do ...	82	<sup>1</sup> + Collie Proprietary Coal- fields of W.A., Ltd. (No. 1 Pit)	72,353·20	43,664	260,643·55	136,355	<sup>1</sup> + Late Westralian Walls- end Colliery
Do ...	do ...	30 etc.	<sup>2</sup> + W.A. Collieries and Fire- clay Co., Ltd.	626·70	372	22,941·85	11,640	<sup>2</sup> + Under tribute to the Mechanical Coal-cut- ting Co. of Australasia, Ltd.
			Total ...	140,883·90	86,188	434,973·80	237,296	

TABLE XIX.

Quantity and Value of LIMESTONE reported to the Mines Department during 1902, and the Total Output to date.

GOLDFIELD, DISTRICT, OR MINING DISTRICT.	LOCALITY.	NUMBER OF LEASE.	REGISTERED NAME OF COMPANY OR MINE.	1902.		TOTAL TO DATE.		REMARKS.
				Quantity.	Value.	Quantity.	Value.	
Yilgarn Gf. ...	Southern Cross	4	Southern Cross ...	tons. 210·00	£ 176	tons. 614·00	£ 602	
Do ...	do ...	6	Range Road ...	325·00	164	887·85	449	
Do ...	do ...	...	Voided leases ...	...	...	945·00	481	
			* From State generally— Fremantle ...	4,545·35	1,000	54,363·35	10,588	
			Total ...	5,080·35	1,340	56,810·20	12,120	

\* Ore flux received by the Fremantle Smelting Works, Ltd.

TABLE XX.

Quantity and Value of DIAMONDS reported to the Mines Department during 1902, and the Total Output to date.

GOLDFIELD, DISTRICT, OR MINING DISTRICT.	LOCALITY.	NUMBER OF LEASE.	REGISTERED NAME OF COMPANY OR MINE.	1902.		TOTAL TO DATE.		REMARKS.
				Quantity.	Value.	Quantity.	Value.	
Nullagine D. ...	Nullagine ...	M.R.C. 6L	(Morgans, A. E.) ...	carats. ...	£ ...	carats. §	£ 24	§ 230 tons conglomerate returned 25 small dia- monds (weight un- known) and 77·70 ozs. gold

TABLE

Return of Ore and Minerals other than Gold, entered for EXPORT from 1850-1902, inclusive, showing

YEAR.	METALLIC									
	COPPER ORE.									
	West Pilbarra Gf.		Northampton M.D.		Phillips River Gf.		State generally.		Total.	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
	tons.	£	tons.	£	tons.	£	tons.	£	tons.	£
1850	...	...	...	...	...	...	...	...	...	...
1	...	...	...	...	...	...	...	...	...	...
2	...	...	...	...	...	...	...	...	...	...
3	...	...	...	...	...	...	...	...	...	...
4	...	...	2†	7.50	...	...	...	...	...	7.50
5	...	...	...	...	...	...	...	...	...	...
6	...	...	2.05	26.45	...	...	...	...	2.05	26.45
7	...	...	57.00	1,017.90	...	...	...	...	57.00	1,017.90
8	...	...	80.00	1,920.00	...	...	...	...	80.00	1,920.00
9	...	...	433.25	9,531.50	...	...	...	...	433.25	9,531.50
1860	...	...	941.50	14,122.50	...	...	...	...	941.50	14,122.50
1	...	...	517.50	8,021.25	...	...	...	...	517.50	8,021.25
2	...	...	409.00	6,339.50	...	...	...	...	409.00	6,339.50
3	...	...	783.50	12,536.00	...	...	...	...	783.50	12,536.00
4	...	...	763.00	12,208.00	...	...	...	...	763.00	12,208.00
5	...	...	1,076.00	17,216.00	...	...	...	...	1,076.00	17,216.00
6	...	...	886.00	13,290.00	...	...	...	...	886.00	13,290.00
7	...	...	557.50	8,362.50	...	...	...	...	557.50	8,362.50
8	...	...	337.00	5,055.00	...	...	...	...	337.00	5,055.00
9	...	...	83.00	1,245.00	...	...	...	...	83.00	1,245.00
1870	...	...	155.00	2,325.00	...	...	...	...	155.00	2,325.00
1	...	...	6.00	90.00	...	...	...	...	6.00	90.00
2	...	...	...	...	...	...	...	...	...	...
3	...	...	...	...	...	...	...	...	...	...
4	...	...	56.50	847.50	...	...	...	...	56.50	847.50
5	...	...	66.50	997.50	...	...	...	...	66.50	997.50
6	...	...	204.75	3,071.25	...	...	...	...	204.75	3,071.25
7	...	...	279.00	4,185.00	...	...	...	...	279.00	4,185.00
8	...	...	53.50	802.50	...	...	...	...	53.50	802.50
9	...	...	9.00	135.00	...	...	...	...	9.00	135.00
1880	...	...	...	...	...	...	...	...	...	...
1	...	...	8.00	120.00	...	...	...	...	8.00	120.00
2	...	...	...	...	...	...	...	...	...	...
3	...	...	1.50	22.50	...	...	...	...	1.50	22.50
4	...	...	5.00	75.00	...	...	...	...	5.00	75.00
5	...	...	118.00	1,770.00	...	...	...	...	118.00	1,770.00
6	...	...	119.50	1,792.50	...	...	...	...	119.50	1,792.50
7	...	...	249.00	3,735.00	...	...	...	...	249.00	3,735.00
8	...	...	23.00	345.00	...	...	...	...	23.00	345.00
9	...	...	87.50	1,487.50	...	...	...	...	87.50	1,487.50
1890	...	...	112.00	1,904.00	...	...	...	...	112.00	1,904.00
1	...	...	8.00	136.00	...	...	...	...	8.00	136.00
2	262.50	4,462.50	...	...	...	...	...	...	262.50	4,462.50
3	†412.00	6,318.80	155.00	2,377.20	...	...	...	...	567.00	8,696.00
4	50.00	606.00	...	...	...	...	...	...	50.00	606.00
5	...	...	...	...	...	...	...	...	...	...
6	802.00	12,832.00	24.00	120.00	...	...	...	...	826.00	12,952.00
7	6.30	100.00	...	...	...	...	...	...	6.30	100.00
8	64.85	731.25	21.15	302.00	...	...	...	...	86.00	1,033.25
9	a 280.87	3,334.00	b 74.53	931.50	...	...	...	...	355.40	4,265.50
1900	1,405.50	31,978.50	586.55	9,473.25	...	...	...	...	1,991.05	41,451.75
1	543.55	10,696.00	...	...	105.15	2,411.00	c 197.41	3,355.00	d 846.11	16,462.00
2	1,058.00	26,464.00	.50	10.00	1,205.00	22,107.00	396.75	6,322.00	2,660.25	54,908.00
3	68.50	1,698.00	20.00	330.00	162.00	2,469.00	33.00	489.00	283.50	4,986.00
Total	4,953.07	99,221.05	9,369.78	148,284.30	1,472.15	26,987.00	627.16	10,166.00	16,422.16	284,658.35

† See Woodward's Mining Handbook, Perth: By Authority, 1895; p. 128. ‡ Declared weight not stated. § Probably the produce of the  
6 cwts. 3 qrs. f 265 tons 9 cwts. 3 qrs. g 68 tons 2 cwts. 3 qrs. h 278 tons 8 cwts.

## XXI.

the Quantity obtained from certain Goldfields and Mining Districts, and the declared Value thereof.

MINERALS.								YEAR.
LEAD ORE.		BLACK TIN (Dressed Tin).						
Northampton M.D.		Pilbarra Gf.		Greenbushes M.D.		Total.		
Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	
tons.	£	tons.	£	tons.	£	£	tons.	
5·00	55·00	...	...	...	...	...	...	1850
...	...	...	...	...	...	...	...	1
...	...	...	...	...	...	...	...	2
2†	4·00	...	...	...	...	...	...	3
...	...	...	...	...	...	...	...	4
25·00	250·00	...	...	...	...	...	...	5
...	...	...	...	...	...	...	...	6
...	...	...	...	...	...	...	...	7
...	...	...	...	...	...	...	...	8
13·50	135·00	...	...	...	...	...	...	9
98·50	985·00	...	...	...	...	...	...	1860
79·00	790·00	...	...	...	...	...	...	1
9·00	90·00	...	...	...	...	...	...	2
280·00	2,300·00	...	...	...	...	...	...	3
80·00	800·00	...	...	...	...	...	...	4
708·00	8,436·00	...	...	...	...	...	...	5
273·50	3,282·00	...	...	...	...	...	...	6
902·00	10,824·00	...	...	...	...	...	...	7
1,100·50	13,206·00	...	...	...	...	...	...	8
699·50	8,394·00	...	...	...	...	...	...	9
1,209·50	14,514·00	...	...	...	...	...	...	1870
420·00	5,040·00	...	...	...	...	...	...	1
364·00	4,368·00	...	...	...	...	...	...	2
965·50	11,586·00	...	...	...	...	...	...	3
2,143·75	25,725·00	...	...	...	...	...	...	4
2,289·00	27,468·00	...	...	...	...	...	...	5
2,191·50	26,298·00	...	...	...	...	...	...	6
3,955·50	47,466·00	...	...	...	...	...	...	7
3,617·50	43,410·00	...	...	...	...	...	...	8
2,775·00	33,300·00	...	...	...	...	...	...	9
1,921·00	15,368·00	...	...	...	...	...	...	1880
1,400·50	11,204·00	...	...	...	...	...	...	1
1,793·50	14,348·00	...	...	...	...	...	...	2
1,038·00	7,266·00	...	...	...	...	...	...	3
696·00	4,872·00	...	...	...	...	...	...	4
465·00	3,255·00	...	...	...	...	...	...	5
611·00	4,277·00	...	...	...	...	...	...	6
471·00	4,710·00	...	...	...	...	...	...	7
532·00	5,320·00	...	...	...	...	...	...	8
250·00	2,500·00	...	...	...	...	...	...	9
213·50	2,135·00	...	...	...	...	3†5·00	300·00	1890
25·00	250·00	...	...	204·00	10,200·00	3†67·50	5,400·00	1
29·75	150·00	...	...	f 265·49	13,843·00	204·00	10,200·00	2
...	...	56·45	3,470·00	171·50	7,664·00	f 265·49	13,843·00	3
...	...	19·00	949·00	371·25	14,325·00	227·95	11,134·00	4
...	...	...	...	277·15	9,703·00	390·25	15,274·00	5
...	...	...	...	277·15	9,703·00	277·15	9,703·00	6
2†	4·00	...	...	137·25	4,338·00	137·25	4,338·00	7
5·00	33·00	...	...	95·55	3,275·00	95·55	3,275·00	8
16·00	96·00	29·55	2,025·00	g 68·14	2,760·00	g 68·14	2,760·00	9
26·85	242·00	e 368·34	30,146·00	h 278·41	21,138·00	j 307·96	23,163·00	1900
...	...	439·00	34,600·00	i 101·94	8,032·00	k 470·28	38,178·00	1
...	...	248·00	19,698·00	67·50	4,895·00	506·50	39,495·00	2
...	...	...	...	31·00	2,870·00	279·00	22,568·00	...
<b>33,643·85</b>	<b>364,756·00</b>	<b>1,160·34</b>	<b>90,888·00</b>	<b>2,069·18</b>	<b>103,043·00</b>	<b>3,302·02</b>	<b>199,631·00</b>	...

Greenbushes Tinfield. a 280 tons 17 cwts. 2 qrs. b 74 tons 10 cwts. 2 qrs. c 197 tons 8 cwts. 1 qr. d 846 tons 2 cwts. 1 qr. e 368 tons 1 qr.  
 † 101 tons 18 cwts. 3¼ qrs. j 307 tons 19 cwts. 1 qr. k 470 tons 5 cwts. 2¼ qrs.

TABLE XXI.—Return of Ore and Minerals, other than Gold,

YEAR.	NON-METALLIC MINERALS.						ORES NOT OTHERWISE ENUMERATED.		COPPER INGOT.	
	ASBESTOS.		COAL.		MICA.		Quantity.	Value.	Mt. Malcolm D.	
	State generally.		Collie River Coal M.D.		State generally.				Quantity.	Value.
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.		
	tons.	£	tons.	£	tons.	£	tons.	£	tons.	£
1850	...	...	...	...	...	...	...	...	...	...
1	...	...	...	...	...	...	...	...	...	...
2	...	...	...	...	...	...	...	...	...	...
3	...	...	...	...	...	...	...	...	...	...
4	...	...	...	...	...	...	...	...	...	...
5	...	...	...	...	...	...	...	...	...	...
6	...	...	...	...	...	...	...	...	...	...
7	...	...	...	...	...	...	...	...	...	...
8	...	...	...	...	...	...	...	...	...	...
9	...	...	...	...	...	...	...	...	...	...
1860	...	...	...	...	...	...	...	...	...	...
1	...	...	...	...	...	...	...	...	...	...
2	...	...	...	...	...	...	...	...	...	...
3	...	...	...	...	...	...	...	...	...	...
4	...	...	...	...	...	...	...	...	...	...
5	...	...	...	...	...	...	...	...	...	...
6	...	...	...	...	...	...	...	...	...	...
7	...	...	...	...	...	...	...	...	...	...
8	...	...	...	...	...	...	...	...	...	...
9	...	...	...	...	...	...	...	...	...	...
1870	...	...	...	...	...	...	...	...	...	...
1	...	...	...	...	...	...	...	...	...	...
2	...	...	...	...	...	...	...	...	...	...
3	...	...	...	...	...	...	...	...	...	...
4	...	...	...	...	...	...	...	...	...	...
5	...	...	...	...	...	...	...	...	...	...
6	...	...	...	...	...	...	...	...	...	...
7	...	...	...	...	...	...	...	...	...	...
8	...	...	...	...	...	...	...	...	...	...
9	...	...	...	...	...	...	...	...	...	...
1880	...	...	...	...	...	...	...	...	...	...
1	...	...	...	...	...	...	...	...	...	...
2	...	...	...	...	...	...	...	...	...	...
3	...	...	...	...	...	...	...	...	...	...
4	...	...	...	...	...	...	...	...	...	...
5	...	...	...	...	...	...	...	...	...	...
6	...	...	...	...	...	...	...	...	...	...
7	...	...	...	...	...	...	...	...	...	...
8	...	...	...	...	...	...	...	...	...	...
9	...	...	...	...	...	...	...	...	...	...
1890	...	...	...	...	...	...	...	...	...	...
1	...	...	...	...	...	...	...	...	...	...
2	...	...	...	...	...	...	...	...	...	...
3	...	...	...	...	...	25 00	...	...	...	...
4	...	...	...	...	...	4 00	...	...	...	...
5	...	...	...	...	...	3 00	...	...	...	...
6	...	...	...	...	...	...	...	...	...	...
7	...	...	...	...	...	209 00	...	...	...	...
8	...	...	1 00	1 00	...	...	...	...	...	...
9	2†	1 00	798 00	772 00	...	50 00	...	...	...	...
1900	...	...	355 00	350 00	...	3 00	5 00	85 00	248 90	17,475 00
1	...	...	970 75	969 00	...	...	2†	4 00	880 50	55,866 00
2	...	...	12 00	12 00	...	...	3 00	47 00	175 00	7,918 00
Total	...	1 00	2,136 75	2,104 00	...	294 00	8 00	136 00	1,304 40	81,259 00

† Declared; weight not stated.

‡ 13 packages; weight not stated.

§ Estimated; no tonnage given.

¶ Advantage has been taken of the series of years covered by this

entered for EXPORT from 1850-1902, inclusive—continued.

COMMERCIAL PRODUCTS. ¶						PRECIOUS STONES.		YEAR.
SILVER.		TIN INGOT. (White Tin.)		PIG LEAD.		State generally.		
State generally.		Greenbushes M.D.		State generally.		State generally.		
Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	
ozs.	£	tons.	£	tons.	£	carats.	£	
...	...	...	...	...	...	...	...	1850
...	...	...	...	...	...	...	...	1
...	...	...	...	...	...	...	...	2
...	...	...	...	...	...	...	...	3
...	...	...	...	55.00	1,200.00	...	...	4
...	...	...	...	122.00	2,140.00	...	...	5
...	...	...	...	133.75	2,675.00	...	...	6
...	...	...	...	60.00	1,200.00	...	...	7
...	...	...	...	120.50	2,410.00	...	...	8
...	...	...	...	61.00	1,220.00	...	...	9
...	...	...	...	24.75	495.00	...	...	1860
...	...	...	...	...	...	...	...	1
...	...	...	...	...	...	...	...	2
...	...	...	...	...	...	...	...	3
...	...	...	...	...	...	...	...	4
...	...	...	...	...	...	...	...	5
...	...	...	...	...	...	...	...	6
...	...	...	...	5.3.00	50.00	...	...	7
...	...	...	...	...	...	...	...	8
...	...	...	...	...	...	...	...	9
...	...	...	...	...	...	...	...	1870
...	...	...	...	...	...	...	...	1
...	...	...	...	...	...	...	...	2
...	...	...	...	...	...	...	...	3
...	...	...	...	...	...	...	...	4
...	...	...	...	...	...	...	...	5
...	...	...	...	4.25	89.25	...	...	6
...	...	...	...	5.7.00	155.00	...	...	7
...	...	...	...	5.1.00	15.00	...	...	8
...	...	...	...	...	...	...	...	9
...	...	...	...	5.5.00	89.00	...	...	1880
...	...	...	...	5.1.00	20.00	...	...	1
...	...	...	...	...	...	...	...	2
...	...	...	...	...	...	...	...	3
...	...	...	...	...	...	...	...	4
...	...	...	...	...	...	...	...	5
...	...	...	...	...	...	...	...	6
...	...	...	...	5.6.00	120.00	...	...	7
...	...	...	...	5.2.00	40.00	...	...	8
...	...	...	...	...	...	...	...	9
...	...	...	...	...	...	...	...	1890
...	...	...	...	...	...	...	...	1
...	...	...	...	...	...	...	...	2
...	...	...	...	...	...	...	...	3
...	...	...	...	...	...	...	...	4
...	...	...	...	...	...	...	...	5
...	...	...	...	...	...	...	...	6
...	...	...	...	...	...	...	...	7
...	...	...	...	...	...	...	...	8
...	...	...	...	...	...	...	...	9
28,749.00	3,594.00	142.35	18,872.00	77.00	1,077.00	...	...	1900
60,869.00	7,609.00	96.50	12,607.00	...	...	2+	1,000.00	1
83,293.00	9,199.00	141.00	16,380.00	...	...	...	...	2
172,911.00	20,393.00	379.85	47,859.00	683.75	13,306.25	...	1,000.00	

¶ No tonnage given, 6 packages estimated at 10 cwts.      † 2 tons cobalt ore, value £41; 1 ton plumbago ore, value £6.  
table to show in detail the quantity of Commercial Products exported.

## Quantity and Estimated Value of MINING

GOLDFIELD.	DISTRICT.	STATE BATTERIES.	MOTIVE PLANT.									PUMPING PLANT.	
			Employed in Mining.			Employed in Reduction.		Portable Boilers and Engines.	Oil Engines.	Air Compressors.	Air Receivers.	Pumps (Cornish Lift or Plunger).	Steam Pumps.
			Steam Boilers.	Single Wind-ing Gear.	Double Wind-ing Gear.	Steam Boilers.	Steam Engines.						
1. Kimberley	...	...	...	...	...	3	2	2	...	...	...	...	1
2. Pilbarra	Marble Bar	...	...	1	1	5	3	4	...	...	...	3	11
3. West Pilbarra	Nullagine	...	...	...	...	1	1	3	...	...	...	...	6
4. Ashburton	...	...	...	...	...	...	...	...	...	...	...	...	...
5. Gascoyne	...	...	...	...	...	...	...	...	...	...	...	...	...
6. Peak Hill	...	...	...	5	2	1	7	10	...	1	2	8	7
Do	...	Ravelstone	...	...	...	1	1	...	...	1	...	...	3
7. East Murchison	...	...	...	33	8	15	27	22	4	5	5	6	69
Do	...	Lake Darlôt	...	...	...	1	1	...	...	...	...	...	3
	Cue	...	...	17	6	9	11	7	2	1	1	8	17
	Do	Tuckanarra	...	...	...	1	1	...	...	...	...	...	8
	Nannine	...	...	18	9	10	18	18	4	2	2	13	44
8. Murchison	Do	Meekatharra	...	...	...	2	1	...	...	...	...	...	4
	Day Dawn	...	...	26	11	5	17	8	2	6	7	5	32
	Mt. Magnet	...	...	28	3	9	7	8	...	1	1	8	17
	Do	Lennonville	...	...	...	1	1	...	...	...	...	...	3
	Do	Paynesville	...	...	...	1	1	...	...	1	...	...	3
9. Yalgoo	...	...	...	11	4	2	8	9	...	2	2	6	9
	Mt. Morgans	...	...	11	6	2	5	5	1	3	2	1	30
10. Mt. Margaret	Mt. Malcolm	...	...	22	12	16	29	14	7	6	5	4	62
	Do	Leonora	...	...	...	1	1	...	...	...	...	...	3
	Mt. Margaret	...	...	16	3	9	22	15	3	5	4	4	39
	Do	British Flag	...	...	...	...	...	...	...	...	...	...	...
	Menzies	...	...	25	12	17	20	11	8	11	9	9	38
	Do	Mt. Ida	...	...	...	1	1	...	...	1	...	...	3
	Ularring	...	...	7	2	4	5	2	...	1	3	2	10
11. North Coolgardie	Do	Mulline	...	...	...	2	2	...	...	...	...	...	5
	Do	Mulwarrie	...	...	...	1	1	...	...	1	...	...	3
	Niagara	...	...	20	3	6	14	14	3	4	4	4	39
	Do	Niagara	...	...	...	1	1	...	...	...	...	...	3
	Yerilla	...	...	6	2	2	3	4	1	1	1	...	8
12. Broad Arrow	...	...	...	26	4	20	22	17	3	3	2	12	47
13. N.E. Coolgardie	Kanowna	...	...	28	6	21	23	15	3	7	4	3	19
	Bulong	...	...	7	1	5	2	1	...	1	1	1	2
	Kurnalpi	...	...	1	1	...	1	2	...	...	...	...	2
14. East Coolgardie	...	...	...	171	30	90	125	76	12	4	57	66	18
	Coolgardie	...	...	48	5	33	28	31	6	1	17	17	10
15. Coolgardie	Do	Widgiemooltha	...	...	...	1	1	...	...	...	...	...	3
	Kunanalling	...	...	13	6	7	10	7	8	3	3	1	50
16. Yilgarn	...	...	...	15	2	9	18	12	2	6	1	1	8
17. Dundas	...	...	...	17	4	10	11	14	3	1	4	4	29
Do	...	Norseman	...	...	...	2	2	...	...	1	1	...	6
18. Phillips River	...	...	...	2	1	1	4	3	2	...	...	...	6
19. Donnybrook	...	...	...	5	...	1	...	...	1	...	1	1	9
Northam Milling and Mining Co., Ltd.	...	...	...	...	...	...	4	4	...	...	...	...	7
Fremantle Smelting Works, Ltd.	...	...	...	...	...	...	3	4	...	...	...	...	4
TOTAL GOLD-EXTRACTING MACHINERY			574	144	305	469	354	85	22	147	146	164	1,094
Tinfields	Greenbushes Mining District	...	...	2	...	...	1	1	9	...	...	3	13
	Government Tin-dressing Plant	...	...	...	...	...	...	...	1	...	...	...	2
	Marble Bar District	...	...	1	...	...	...	...	...	...	...	...	1
Copperfield	Mt. Malcolm District	...	...	2	2	2	2	4	...	...	...	1	2
Coalfield	Collie River Coal Mining District	...	...	14	10	...	1	1	...	2	...	...	22
TOTAL MACHINERY OTHER THAN GOLD-EXTRACTING			19	12	2	4	6	10	...	2	...	4	40
TOTAL MINING MACHINERY			593	156	307	473	360	95	22	149	146	168	1,134

ALL MINES.

XXII.

MACHINERY erected on the 31st December, 1902.

HAULING PLANT.				REDUCTION PLANT.																	
Whims.	Whips.	Endless Rope Trams.	Hydraulic Lifts.	Stone Breakers.	Ore Feeders.	Batteries: No. of Heads of Stampers.	Other Mills:										Tailings Pumps.	Tailings Wheels.	Amalgamating Barrels and Fans.	Berdan Fans.	Wheeler's Fans.
							Ball Mills.	Griffin Mills.	Huntington Mills.	Prospecting Mills.	Tremain Mills.	Arrastras.	Crushing Rollers.	Dry Crushers.	Puddlers.						
1	...	...	...	...	...	25	...	...	...	...	...	...	...	...	...	...	...	...	...		
1	1	...	...	...	...	60	...	...	...	1	1	...	...	...	...	...	...	1	...		
...	...	...	...	...	1	20	...	...	...	...	1	1	...	...	...	...	...	2	...		
...	...	...	...	...	...	10	...	...	...	1	1	...	...	...	...	...	...	...	...		
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...		
...	...	...	...	2	8	40	...	...	...	1	...	...	...	...	...	9	1	5	1		
...	...	...	...	...	...	10	...	...	...	...	...	...	...	...	...	...	...	...	...		
3	9	1	...	9	23	205	1	...	...	6	...	1	...	...	1	9	1	2	8		
1	14	...	...	3	1	115	1	...	...	...	...	...	...	...	...	2	...	...	2		
...	...	...	...	...	...	10	...	...	...	...	...	...	...	...	...	...	...	...	11		
...	2	...	...	3	12	178	...	...	...	...	...	...	...	...	3	4	...	27	2		
...	1	7	1	6	19	110	...	...	...	...	...	...	...	...	2	1	...	2	2		
1	5	...	...	2	4	100	...	...	...	1	...	...	...	...	2	2	2	6	2		
...	...	...	...	...	...	10	...	...	...	...	...	...	...	...	...	...	...	2	2		
...	...	...	...	4	4	70	...	...	1	1	3	...	...	...	...	1	...	2	2		
...	1	...	...	1	18	95	...	...	...	...	2	...	...	...	2	...	...	6	3		
...	21	1	...	12	37	236	...	...	...	...	2	...	...	...	3	3	1	14	5		
...	...	...	...	...	...	10	...	...	...	...	...	...	...	...	...	1	...	2	2		
...	12	1	...	4	23	171	...	...	...	1	...	...	...	...	4	2	1	2	1		
...	...	...	...	...	...	10	...	...	...	...	...	...	...	...	...	...	...	...	...		
...	9	2	...	8	15	153	...	...	...	1	...	...	...	...	1	7	1	6	18		
...	...	...	...	...	...	10	...	...	...	...	...	...	...	...	...	...	...	...	2		
...	8	...	...	...	...	20	...	...	...	...	...	...	...	...	...	...	...	2	2		
...	...	...	...	...	...	20	...	...	...	...	...	...	...	...	...	...	...	2	2		
...	...	...	...	...	...	10	...	...	...	...	...	...	...	...	1	...	...	4	...		
...	7	...	...	5	17	150	...	...	...	1	...	...	...	...	4	2	...	5	...		
...	...	...	...	...	...	10	...	...	...	...	...	...	...	...	1	...	...	2	2		
2	...	...	...	...	...	25	...	...	...	1	...	...	...	...	...	2	...	1	...		
4	5	3	...	7	31	240	1	...	...	1	...	...	1	...	2	5	7	7	1		
...	13	2	...	11	23	205	...	1	4	3	...	...	1	...	3	11	6	9	2		
1	5	...	...	...	...	20	...	...	...	...	...	...	...	...	1	...	...	2	...		
...	1	...	...	...	...	5	...	...	...	1	...	...	...	...	...	...	...	...	...		
2	15	4	...	49	118	560	33	31	13	2	1	...	10	...	25	10	30	14	103		
...	19	1	...	16	48	361	...	...	...	1	1	1	...	1	4	5	...	24	...		
...	...	...	...	...	...	10	...	...	...	...	...	...	...	...	...	...	...	2	...		
4	25	1	...	5	15	135	...	...	...	1	...	...	...	...	2	...	...	2	2		
...	4	...	...	5	24	185	...	4	...	...	...	...	...	1	2	1	...	15	3		
1	14	...	...	6	10	110	2	...	...	1	...	...	...	1	2	2	3	17	3		
...	...	...	...	...	...	10	...	...	...	...	...	...	...	...	...	...	...	2	...		
...	...	...	...	1	2	40	...	...	...	1	...	...	...	...	1	...	...	1	...		
...	1	...	...	...	...	5	...	...	...	...	...	...	...	...	...	...	...	...	...		
...	...	...	...	3	12	60	...	...	...	1	...	...	1	...	2	1	1	...	...		
...	...	...	7	2	...	...	...	...	...	...	...	...	2	...	...	...	...	...	...		
22	202	18	7	164	465	3,854	38	36	18	24	15	2	15	4	6	91	61	60	228	122	
...	3	...	...	2	1	...	...	...	...	...	...	...	4	3	12	...	...	...	...	...	
...	...	...	...	...	...	5	...	...	...	...	...	...	...	...	3	...	...	...	...	...	
...	1	...	...	3	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	
...	...	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
...	4	2	...	5	1	5	...	...	1	...	...	...	4	3	15	...	...	...	...	...	
22	206	20	7	169	466	3,859	38	36	19	24	15	2	19	7	21	91	61	60	228	122	



TABLE XXII.—Quantity and Estimated Value of MINING

GOLDFIELD.	DISTRICT.	STATE BATTERIES.	REDUCTION PLANT (continued).												
			Settling Tanks.	Percussion and Shaking Tables.	Concentrators.	Classifiers.	Jiggers.	Trommels or Revolving Screens.	Spitzkasten.	Vanners.	Cyaniding.				
											Leaching Vats.	Agitators and Agitating Vats.	Storage Vats.	Filter Presses.	
1. Kimberley ...	...	...	...	...	...	...	...	...	...	...	...	6	...	...	...
2. Pilbarra ...	Marble Bar	...	...	...	...	...	...	...	...	...	...	4	...	3	...
3. West Pilbarra...	Nullagine	...	...	...	...	...	...	...	...	...	...	...	...	...	...
4. Ashburton ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
5. Gascoyne ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
6. Peak Hill ...	...	...	3	...	...	...	...	...	...	3	...	8	9	...	9
Do. ...	...	Ravelstone	...	...	...	...	...	...	...	...	...	...	...	...	...
7. East Murchison	...	...	1	...	...	...	...	...	...	...	...	40	6	16	...
Do. ...	...	Lake Darlot	...	...	...	...	...	...	...	...	...	...	...	...	...
...	Cue ...	...	4	2	2	...	...	...	...	...	...	32	2	10	...
...	Do. ...	Tuckanarra	...	...	...	...	...	...	...	...	...	...	...	...	...
...	Nannine	...	...	12	2	...	...	...	...	...	...	31	...	2	...
8. Murchison	Do. ...	Meekatharra	...	...	...	...	...	...	...	...	...	3	...	...	...
...	Day Dawn ...	...	2	...	12	...	...	...	...	1	...	17	...	8	1
...	Mt. Magnet	...	3	...	...	...	...	...	...	...	...	28	6	8	...
...	Do. ...	Lennonville	...	...	...	...	...	...	...	...	...	3	...	3	...
...	Do. ...	Paynesville	...	...	...	...	...	...	...	...	...	...	...	...	...
9. Yalgoo ...	...	...	6	...	...	...	...	...	...	...	...	9	...	2	...
...	Mt. Morgans	...	...	...	...	...	...	...	...	...	...	20	5	13	3
10. Mt. Margaret	Mt. Malcolm	...	18	...	5	...	...	...	...	...	...	72	...	20	...
...	Do. ...	Leonora	2	...	...	...	...	...	...	...	...	...	...	...	...
...	Mt. Margaret	...	33	...	...	...	...	...	...	2	...	60	...	25	...
...	Do. ...	British Flag	...	...	...	...	...	...	...	...	...	...	...	...	...
...	Menzies	...	31	25	7	2	...	...	...	4	6	50	8	13	4
...	Do. ...	Mt. Ida	...	...	...	...	...	...	...	...	...	3	...	2	...
...	Ularring	...	...	...	...	...	...	...	...	...	...	3	...	...	...
...	Do. ...	Mulline	...	...	...	...	...	...	...	...	...	5	...	4	...
11. North Coolgardie	Do. ...	Mulwarrie	2	2	...	...	...	...	...	...	...	...	...	...	...
...	Niagara	...	12	...	12	...	...	...	...	...	...	51	...	19	1
...	Do. ...	Niagara	...	...	...	...	...	...	...	...	...	...	...	...	...
...	Yerilla	...	6	...	...	...	...	...	...	...	...	10	...	4	...
12. Broad Arrow ...	...	...	4	...	...	...	...	...	...	...	3	38	8	14	3
...	Kanowna	...	38	3	1	...	...	...	...	1	...	104	3	28	...
13. N. E. Coolgardie	Bulong	...	2	...	...	...	...	...	...	...	...	3	...	2	...
...	Kurnalpi	...	...	...	...	...	...	...	...	...	...	...	...	...	...
14. East Coolgardie	...	...	33	3	77	31	...	3	217	18	188	120	94	105	4
...	Coolgardie	...	25	14	7	3	...	3	...	2	107	4	39	...	4
15. Coolgardie	Do. ...	Widgiemooltha	...	...	...	...	...	...	...	...	...	...	...	...	...
...	Kunanalling	...	45	...	4	...	...	...	...	2	...	31	4	14	...
16. Yilgarn ...	...	...	16	...	...	...	...	1	...	...	...	64	2	18	1
17. Dundas ...	...	...	1	...	...	...	...	...	...	4	...	29	2	13	...
Do. ...	...	Norseman	4	...	...	...	...	...	...	...	...	12	1	17	1
18. Phillips River	...	...	5	...	4	...	...	...	...	...	...	...	...	...	...
19. Donnybrook ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Northam Milling and Mining Co., Ltd. ...	...	...	...	...	...	...	...	...	1	...	...	5	...	2	...
Fremantle Smelting Works, Ltd. ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
TOTAL GOLD-EXTRACTING MACHINERY ...			300	61	133	36	...	5	239	23	1,036	180	393	132	...
Tinfields ...	Greenbushes Mining District ...	...	...	1	...	2	5	...	...	...	...	...	...	...	...
...	Government Tin-dressing Plant ...	...	...	3	...	1	...	...	...	...	...	...	...	...	...
...	Marble Bar District	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Copperfield	Mt. Malcolm District	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Coalfield ...	Collie River Coal Mining District	...	...	...	...	...	...	...	...	...	...	...	...	...	...
TOTAL MACHINERY OTHER THAN GOLD-EXTRACTING			...	4	...	3	5	...	...	...	...	...	...	...	...
TOTAL MINING MACHINERY ...			300	65	133	39	5	5	239	23	1,036	180	393	132	...

MACHINERY erected on the 31st December, 1902.—continued.

				WATER SUPPLY PLANT.				MISCELLANEOUS.								ESTIMATED VALUE OF PLANT.			
Chlorination.				Dams and Reservoirs.	Tanks.	Condensers.	Windmills.	Rock Drills.	Fan Blasts.	Green Blowers.	Water Jackets.	Electric Light Plants.	Coal Mining Machinery.				State Batteries.	District.	Goldfield.
Reverberatory Furnaces.	Cupelling Furnaces.	Refining Furnaces.	Assay Furnaces.										Screens (Fixed).	Ventilating Fans and Furnaces.	Elevators.	Tumblers and Kickups.			
...	...	...	...	2	...	...	...	...	...	...	...	...	...	...	...	£	£	£	
...	...	...	...	6	6	...	2	...	1	...	...	...	...	...	...	...	17,900	5,500	
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	6,450	24,350	
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2,500	
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
...	1	1	1	2	2	3	...	1	...	...	...	3	...	...	...	6,457	126,754		
1	6	6	9	15	63	14	6	19	1	...	7	...	...	...	...	3,305	247,740		
...	4	2	4	9	8	4	...	...	...	...	1	...	...	...	...	6,295	55,288		
...	1	1	6	1	38	6	...	7	...	...	1	...	...	...	...	6,683	94,033		
...	5	3	5	4	21	9	1	27	...	...	1	...	...	...	...	176,238	395,868		
...	2	7	6	2	45	1	...	6	...	...	1	...	...	...	...	8,988	70,309		
...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	2,753	...		
...	2	3	5	5	21	...	...	14	...	...	...	...	...	...	...	...	26,647		
...	1	5	3	2	5	...	2	41	...	...	1	...	...	...	...	146,600	...		
...	4	5	14	8	53	12	3	62	...	...	3	...	...	...	...	6,178	211,214		
...	6	6	8	7	53	23	4	16	...	...	...	...	...	...	...	4,760	139,120		
...	6	12	9	13	69	32	1	37	1	...	5	...	...	...	...	10,956	162,281		
...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	12,345	35,254		
...	2	1	1	...	...	...	...	...	...	...	...	...	...	...	...	7,281	338,213		
...	1	...	1	1	10	...	...	...	...	...	...	...	...	...	...	...	...		
...	5	7	9	4	33	8	1	23	...	...	3	...	...	...	...	133,188	...		
...	1	...	1	...	2	...	...	...	...	...	...	...	...	...	...	2,947	7,490		
...	...	1	2	1	12	1	...	3	...	...	...	...	...	...	...	...	120,122		
...	5	8	12	14	131	17	...	12	1	...	1	...	...	...	...	...	99,357		
...	4	3	5	17	130	20	1	20	2	...	1	4	...	...	...	16,818	117,325		
...	3	...	3	...	40	5	...	8	...	...	...	...	...	...	...	1,150	...		
...	...	...	...	...	9	3	...	...	...	...	...	...	...	...	...	...	1,851,644		
4	22	25	47	21	482	72	...	342	15	1	17	...	...	...	...	...	...		
...	5	7	13	22	290	30	2	78	...	...	4	...	...	...	...	2,413	228,970		
...	3	3	4	14	94	25	...	8	...	...	1	...	...	...	...	53,392	76,463		
...	3	4	6	14	29	3	1	7	1	...	1	...	...	...	...	...	79,576		
...	3	2	4	7	61	9	3	29	1	...	1	1	...	...	...	9,101	17,550		
...	1	...	1	1	2	1	...	...	...	...	...	...	...	...	...	...	9,000		
...	...	...	...	6	10	2	...	...	...	...	...	...	...	...	...	...	...		
...	...	...	...	...	7	...	...	4	...	...	...	...	...	...	...	...	...		
...	1	3	1	1	7	...	...	...	...	...	...	...	...	...	...	...	30,000		
...	4	...	...	...	4	...	1	...	5	3	1	...	...	...	...	...	56,060		
5	102	115	184	205	1,793	305	28	770	22	7	5	56	...	...	90,462	...	4,251,216		
3	...	...	1	14	7	...	...	...	...	...	...	...	...	...	2,457	12,373	...		
...	...	...	...	...	3	...	...	...	...	...	...	...	...	...	...	765	...		
...	...	...	1	...	10	2	1	...	1	3	1	...	...	...	...	11,165	...		
...	...	...	...	1	...	...	...	1	...	...	1	4	2	1	4	28,878	...		
3	...	...	2	15	20	2	1	1	1	3	2	4	2	1	4	2,457	53,181		
8	102	115	186	220	1,813	307	29	771	22	8	8	58	4	2	1	4	92,919	4,304,397	

TABLE XXIII.

Synopsis of ACCIDENTS, showing Killed and Injured, in the respective Goldfields and Mining Districts during 1902, together with a comparison for the previous year.

GOLDFIELD OR MINING DISTRICT.	Kimberley.	Pilbarra.	West Pilbarra.	Ashburton.	Gascoyne.	Peak Hill.	East Murchison.	Murchison.	Yalgoo.	Mt. Margaret.	North Coolgardie.	Broad Arrow.	North-East Coolgardie.	East Coolgardie.	Coolgardie.	Yilgarn.	Dundas.	Phillips River.	Donnybrook.	Northampton.	Yandanoora.	Greenbushes.	Collie.	TOTAL.		Comparison with 1901.				
	...	...	...	...	...	6	9	19	...	14	9	4	11	55	11	1	3	1	...	...	...	...	8	1902.	1901.		4			
Number of Accidents.	...	...	...	...	...	6	9	19	...	14	9	4	11	55	11	1	3	1	...	...	...	...	8	151	155	4				
Class of Accident.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.		
1. By Explosives ... ..	{ Killed	...	...	...	...	1	...	...	...	...	...	...	...	3	...	...	...	...	...	...	...	...	...	...	6	17	11	5		
	{ Injured	...	...	...	...	1	...	1	...	1	...	...	6	5	...	...	...	...	...	...	...	...	...	...	9	16	15	2		
2. By Falls of Ground ... ..	{ Killed	...	...	...	...	1	...	1	...	...	...	...	2	...	...	...	...	...	...	...	...	...	...	...	5	33	24	9		
	{ Injured	...	...	...	...	2	...	2	...	4	...	...	4	9	...	...	...	...	...	...	...	...	...	...	3	14	34	20		
3. In Shafts ... ..	{ Killed	...	...	...	...	2	...	6	...	...	...	...	2	6	...	...	...	...	...	...	...	...	...	...	10	24	1	10		
	{ Injured	...	...	...	...	2	...	1	...	1	...	...	2	4	...	...	...	...	...	...	...	...	...	...	3	30	31	1		
4. By Miscellaneous Underground	{ Killed	...	...	...	...	...	...	3	...	1	...	...	1	11	...	...	...	...	...	...	...	...	...	...	9	36	3	9		
	{ Injured	...	...	...	...	...	...	1	...	2	...	...	4	1	...	...	...	...	...	...	...	...	...	...	3	30	31	1		
5. On Surface ... ..	{ Killed	...	...	...	...	1	...	3	...	2	...	...	...	12	...	...	...	...	...	...	...	...	...	...	2	28	26	2		
	{ Injured	...	...	...	...	...	...	...	...	...	...	...	...	...	4	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
Total, 1902 ... ..	{ Killed	...	...	...	...	1	5	4	10	5	15	...	3	17	2	2	...	...	...	...	...	...	...	...	39	132	...	...		
	{ Injured	...	...	...	...	5	4	10	15	13	12	3	3	43	9	2	...	...	...	...	...	...	...	...	8	...	...	...		
Total, 1901 ... ..	{ Killed	...	...	...	...	3	3	8	...	6	9	1	...	11	3	...	...	...	...	...	...	...	...	...	...	...	45	...		
	{ Injured	...	...	...	...	4	10	16	...	10	7	2	...	45	17	3	...	...	...	...	...	...	...	...	...	...	...	130	...	
Comparison with 1901 ... ..	{ Killed	...	...	...	...	2	2	3	...	3	3	...	...	6	...	...	...	...	...	...	...	...	...	...	...	...	...	...	6	
	{ Injured	...	...	...	...	1	7	8	...	4	5	...	...	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2

\* Represents plus.

TABLE XXIV.

Deaths from Accidents in the respective Goldfields, Districts, and Mining Districts during 1902, together with a Comparison for the previous year.

GOLDFIELD, DISTRICT OR MINING DISTRICT.	MEN EMPLOYED.	BY FALLS OF GROUND.				IN SHAFTS.							BY MISCELLANEOUS UNDERGROUND.					ON SURFACE.				GROSS TOTAL.						
		By Explosives.	Falls of sides.	Falls of roof.	Miscellaneous.	Total Falls.	Ropes and chains breaking.	Whilst ascending or descending by machinery.	Falling into shafts from surface.	Things falling from surface.	Falling from part way down.	Things falling from part way down.	Miscellaneous.	Total in shafts.	Suffocation.	Irruption of water.	By trams and trucks.	By machinery.	Ropes and chains breaking.	Falling into water.	Sundries.		Total Miscellaneous underground.	By machinery.	Boilers bursting.	Railways and Tramways.	Miscellaneous.	Total on surface.
GOLDFIELD.																												
1. Kimberley	6																											
2. Pilbarra	187																											
3. West Pilbarra	28																											
4. Ashburton																												
5. Gascoyne																												
6. Peak Hill	329	1																										
7. East Murchison	1,108			2		2																						
8. Murchison	2,009			1		1																						
9. Yalgoo	81																											
10. Mt. Margaret	2,137																											
11. North Coolgardie	1,952																											
12. Broad Arrow	303																											
13. North-East Coolgardie	815	2																										
14. East Coolgardie	6,254	3	1	1	2	4																						
15. Coolgardie	1,681																											
16. Yilgarn	366																											
17. Dundas	381																											
18. Phillips River	124																											
19. Donnybrook	64																											
Coal.																												
{ Collie River Coal, M.D.	368																											
{ Mt. Malcolm D.	41																											
{ Northampton M.D.	5																											
Copper																												
{ Phillips River G.F.	56																											
{ West Pilbarra G.F.	9																											
{ Yandanooka M.D.	2																											
Lead																												
{ Northampton M.D.	2																											
Limestone																												
{ Yilgarn G.F.	2																											
Tin																												
{ Greenbushes M.D.	139																											
{ Marble Bar D.	110																											
<b>Total, 1902</b>	<b>18,559</b>	<b>6</b>	<b>1</b>	<b>4</b>	<b>4</b>	<b>9</b>		<b>1</b>			<b>2</b>	<b>1</b>	<b>1</b>	<b>5</b>	<b>5</b>						<b>5</b>	<b>10</b>	<b>4</b>		<b>2</b>	<b>3</b>	<b>9</b>	<b>39</b>
<b>Total, 1901</b>	<b>17,879</b>	<b>11</b>	<b>3</b>	<b>10</b>	<b>3</b>	<b>16</b>	<b>1</b>	<b>1</b>	<b>2</b>		<b>3</b>	<b>2</b>	<b>5</b>	<b>14</b>							<b>1</b>	<b>1</b>				<b>3</b>	<b>3</b>	<b>45</b>
<b>Comparison with 1901</b>	<b>+680</b>	<b>-5</b>	<b>-2</b>	<b>-6</b>	<b>+1</b>	<b>-7</b>	<b>-1</b>	<b>=</b>	<b>-2</b>		<b>-1</b>	<b>-1</b>	<b>-4</b>	<b>+5</b>							<b>+4</b>	<b>+4</b>		<b>+2</b>	<b>=</b>	<b>+6</b>	<b>-6</b>	

## ROYAL MINT, PERTH BRANCH.

On 20th June, 1899, His Excellency the Governor declared the Perth Branch of the Royal Mint to be open for the receipt of gold for coinage.

Subject to the Regulations, any person may deposit gold at the Mint in his own name. Those who cannot attend personally for the purpose may send the gold by an agent, through the post, or under Police escort.

A circular can be obtained from the Deputy Master of the Mint giving all necessary information for intending depositors, conditions of the Escort Service, Coining Regulations, etc., etc.

Parcels up to 43 ounces gross may be sent through the post.

An Escort Service is provided by the Police Department for parcels of all sizes. The consignor pays for the carriage by coach or train, but the escort charges are collected by the Mint.

Forms for use in connection with gold sent to the Mint by post or under Police escort can be obtained at the Mint.

The Mint charges are as follows:—

### *For Assaying, Refining, and Coinage.*

Gross Weight of Deposit in ounces.	Mint Charge.	Gross Weight of Deposit in ounces.	Mint Charge.	Gross Weight of Deposit in ounces.	Mint Charge.
Up to and including—	£ s. d.	Up to and including—	£ s. d.	Up to and including—	£ s. d.
48	0 10 0	420	4 7 6	1,500	11 9 2
50	0 10 5	430	4 9 7	1,600	12 1 2
60	0 12 6	440	4 11 8	1,700	12 14 8
70	0 14 7	450	4 13 9	1,800	13 6 2
80	0 16 8	460	4 15 10	1,900	13 19 8
90	0 18 9	470	4 17 11	2,000	14 11 8
100	1 0 10	480	5 0 0	2,100	15 4 2
110	1 2 11	490	5 2 1	2,200	15 16 8
120	1 5 0	500	5 4 2	2,300	16 9 2
130	1 7 1	520	5 6 8	2,400	17 1 8
140	1 9 2	540	5 9 2	2,500	17 14 2
150	1 11 3	560	5 11 8	2,600	18 6 8
160	1 13 4	580	5 14 2	2,700	18 19 2
170	1 15 5	600	5 16 8	2,800	19 11 8
180	1 17 6	620	5 19 2	2,900	20 4 2
190	1 19 7	640	6 1 8	3,000	20 16 8
200	2 1 8	660	6 4 2	3,100	21 9 2
210	2 3 9	680	6 6 8	3,200	22 1 8
220	2 5 10	700	6 9 2	3,300	22 14 2
230	2 7 11	720	6 11 8	3,400	23 6 8
240	2 10 0	740	6 14 2	3,500	23 19 2
250	2 12 1	760	6 16 8	3,600	24 11 8
260	2 14 2	780	6 19 2	3,700	25 4 2
270	2 16 3	800	7 1 8	3,800	25 16 8
280	2 18 4	820	7 4 2	3,900	26 9 2
290	3 0 5	840	7 6 8	4,000	27 1 8
300	3 2 6	860	7 9 2	4,100	27 14 2
310	3 4 7	880	7 11 8	4,200	28 6 8
320	3 6 8	900	7 14 2	4,300	28 19 2
330	3 8 9	920	7 16 8	4,400	29 11 8
340	3 10 10	940	7 19 2	4,500	30 4 2
350	3 12 11	960	8 1 8	4,600	30 16 8
360	3 15 0	980	8 4 2	4,700	31 9 2
370	3 17 1	1,000	8 6 8	4,800	32 1 8
380	3 19 2	1,100	8 19 2	4,900	32 14 8
390	4 1 3	1,200	9 11 8	5,000	33 6 2
400	4 3 4	1,300	10 14 2		
410	4 5 5	1,400	10 16 8		

For every additional 100ozs. the charge is increased by 12s. 6d.

NOTE.—Additional charges are collected when base metals in a deposit exceed 2 per cent. of its weight.

The following table illustrates the operation of these charges in the case of metal of the value of £3 17s. 10½d. per oz.:—

Weight of Deposit.	Rate of Charge per oz.	Amount of Charge.	Net Value of Deposit.
Ounces.	d.	£ s. d.	£ s. d.
50	2·5	0 10 5	194 3 4
100	2·5	1 0 10	388 6 8
600	2·3	5 16 8	2,330 8 4
1,000	2·0	8 6 8	3,885 8 4
5,000	1·6	33 6 8	19,435 8 4
10,000	1·5	64 11 8	38,872 18 4

GOLD ESCORT SERVICE.

Table of Rates.

From	To	Period.	Rate per Ounce.	Remarks.
Abbotts	Perth	Monthly	d. 5	
Australia United Mine	Do.	Do.	2½	Special Rate for Perth Mint only.
Burbanks	Do.	Fortnightly	0¾	Do.
Coolgardie	Do.	Do.	0¼	Do.
Cosmopolitan Proprietary, Ltd.	Do.	Monthly	1¼	Do.
Cue	Do.	Do.	3	
Field's Find	Do.	Do.	4½	
Geraldton	Do.	Do.	2	
Kalgoorlie	Do.	Fortnightly	0¼	Special Rate for Perth Mint only.
Kanowna	Do.	Do.	0½	Do.
King of the Hills	Do.	Monthly	2¼	Do.
Kookynie	Do.	Do.	1¼	Do.
Laverton	Do.	Do.	2¾	Do.
			3¾	Do.
Lawlers	Do.	Do.	2½	Over 6,000ozs. Special Rate for Perth Mint only.
Leonora	Do.	Do.	1¼	Special Rate for Perth Mint only.
Menzies	Do.	Do.	0¾	Do.
Mt. Malcolm	Do.	Do.	1¼	Do.
Mt. Morgans	Do.	Do.	2¼	Do.
Mt. Sir Samuel	Do.	Do.	4¼	Do.
Munara Gully	Do.	Do.	3¼	
Nannine	Do.	Do.	4	
Niagara	Do.	Do.	1¼	Special Rate for Perth Mint only.
Norseman	Do.	Do.	2¼	Do.
Northam	Do.	Fortnightly	Nil	
			5½	2,000ozs. to 2,500ozs.
Peak Hill	Do.	Monthly	5	2,500ozs. to 3,000ozs.
			4¾	Over 3,000ozs.
Southern Cross	Do.	Fortnightly	Nil	
			6½	1,500ozs. to 2,000ozs.
			6	Over 2,000ozs.
Wiluna	Do.	Monthly	3¾	Over 6,000ozs. Special Rate for Perth Mint only.
Yalgoo	Do.	Do.	2½	
Yerilla	Do.	Do.	1¾	Special Rate for Perth Mint only.

Rates for carriage of gold on Government Railways :—

	Distance not over							
	25 miles.	50 miles.	100 miles.	150 miles.	200 miles.	250 miles.	300 miles.	350 miles.
Gold dust and bullion per 100ozs....	s. d. 1 0	s. d. 2 0	s. d. 3 0	s. d. 3 9	s. d. 4 6	s. d. 5 0	s. d. 5 6	s. d. 6 0

6d. per 100ozs. for every additional 50 miles.

NOTE.—A special reduction of 25 per cent. is made for all gold dust or bullion consigned to the Perth Mint.

To find the value per ounce of gold sent from a mine to the Mint.—Divide the standard gold by the weight before melting, and multiply the result by £3 17s. 10½d. For instance, supposing the Mint return to show :—

Weight before melting	...	...	...	...	Ozs. 47·41
Standard gold	...	...	...	...	38·19

The calculation would be as follows :—

4741)3819·0(·805	·805 × £3 17s. 10½d. =
3792 8	·805 × £3·894
	805
26200	19470
23705	311520
2495	£3·134(670)
	20
	s. 2·680
	12
	d. 8·160 = £3 2s. 8d., value per ounce of gold as produced from the mine.

J. F. CAMPBELL,  
Deputy Master.

31st May, 1903.

## DIVISION VI.

### *Report by the Chief Inspector of Boilers for the Year 1902.*

*The Under Secretary for Mines, Perth.*

SIR,

1. I have the honour to submit, herewith, a Report upon the operations of the Branch for the year ending 31st December, 1902, for the information of the Hon. the Minister.

2. *Total number of Boilers Registered.*—Up to the period mentioned herein, there were 2,608 boilers registered under the Act, which shows an increase of 187 new registrations, mostly new boilers, over the previous year. Please see Appendix "A" attached, which gives this information, also the number of boilers registered in the various proclaimed districts, together with the revenue derived therefrom, and other data. Appendix "B" is also attached, classifying the various types of boilers in the different districts, also the approximate horse-power represented, etc., which may prove interesting.

3. *Revenue and Expenditure.*—The total revenue received from all districts during the year under review, as furnished by the Chief Accountant, was £3,015 10s., or £283 13s. in excess of the revenue obtained during the preceding year. This is a record amount since the inception of the Act, and I am of opinion that the revenue will show a considerable increase on this amount when the present year closes. My opinion is based on the fact that two (2) of the Mining Inspectors, who were also Inspectors of Boilers, were relieved of the latter work in May of last year, as it had been found for some time past that the one officer occupying the two (2) positions was not a satisfactory arrangement for many reasons, which necessitated the appointment of skilled Inspectors and a re-allotting of districts. The arrangement so far, is giving every satisfaction.

4. The total expenditure for the year amounts to £4,570 5s. 6d., which shows a debit balance of £1,554 15s. 6d.; this is entirely due to the heavy expenses while travelling to inspect boilers in remote and scattered places, which necessitates long journeys with very little return. The strictest economy has prevailed, and the vouchers carefully scrutinised before passing for payment.

5. *Number of Certificates Issued.*—There were 2,172 certificates issued, and 2,609 inspections were made during the year, which shows a considerable increase of work on the previous year. A great many "working inspections" (without notice being given) were also made during the currency of existing certificates, which are most necessary. These were done without entailing additional expenditure.

6. *Boilers Temporarily and Permanently Condemned.*—During the period under review, 131 boilers were "temporarily" condemned pending important repairs being effected, such as new fire-boxes, flue tubes or sections, uptakes, tube plates, barrel plates, sundry patches, etc., which, if allowed to continue working, serious accidents would have probably resulted sooner or later. There were 25 boilers "permanently" condemned as being unfit for any useful pressure, and were considered not worth repairing. Special attention is always given to the manner in which repairs are done, as only first-class work will be passed, which is both in the interests of the owner and the department. It is now generally understood by all engineering firms and others in the State that the "standard" of workmanship must be good, which is appreciated by steam users, who often seek advice from the department on many matters in connection with their steam plants, proving beneficial to themselves. This also applies to heads of other Government Departments, who readily seek advice concerning the purchase of, maintenance, and repairing of steam plants under their control.

7. The percentage of boilers "temporarily" condemned and those "permanently" condemned, in relation to the number inspected are 5·00 per cent. and 0·91 per cent. respectively, and, for the sake of comparison, the results on the same basis are given below for the years 1899, 1900, 1901, and 1902:—

Year.	Temporarily Condemned.	Permanently Condemned.
1899	2·64 per cent.	1·42 per cent.
1900	5·21 "	·498 "
1901	4·35 "	·511 "
1902	5·00 "	·091 "

There were 557 notices issued by Inspectors for necessary repairs to boilers and fittings during the twelve (12) months.

8. Out of the 131 boilers "temporarily condemned," 54 were satisfactorily repaired and brought into use again.

9. *Boilers fitted in accordance with the Act.*—Of the total number registered, 1,986 are fitted in accordance with the Act; the remainder are either out of use or will be attended to by the owners on the first opportunity. With very few exceptions, little trouble has been experienced in getting the necessary fittings put on as prescribed in the Act, and as nearly all manufacturers of boilers have been advised by this office of

the fittings required in the provisions, which has been done entirely in the interests of the purchasers in this State, and this is now being done by nearly every manufacturer in Australasia and Great Britain, with the exception of American exporters and manufacturers; but I have no doubt that they will follow suit before long, and therefore save their clients the extra expense in having to comply with the Act.

10. *Boilers out of use.*—There were approximately 816 boilers out of use on 31st December, 1902, from a variety of causes; but I anticipate that a large proportion of the number will be brought into use during the current year.

11. *Prosecutions under Act.*—No prosecutions under the Act took place during the year, although in some cases a great deal of discretion had to be exercised in order to enforce some of the provisions without effecting any undue hardship.

12. On the whole, valuable assistance is now rendered by steam users, in order to facilitate inspections, who now invariably recognise the importance and necessity of compulsory inspection which is entirely in their own interests. However, there are a few who do not look upon these thorough inspections in the light they should; but this view can only be attributed to their want of knowledge of the subject, and a little more experience will no doubt convert them.

13. *Explosions and Accidents.*—There have been no boiler explosions reported since the inception of the Act; and not a single accident to life or property has been reported attributable to boilers or their fittings during the year under review. That being so, it can be safely assumed that the Inspectors are doing their best to minimise the many dangers in connection with boilers, which happen very often from unsuspected causes.

14. However, the fact should not be lost sight of that many of the boilers in this State are getting old, and the adverse conditions under which many of them are working, with the bad feed water and inferior attention. I am of opinion that all boilers, with perhaps a few exceptions, working intermittently under exceptional circumstances, should be in charge of either a certificated engine-driver or other qualified person who would be thoroughly competent by examination to take charge and efficiently maintain boilers and machinery placed under his control, which would be entirely in the interests of the steam users, and economy would result therefrom.

15. Many owners have been put to considerable inconvenience and expense in allowing the cylinder oil, contained in the exhaust steam after condensing, to get back into the boilers, which, after a time, caused many of the crowns to come down in the Cornish and Lancashire boilers, and in the case of underfired Return Tubular type the shells have bulged over the fire, which were, however, luckily detected before any danger could happen. Oil-separators or other effectual contrivances have been advocated for some considerable time past for the prevention of this danger, and I am pleased to state that most of the large steam users fully recognised the importance of this matter, and have equipped their plants with modern contrivances to counteract this danger. The extravagant use of the sight feed lubricator attached to the main steam pipe of an engine is mainly responsible for these mishaps when the exhaust steam is condensed and used for feed.

16. It would not be out of place to allude briefly in this report to the result of the working of the "Boiler Explosions Act" in England. A synopsis of the annual report for the year ending 30th June, 1902, appears in the *Engineering*, Vol. LXXV., No. 1931, of January 2nd, 1903, page 20. The article states that 68 explosions occurred, of which 48 occurred on land and 20 on sea, resulting in the death of 30 persons and 55 injured. All the boilers that exploded were either under Boiler Insurance Inspection, Board of Trade, or Lloyd's Inspectors.

The causes of these explosions were as follow :—

- 21, deterioration or corrosion;
- 15, defective design or undue working pressure;
- 12, defective workmanship, material, or construction;
- 4, excessive pressure, defective safety valves or mountings;
- 2, improper management by owners;
- 7, ignorance or neglect of attendants;
- 7, miscellaneous;

which may be of interest.

17. *Staff Appointments and Changes.*—The Inspector of Mines for the Central Goldfields was relieved of boiler inspection in May last, and an Inspector was appointed to carry out the work. Similar relief was also afforded to the mining inspectors for the North Coolgardie and Mt. Margaret districts by the appointment, in May last, of an Inspector of Boilers for both districts.

18. While on the subject of appointments and changes, I wish again to respectfully point out the absolute necessity of relieving the Inspectors of Mines—of whom there are only two (2) left—of boiler inspection duties altogether, inasmuch as it has been proved in the past that the various duties attached to both positions cannot be satisfactorily performed by the same officer, as they clash one with the other. Then, again, they are not in any way analogous, in so far that the thorough practical training required for both positions is entirely different; and that being so, the only solution of the difficulty is by appointing another qualified Inspector of Boilers to attend to the Coolgardie, Yilgarn, and Norseman districts, in order that the work will be done satisfactorily and kept up to date, as it should be. With regard to the North-East Coolgardie and Broad Arrow districts, it has already been decided recently to relieve the Inspector of Mines by placing the boilers in these districts under the Boiler Inspectors stationed at Kalgoorlie and Malcolm respectively, who will do this work in addition to the districts to which they have already been appointed.



19. *General Remarks.*—It is pleasing to state that the difficulties which we had to face at the beginning are, with very few exceptions, disappearing rapidly. It has also been noted that a decided improvement has been made during the year in the maintenance and management of boilers.

There is yet, however, room for improvement in this direction, more especially in the agricultural and outlying goldfield centres, which can, I think, only be due to either the ignorance or neglect of those persons in charge—possibly both. The tendency of manufacturers of late years is to increase the safe working loads, particularly of the water tube and locomotive types. One of the former was erected during the year in Perth, and designed for a working pressure of 200lbs. per square inch; and there are several of similar type registered with certificates in force for 175lbs. per square inch. For various other types 140lbs. working pressure is quite a common occurrence.

20. During the latter end of the year an industry was established in Perth with the object of manufacturing boilers on a large scale, and seeing that there is a great demand for them in this State, which, if the firm is successful, will be the means of employing a large number of skilled hands, thus materially benefiting the State. With a thoroughly up-to-date plant with the most modern labour-saving appliances—which I understand is now coming to hand—I feel sure that boilers equal to those imported can be manufactured cheaper in the State than they can be landed here, in a finished condition, from other States and countries. The high freight which is charged on the manufactured article, as compared with the freight charged on raw material, will more than fully compensate for the higher rate of wages paid here as compared with our Eastern neighbours. One Cornish boiler was satisfactorily constructed before the close of the year; all holes in the plates were drilled, edges planed and hydraulically rivetted where practicable throughout, all in accordance with modern practice.

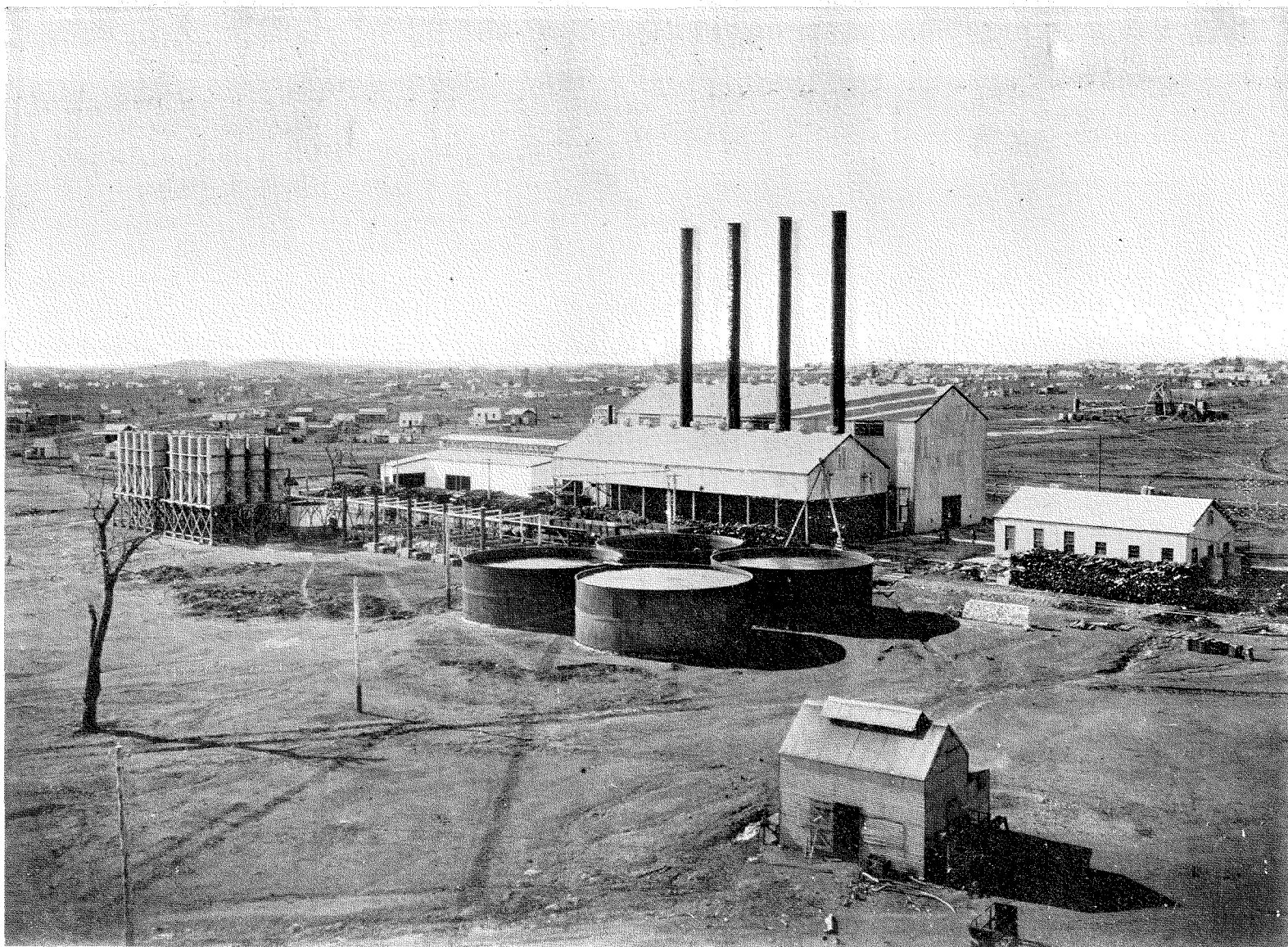
21. I would like to see all boilers required for use here manufactured within this State; and it would appear, according to the number of new ones arriving per annum, that there is a good opening for another such firm or two in order to cope with the existing demand. It is my intention to have all locally manufactured boilers inspected during construction; and if any faulty workmanship or material is discovered, it will be pointed out to the builder.

I have, etc.,

C. J. MATHEWS,

Chief Inspector of Boilers.

Perth, 30th March, 1903.



**ELECTRIC LIGHT AND POWER CO.'S STATION, KALGOORLIE.**  
*(East Coolgardie Goldfield.)*

APPENDIX "A."

Steam Boilers Act, 1897.

Statement showing operations for year ending 31st December, 1902.

DISTRICTS.	Number of Inspectors.	Total number of Boilers registered.	H.P. represented, based on grate area.	Boilers fitted in accordance with the Act.	Approximate number "Out of Use" on 31-12-1902.	Number of Boilers inspected once.	Number of additional inspections.	Total number of inspections.	Boilers temporarily condemned.	Boilers repaired and again in use.	Boilers permanently condemned.	Total amount of Fees represented.			Total amount brought to Revenue.			REMARKS.
												£	s.	d.	£	s.	d.	
South-Western ... ..	3	966	9,890.4	730	352	646	611	1,257	94	42	18	994	5	0	957	0	0	Inspectors of Mines. One is also Inspector for Dundas District. Inspector of Mines. Inspector Le Cras, appointed 21-5-1902 (the work being previously done by Inspector of Mines), was dismissed 3-6-1902. Inspector Pryn-Jones appointed 14-7-1902. Inspector Dibbs, appointed 21-5-1902 (the work being previously done by Inspector of Mines). Retrenched, 31-12-1902. Inspector's head quarters at Coolgardie, where he is mostly occupied. District not proclaimed. No Inspector appointed.
Coolgardie and Yilgarn	2	249	3,621.9	200	58	176	85	261	3	1	1	338	0	0	344	0	0	
East Coolgardie... ..	1	503	9,540.4	438	93	427	44	471	11	8	1	792	0	0	822	10	0	
North-East Coolgardie and Broad Arrow	1	146	2,135.5	119	50	101	14	115	1	0	0	193	0	0	193	0	0	
Murchison, Peak Hill, and Yalgoo	1	289	4,605.4	176	119	143	18	161	5	0	6	254	0	0	255	5	0	
East Murchison ... ..		59	831.0	31	30	10	2	12	0	0	0	21	10	0	21	10	0	
North Coolgardie ... ..	1	174	2,504.1	135	53	116	60	176	10	1	0	213	0	0	203	10	0	
Mt. Margaret ... ..		163	2,777.7	124	55	102	28	130	6	1	0	191	5	0	187	5	0	
Dundas ... ..	...	40	501.7	33	6	9	17	26	1	1	0	14	0	0	31	10	0	
Pilbarra and West Pilbarra	...	19	242.0	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
GRAND TOTALS ... ..	9	2,608	36,650.1	1,986	816	1,730	879	2,609	131	54	25	3,011	0	0	3,015	10	0	

APPENDIX "B."

Return showing Classification of Boilers in each District, also Horse-power and Number of Certificates Issued for year ending 31st December, 1902.

DISTRICTS.	Vertical.		Portable.		Loco. Type.		Loco-motive Engines.		Egg End.		Cornish.		Lancashire.		Cornish Tubular "Jackass."		Underfired Tabular.		Return Tube and Marine Type.		Water Tube.		Other Types not mentioned.		Total Number of Boilers.	Total Horse-power.	Number of Certificates Issued.	
	No.	H.P.	No.	H.P.	No.	H.P.	No.	H.P.	No.	H.P.	No.	H.P.	No.	H.P.	No.	H.P.	No.	H.P.	No.	H.P.	No.	H.P.	No.	H.P.				
South-Western ... ..	355	2,137.6	262	2,020.9	55	742.0	52	536.6	7	108.5	70	1,129.7	12	398.5	16	266.0	63	1,077.7	32	440.6	33	981.8	9	50.5	966	9,890.4	907	
Coolgardie and Yilgarn ... ..	76	608.3	18	188.6	6	75.5	5	46.0	8	94.0	92	1,582.2	7	217.5	1	16.7	24	447.8	1	2.3	10	318.0	1	25.0	249	3,621.9	254	
East Coolgardie ... ..	104	1,028.3	25	238.0	20	297.2	8	106.7	0	0.0	190	3,172.8	49	1,717.6	2	31.7	43	895.0	9	173.9	52	1,854.2	1	25.0	503	9,540.4	433	
North-East Coolgardie and Broad Arrow	46	421.4	9	88.4	15	272.4	0	0.0	4	61.0	56	965.8	5	143.0	3	52.0	8	131.5	0	0.0	0	0.0	0	0.0	146	2,135.5	108	
Murchison, Peak Hill, and Yalgoo...	75	594.7	4	36.9	29	397.3	3	10.5	1	12.0	110	1,950.5	15	555.0	29	515.4	15	407.1	7	100.0	0	0.0	1	26.0	289	4,605.4	144	
East Murchison ... ..	19	164.0	2	24.0	7	80.0	2	5.0	0	0.0	24	485.0	0	0.0	3	42.9	1	12.0	0	0.0	1	19.0	0	0.0	59	831.0	12	
North Coolgardie ... ..	68	543.8	6	58.3	5	47.5	3	19.3	1	10.0	61	1,158.8	7	236.0	6	97.0	15	301.2	1	20.2	0	0.0	1	12.0	174	2,504.1	167	
Mount Margaret ... ..	42	383.4	7	78.1	18	200.6	2	0.0	0	0.0	70	1,337.8	5	198.0	1	20.2	12	363.1	0	0.0	6	196.5	0	0.0	163	2,777.7	121	
Dundas ... ..	15	131.8	6	47.7	2	16.3	0	0.0	0	0.0	13	223.5	0	0.0	2	26.4	2	56.0	0	0.0	0	0.0	0	0.0	40	501.7	26	
Pilbarra and West Pilbarra ... ..	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	19	242.0	No Inspector
GRAND TOTALS ... ..	800	6,013.3	339	2,780.9	157	2,128.8	75	724.1	21	285.5	686	12,006.1	100	3,465.6	63	1,067.4	183	3,691.4	50	737.0	102	3,369.5	32	380.5	2,608	36,650.1	2,172	



## DIVISION VII.

### *Seventh Annual Report of the Chief Inspector of Explosives and Government Analyst, for the Year 1902.*

*The Honourable H. Gregory, Esq., M.L.A., Minister for Mines, Perth.*

SIR,

Fremantle, 31st December, 1902.

I have the honour to submit my Annual Report for the year ending 31st December, 1902, in accordance with Section 45 of "The Explosives Act, 1895."

The year has been an important one, full of changes and progress, as will be manifest in the subsequent pages of this report, marked as it has been by the following events:—

- (1.) Change of Ministerial Head.
- (2.) Amendment of Act.
- (3.) Approval of removal of offices.
- (4.) Settlement of Fremantle Magazine Reserve question.
- (5.) Establishment of another record in importations.

Consequent upon a re-adjustment of offices, the control of my work has, during the year, passed from the Colonial Treasurer to yourself; and this will doubtless lead to a satisfactory result, by bringing the administration of the Explosives Act under the same Ministerial head who controls the storage of explosives on mines.

My various duties have remained much the same as last year, for though it has been decided that all Government analytical work is to pass through my hands instead of being done, as in some instances, by special departmental analysts, this arrangement has not yet come fully into force; greater accommodation and a larger staff being necessary before this desirable end can be attained.

With this object, the Government has sanctioned the removal of my headquarters from Fremantle to Perth, and have provided for the erection of a suitable laboratory and offices in the Capital. This building should be erected in a few months.

I will divide my report, as usual, into two parts, dealing with my work as Inspector of Explosives and Government Analyst, respectively:—

#### PART I.—EXPLOSIVES.

The amendments in the Explosives Act which I have for some time advocated have at length been made by a short amending Act passed during last session of Parliament. Its provisions will be dealt with in later pages of this report

Following on this Act, amendments in the Regulations will be desirable; but as this matter will be slightly affected by the powers of the recently appointed Fremantle Harbour Trust, I am awaiting the organisation of their work before taking further steps.

Any probability of the control of explosives passing over to the Federal Government seems to be still remote, though a conference of inspectors has been suggested, with a view to bringing about uniformity in the various States.

#### IMPORTATION.

This State of the Commonwealth has, during the year, well maintained her foremost position as an importer of explosives, the importations being a record, as the following table will demonstrate:—

*Importations of Explosives into Western Australia during the Eleven Years ending  
31st December, 1902.*

	1892.	1893.	1894.	1895.	1896.	1897.	1898.	1899.	1900.	1901.	1902.
Nitro-Glycerine Compounds ...	£ 1,541	£ 912	£ 9,926	£ 21,275	£ 45,299	£ 65,930	£ 66,829	£ 77,848	£ 131,012	£ 123,367	£ 157,100
Blasting Powder ...	719	1,855	3,459	2,610	5,417	11,096	3,736	1,785	7,181	5,344	5,577
Sporting Powder ...	539	322	303	463	786	333	118	461	668	233	224
Fuse ...	466	262	2,456	3,032	9,768	6,174	6,992	7,309	9,193	11,687	13,439
Rackarock ...	74	11	...	1,800	125	434	2,282	549	802	...	115
Fireworks ...	...	57	74	251	164	386	213	105	167	150	341
Cartridges ...	1,388	1,449	1,372	1,174	2,069	2,505	2,382	3,254	3,793	5,973	8,593
Detonators ...	275	202	...	61	3,986	3,675	2,803	4,812	4,494	4,704	4,358
Not elsewhere included ...	624	218	1,638	1,318	18,823	1,666	2	...	6	779	...
<b>Totals ...</b>	<b>£5,626</b>	<b>5,288</b>	<b>19,223</b>	<b>31,984</b>	<b>86,437</b>	<b>92,199</b>	<b>85,357</b>	<b>96,123</b>	<b>157,316</b>	<b>152,287</b>	<b>189,747</b>

## Analysis of importations showing kind and quantity of nitro-glycerine compounds :—

Name of Explosive.	In 1901.		In 1902.	
	No. of packages.	Value. £	No. of packages.	Value. £
Gelignite ... ..	39,109	81,157	43,994	98,734
Gelatine Dynamite ... ..	8,350	21,418	8,025	22,150
Blasting Gelatine ... ..	5,550	17,380	10,600	34,406
Dynamite ... ..	1,481	3,412	781	1,754

Increase and decrease in quantity and value of principal kinds of explosives, as compared with importations in 1901 :—

Explosive.	Increase.		Decrease.	
	Quantity.	Value.	Quantity.	Value.
Dynamite ... ..	%	%	47.2	48.5
Gelignite ... ..	12.4	21.6	...	...
Blasting Gelatine ... ..	90.9	97.9	...	...
Total Nitro-Glycerine Compounds ... ..	16.4	19.2	...	...
Blasting Powder ... ..	...	4.3	9.3	...

As a necessary consequence of these heavy importations, there has been an increase in the amount of examination work which has been performed, and the particulars of the tests carried out are contained in the following summary :—

## Return of tests made on explosives during 1902 :—

Substance.	Number of Samples		Total.
	Passed.	Rejected.	
Gelignite ... ..	878	5	883
Gelatine Dynamite ... ..	155	2	157
Blasting Gelatine ... ..	196	93	289
Dynamite ... ..	27	...	27
Amberite ... ..	1	...	1
Carbonite ... ..	1	...	1
Pitite ... ..	2	...	2
Fuse ... ..	170	4	174
Empire Sporting Powder ... ..	1	...	1
Sundry analysis of Explosives, and test of materials	19	1	20
Total ... ..	1,450	105	1,555

The above figures do not include samples, which have been examined as to their physical condition only.

The importations have on the whole maintained a fair standard of purity, but it has again been my experience to encounter considerable quantities of explosives which fail to comply with the "heat test."

Prior to 1901 this had not occurred for some years, nearly all condemnations being made on physical condition only. In that year 259 cases were condemned on their reaction to the heat test, and this year an increased quantity has fallen under the ban.

It would be interesting to know whether this has been caused by the keen competition existing in this market, as the rapidity of consumption might act as a temptation to manufacturers to relax their vigilance if thereby cheaper cost was attained.

The following is a brief summary of the condemnations declared during the year, with the cause, and how disposed of :—

1st February.—18 cases of gelignite—exudation; destroyed.

12th July.—117 cases of gelignite and gelatine dynamite—low heat test; destroyed.

9th August.—4 casks of fuse—damaged by water; destroyed.

11th September.—519 cases blasting gelatine—low heat test; under detention and observation.

9th October.—1 case of gelignite—low heat test; destroyed.

10th October.—8 cases of gelignite—physical deterioration; destroyed.

11th October.—33 cases of gelatine dynamite, gelignite, and blasting gelatine—physical deterioration; destroyed.

6th November.—476 cases gelignite—old stock; destroyed at owner's request.

There has been one new explosive added to the authorised list, Pitite having been admitted under certain conditions.



KALGOORLIE ELECTRIC LIGHT AND POWER CO.'S STATION, KALGOORLIE.  
*(East Coolgardie Goldfield.)*

## STORAGE.

The difficulties experienced in obtaining sufficient magazine accommodation at Fremantle, as explained below, have compelled importers to relieve their stocks by erection of magazines on the goldfields reserves, so that the private magazine lease system has seen considerable extension.

It is very gratifying to find that this scheme has so successfully accomplished the objects of its initiation, viz., the encouragement of the trade by giving facilities for erection of magazines, substitution of private for Government responsibility, and concentration in main and central depôts.

There are now 48 sites held under this system, upon all of which magazines have been erected, with a capacity of 749 tons, as against 36 magazines with a capacity of 635 tons at the end of 1901.

Outside of the reserves there exist only fourteen (14) magazines, with a capacity of 30 tons.

Five (5) new reserves have been declared during the year, at Kookynie, Ravensthorpe, Mount Sir Samuel, Port Hedland, and Wyndham; and others are being arranged for at Mulline and Davyhurst, as well as an extension of the present reserve at Kalgoorlie.

Twenty-one (21) applications were made for magazine licenses during the year, of which nineteen (19) were granted. Ten (10) existing licenses were revoked.

The Fremantle reserve, which has for several years formed an important topic in my reports, seems likely, shortly, to cease demanding such prominent attention.

Although the Case Point scheme (which at the close of the previous year had been approved) has not been carried out, another and more satisfactory arrangement has taken its place.

On full investigation, it was found that to remove the magazines to Case Point would involve such a large expenditure (about £35,000) that it was considered impracticable under existing circumstances, and it was decided to revert to the original recommendation made by me when the removal of the magazines was first mooted. This suggestion was to utilise the land in the vicinity of Woodman's Point, about three miles beyond the present reserve.

This, by greatly reducing the length of railway line required, will bring the necessary expenditure down to about £25,000, and, approval having been given, this scheme is now in course of active development. Already a commencement has been made with the railway extension, and plans are in hand dealing with the fencing, erection of quarters, building jetty, etc. I hope that in six months the new reserve will be well advanced towards completion.

I cannot express too strongly my appreciation of this prospect of a speedy settlement, as the anxiety caused by the present dangerous state of affairs has been very great for the last year or so; and it will be with a great sense of relief that I shall see a properly devised and protected depôt in full working order.

Another cause of satisfaction is the provision which was made on the last Estimates for fencing the Kalgoorlie and Coolgardie reserves. These works are also expected to be shortly put in hand.

## SALE.

The licenses issued for the sale of explosives are shown in the following summary:—

*Licensed Premises.*

Year.	Applications received.	Licenses issued.	Licenses revoked.	Licenses remaining in force.
1896	27	18	...	18
1897	25	23	...	41
1898	24	13	4	50
1899	35	31	7	74
1900	46	42	16	100
1901	18	17	10	107
1902	31	32	14	125

There are no remarks called for with regard to the sale of explosives, except that I am compelled to state that I am not aware how far the regulations are observed on licensed premises. I shall have something to say on this point under the heading of inspection.

## INSPECTION.

It is a remarkable thing that, except as regards the inspection of shipments of explosives arriving at Fremantle, my title as Inspector of Explosives has become largely a misnomer. By reason of the growth of purely administrative office work and increase in the analytical division of my duties, I have throughout the year done little or no inspection; nor has much inspection been possible by any subordinate officers, owing to their having no *locus standi* as inspectors under the Act.

This is greatly to be regretted, and I have, in other reports, urged that this should be altered by the appointment of a travelling inspector, who can devote his whole time to this work. Not only are a large and increasing number of licensed buildings of all kinds to be supervised, but an energetic officer is required who will search out those who are defying or ignoring the law. The distances to be covered, also,



are so great that I think there will be quite sufficient to occupy such an officer's time, and even (if that alone be considered) to financially repay the Government for the expenditure involved. Such a consideration, however, should not in this case be entertained, and the expenditure of a few hundred pounds allowed to stand in the way of an efficient and rigorous enforcement of the law.

Something has been done in the amending Act passed this year by giving sub-inspectors full powers, but my experience has been that an officer is required of more special training and freedom of time than is possessed by the majority of the Government officials who at present represent me on the fields, and this can only be obtained by appointing a travelling inspector who could, for a time, be specially trained and work in the metropolitan districts, under my own supervision, before undertaking independent work in the remote parts of the State.

Such an appointment will also greatly reduce the correspondence, and prevent the delays which are now unavoidable.

I trust, therefore, that you will favourably consider this recommendation, as this is now the principal thing required to make the working of the Department thoroughly efficient.

I enclose, in an Appendix, a list of accidents in the use of explosives which have been reported; most of them are of the usual character of mining accidents, and call for no special comments, except that there seems a ready acquiescence by coroners' juries in the verdict, "No blame attachable to anyone," which is not always justified by the facts of the evidence on which the verdict is based.

The impression seems to be that, because a man has been injured (never so slightly) in an accident, he has been "sufficiently punished"; and so he is allowed the opportunity of repeating his culpable negligence, to the danger of other men who may be working with him.

I trust that the provision made in the amending Act, already referred to, for inspectors taking part in inquests, will eventually lead to a more satisfactory analysis of causes in such accidents.

Great assistance has been again rendered me during the year by the Commissioner of Police and his officers, which I desire here to gratefully acknowledge.

#### CARRIAGE.

This subject has been brought into unusual prominence this year through the difficulties of supplying the small but important demands of the Northern and North-Western parts of the State. Isolated as these districts are, with infrequent communication of any kind except that provided by passenger steamers, it has always been a problem how to meet their requirements, and how far the regulations might be relaxed under the very special conditions existing.

A good deal of correspondence has taken place over the matter, certain merchants desiring the Government to allow, practically, a complete withdrawal of all the present safeguards, so that explosives may be shipped by passenger steamers over the main harbour wharf, and, in fact, be treated almost as ordinary cargo.

This I am not prepared to recommend, but the matter is under consideration to see if some special arrangements cannot be made.

Personally, I think the only permanent solution of the difficulty is to be found in the erection of depôts by the merchants, which can be replenished by special shipments, say, every six months; but this step they are unwilling to take, evidently desiring the Government to do that which, in my opinion, should be carried out solely by private enterprise.

#### PART II.—ANALYTICAL.

My work, as Government Analyst, still continues to increase, and now includes a very considerable amount performed for the Federal Government in connection with the local branch of the Customs.

Mere figures can never convey a correct idea of the amount of work done in a chemical laboratory, and I do not, therefore, attach too much importance to these figures; but the chemical analyses, together with the tests of explosives, quoted on page 2, make a total of 3,169 examinations for the year.

Perhaps a few remarks may be of interest on some of the principal items in this list.

#### CRIMINAL INVESTIGATION.

The work in connection with criminal cases has not been so heavy as in past years, and many of the results obtained have not come before the courts for some reason or other. The examinations for poison included several animal stomachs received from the Zoological Gardens; and a considerable number of cases gave negative results.

#### DRUGS AND SPIRITS.

The examination of drugs and spirituous liquors for the Customs Department has been an important part of my work during the year, being connected with the imposition of duties and classification of goods. An attempt has been made to obtain standard strengths for recognised lines of tinctures, etc., which will obviate continual examinations, and thus save importers and officials alike much needless annoyance and waste of time; and a long list of such standards is now in use, based upon my analyses.

The estimation of the obscuration in sweetened spirits has also led to a considerable augmentation of the duty collected.

All official hydrometers are also now tested and standardised, and thus greater uniformity ensured

## POISON PLANT.

The investigation of the poison plants of the State is a subject which has for a long time attracted my deep interest, and I have hoped that there would be found opportunities, amidst the pressure of routine work, for a complete inquiry into their poisonous properties. This has been referred to in previous reports, and I have made another attempt during the year to separate the poisonous principle of the York Road poison. Although I succeeded in obtaining an extract which had fatal effects when injected into guinea-pigs, I have not been able to proceed very far with the identification of the poisonous principle, and fear that the matter will have to await the establishment of my new laboratory, when extra facilities and an increased staff will enable me to undertake further research.

## WATERS.

These have again formed an important part of my work. The Locomotive Branch of the Railway Department, in their search for water supplies for engine purposes, have submitted a large number of samples for analysis, and some very interesting results have been obtained.

In accordance with your instructions, I during the year prepared a pamphlet dealing with the treatment of waters for boiler purposes, which has been widely circulated, and which has apparently been of some service in the more remote parts of the State, where natural waters of good quality are very difficult or impossible to obtain.

A report, dealing pretty fully with the water supplies of the metropolitan areas, was also prepared during the year for the Commission which was appointed to inquire into a comprehensive scheme for improving the present supply, but, owing to the Commission not having held any meetings, this report has not yet been made of any use.

## SEWAGE.

The samples of sewage referred to have been examined in connection with various installations for dealing with sewage by the bacteriological or septic tank method, which has been receiving considerable application by the Public Works Department.

## FINANCIAL.

Before concluding this report, I should like to make a few remarks concerning the position of my Department from a financial point of view.

It is impossible to tabulate in the form of a balance-sheet the revenue and expenditure involved in my work, or to express the value of work done in money figures.

Many of the examinations made are of the nature of safeguards to public health, for the detection of crime, etc., and no analyses are charged up against other departments for whom they are executed, though they are none the less of vital importance to the community. Again, in some instances, where revenue is gained or protected, it is carried to the credit of revenue through other departments—*e.g.*, the Lands Department and the Commonwealth Customs—so that its real source is not evident.

I should like, however, to quote an instance of the practical value of the work performed in my laboratory as a proof that the department is not an ornamental or unnecessary institution.

The obscuration of spirits which has been estimated on behalf of the Commonwealth Customs leads to a large increase in the duty paid on certain classes of spirits. The amount of this has been worked out from samples actually tested during the last three months, and the increase in revenue from this source alone has been sufficient to pay for the whole of my office and laboratory staff.

There is quite sufficient justification for the existence of this department apart from any monetary considerations, nor is it to be expected that it should be revenue producing; it is therefore more gratifying to find that, directly or indirectly, my work more than pays for itself, and any extra expenditure recommended in this report can be borne by its own resources without becoming a charge on outside revenue.

It is not necessary, in a report of this nature, to publish the figures upon which this statement is based, but they have been very carefully compiled, and an allowance of five per cent. (5%) for interest on capital expended in magazines, laboratory buildings, etc., has been taken into account.

I have, etc.,

E. A. MANN,

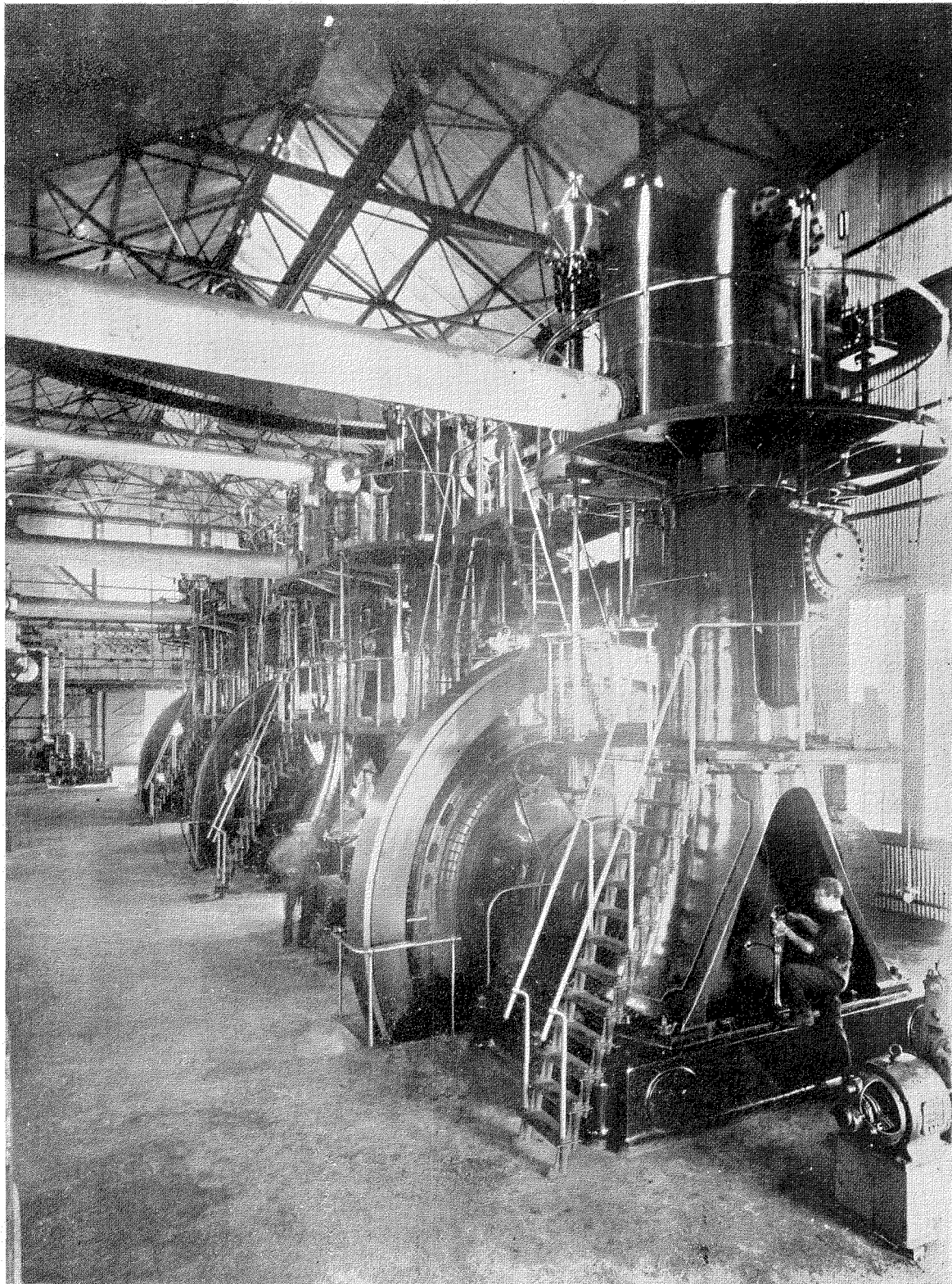
Government Analyst and Chief Inspector of Explosives.

Fremantle, 31st December, 1902.

## APPENDIX.

*Return of Accidents with Explosives during the Year 1902.*

Goldfield or District.	Name of Mine.	Date of Accident.	Kind of Explosive.	Number of Persons	
				Killed.	Injured.
Peak Hill ...	Peak Hill Goldfields, Ltd. ...	11th January ...	Blasting Powder ...	1	...
Do. ...	Do. do. ...	13th February ...	do. do. ...	...	1
East Murchison ...	Bellevue Proprietary, Ltd. ...	13th April ...	... ..	...	1
Murchison ...	Great Fingal Consolidated, Ltd. ...	16th March ...	Gelignite ...	...	2
Mt. Margaret ...	Lancefield G.M. Co., Ltd. ...	7th June ...	Blasting Gelatine ...	...	1
North Coolgardie	Cosmopolitan Proprietary, Ltd. ...	13th March ...	Gelatine and Dynamite ...	...	5
Do. ...	Waihi ...	2nd September ...	Blasting Gelatine ...	...	1
North-East Coolgardie	Kanowna Consolidated G.Ms., Ltd.	27th November ...	Gelignite ...	2	1
East Coolgardie ...	South Kalgurli G.Ms., Ltd. ...	13th March ...	... ..	1	...
Do. ...	Ivanhoe Gold Corporation, Ltd. ...	9th June ...	Gelignite ...	1	...
Do. ...	Lake View Consols, Ltd. ...	19th November ...	Gelignite and Dynamite ...	1	1
Do. ...	Associated G.Ms., Ltd. ...	23rd June ...	Gelignite ...	...	2
Do. ...	Associated Northern Blocks (W.A.), Ltd.	8th August ...	... ..	...	1
Do. ...	Oroya-Brownhill G.M. Co., Ltd. ...	1st December ...	... ..	...	1
Geraldton ...	Stone Quarry ...	31st July ...	Rackarock ...	...	2
			Totals ...	6	19



**ELECTRIC LIGHT AND POWER CO.'S ELECTRIC POWER STATION KALGOORLIE.**  
*(East Coolgardie Goldfield.)*